



TAMIL NADU PUBLIC SERVICE COMMISSION

Advertisement No.693

Notification No.12/2024

Date: 30.08.2024

Combined Technical Services Examination (Interview Posts) - II

Applications are invited only through online mode for direct recruitment to the posts in Combined Technical Services Examination (Interview Posts) - II.

1. Important Instructions:

1.1. Candidates to ensure their eligibility for the examination:

All candidates are requested to carefully read the “Instructions to Applicants” available in the Commission’s website www.tnpsc.gov.in and this Notification. The candidates applying for the examination should ensure that they fulfill all eligibility conditions for admission to the examination. Their admission to all stages of the examination will be purely provisional, subject to their satisfying the eligibility conditions. Mere admission to the written examination / certificate verification / interview / counselling or inclusion of name in the selection list will not confer on the candidates any right to appointment. The Commission reserves the right to reject candidature at any stage, after due process even after selection has been made, if a wrong claim or violation of rules or instructions is confirmed.

1.2. Important Date and Time:

Date of Notification		30.08.2024
Last date and time for submission of online application		28.09.2024 11.59 P.M
Application Correction Window period		02.10.2024 12.01 A.M to 04.10.2024 11.59 P.M
Date and Time of Examination		
Paper – I		
Subject	Date	Time
Tamil Eligibility Test, General Studies, and Aptitude and Mental Ability Test	18.11.2024	09.30 A.M. to 12.30 P.M
Paper - II		
Subject Paper	Subject Code	Date
Animal Husbandry and Veterinary Science	396	18.11.2024 to 20.11.2024
Automobile Engineering	404	
Business Administration	385	
Chemistry	244	
Chemical Engineering	405	
Civil Engineering	398	
Electrical Engineering / Electrical and Electronics Engineering	400	
Electronics and Instrumentation Engineering	402	
Financial and Cost Accountancy	434	
Library and Information Science	267	
Mechanical / Production / Manufacturing Engineering	399	
Tamil Language and Literature	331	

1.2.1. The date and time of examination for the Paper-II-Subject Paper, will be informed only through Commission's website www.tnpsc.gov.in

1.3. How to Apply:

1.3.1. One Time Registration and Online Application:

Candidates are required to apply online by using the Commission's website www.tnpscexams.in. The candidate needs to register himself / herself first at the One Time Registration (OTR) platform, available on the Commission's website, and then proceed to fill up the online application for the examination. If the candidate is already registered, he / she can proceed straightway to fill up the online application for the examination.

1.3.2. Application Correction Window:

After the last date for submission of online application, the Application Correction Window will open for 3 days from 02.10.2024 to 04.10.2024. During this period, candidates will be able to edit the details in their online application. After the last date of the Application Correction Window period, no modification is allowed in the online application.

1.3.3. Subject Paper Options:

Candidates should choose the subject paper(s) and specify in the online application. The candidates should only choose the subject paper(s) in which they have obtained the educational qualification or equivalent qualification for appearing in the examination.

1.3.4. The detailed instructions regarding how to apply and the examination centres are available in Annexure I of this Notification.

1.4. Banned Items:

1.4.1. Candidates are not allowed to bring mobile phone, pager or any electronic equipment or programmable device or storage media like pen drive, smart watches, watches and rings with in-built memory notes, etc., or camera or Bluetooth devices or communication chips or any other equipment or related accessories either in working or switched off mode capable of being used as a communication device into the examination hall / room. Candidates are not allowed to bring non-electronic devices such as P&G Design Data Book, mathematical and drawing instruments, log tables, stencils of maps, slide rules, books, notes, loose sheets, guides, rough sheets, hand bags into the examination hall / room.

1.4.2. If they are found to have any such things or instruments, they will not be allowed to write the examination, besides invalidation of the answer sheet and / or debarment and / or rejection of candidature. If it is considered necessary, they will be subjected to a thorough physical search including frisking on the spot.

1.4.3. Candidates are advised, in their own interest, not to bring any of the banned items including mobile phones to the venue of the examination, as arrangements for safekeeping of the same cannot be assured.

2. Warning:

2.1. All the recruitments by the Tamil Nadu Public Service Commission are purely merit-based. The Tamil Nadu Public Service Commission hereby cautions the candidates against touts and agents who may cheat, by making false promises of securing jobs through unfair means. The Tamil Nadu Public Service Commission shall not be responsible or liable for any loss that may be caused to any candidate on account of indulging in any sort of dealings with such unscrupulous elements.

2.2. Candidates are solely responsible for their claims in the online application. They cannot blame service providers like internet cafes / browsing centers / common service centers for the mistakes made while applying online for recruitment. Candidates are advised to check the filled-in online application before finally submitting the same.

3. Posts and Vacancies:

S. No.	Name of the Post	Post Code	Name of the Department / Organization	Distribution of vacancies		Number of Vacancies	Level of Pay
1.	Unit Head - Deputy General Manager Cadre	3389	Tamil Nadu Cements Corporation Ltd.,	SC(A)(W)(PSTM)	1	1	Level 28 (EPF)
2.	Assistant General Manager (Finance)	3373	State Industries Promotion Corporation of Tamil Nadu Ltd.,	SC(G)	1	1	Level 27 (GFTR, PFTR, SPF-cum GSTR)
3.	Manager (Mechanical)	3390	Tamil Nadu Cements Corporation Ltd.,	GT(G)	1	1	Level 26 (EPF)
4.	Manager (Chemical)	3391		GT(G)	1	1	
5.	Manager (Electrical)	3392		GT(G)	1	1	
6.	Manager (Marketing)	3394		SC(A)(W)(PSTM)	1	1	
7.	Deputy Manager (Mechanical)	3395		GT(G)	1	2	Level 25 (EPF)
				SC(A)(W)(PSTM)	1		
8.	Deputy Manager (Electrical)	3396		GT(G)	1	3	
				MBC/DC (G)	1		
				SC(A)(W)(PSTM)	1		
9.	Deputy Manager (Instrumental)	3397		GT(G)	1	2	
				SC(A)(W)(PSTM)	1		
10.	Deputy Manager (Safety)	3399	GT(G)	1	1		
11.	Deputy Manager (Materials)	3400	GT(G)	1	1		
12.	Assistant General Manager (Projects) Investment	3343	Tamil Nadu Industrial Development Corporation Ltd.,	GT(G)	1	1	
13.	College Librarian	3003	Law	GT(G)	1	8	
			GT(G)(PSTM)	1			
			BC(G)	1			
			BC(W)	1			
			MBC/DC (G)	1			
			MBC/DC(W)	1			
			SC(G)	1			
			SC(W)	1			
14.	College Librarian	3004	Higher Education	Will be announced later		9**	
15.	Accounts Officer	3374	Tamil Nadu Minorities Economic Development Corporation Ltd.,	GT(G)	1	1	Level 23 (EPF)

16.	Accounts Officer Class-III	2093	Treasuries and Accounts	GT(G)	2	8*	Level 23 (CPS)
				GT(W)	1		
				BC(W)	1		
				MBC/DC(G)	1		
				SC(G)	2		
				SC(A)(PSTM)	1		
17.	Manager-Grade III (Finance)	3301	Tamil Nadu Industrial Investment Corporation	SC(G)	1	1**	
18.	Senior Officer (Finance)	3302	Tamil Nadu Industrial Investment Corporation	GT(G)(LV)	1	6**	Level 22 (CPS)
				SC(G)	5		
19.	Automobile Engineer	1788	Motor Vehicle Maintenance	GT(G)	1	1	
20.	Veterinary Assistant Surgeon	1695	Animal Husbandry	GT(G)(LD/AC)	4	31**	
				GT(G)(HH)	4		
				BC(G)(LD/AC)	3		
				BC(G)(HH)	4		
				BCM(G)(LD/AC)	1		
				BCM(G)	3		
				MBC/DC(G)(HH)	4		
				MBC/DC(G)(LD/AC)	3		
				SC(G)(LD/AC)	2		
				SC(G)(HH)	2		
				ST(G)(LD/AC)	1		
21.	Assistant Director	3511	Tamil Development	GT(G)	2	13	
				GT(W)	1		
				GT(G)(PSTM)	1		
				BC(G)	2		
				BC(W)	1		
				MBC/DC(G)	2		
				MBC/DC(W)	1		
				SC(G)	1		
				SC(W)	1		
				SC(A)(W)(PSTM)	1		
22.	Assistant Manager (Projects)	3361	State Industries Promotion Corporation of Tamil Nadu Ltd.,	GT(G)	1	2	Level 22 (GFTR, PFTR, SPF-cum GSTR)
				BC(G)	1		
23.	Assistant Manager (Materials)	3401	Tamil Nadu Cements Corporation Ltd.,	GT(G)	1	3	Level 22 (EPF)
				MBC/DC(G)	1		
				SC(A)(W)(PSTM)	1		
24.	Assistant Manager (Technical - Mechanical)	3402		GT(G)	1	4	
				BC(G)	1		
				MBC/DC(G)	1		
				SC(A)(W)(PSTM)	1		
25.	Assistant Manager (Civil)	3403		GT(G)	1	1	
26.	Assistant Manager (Marketing)	3405		BC(G)	1	1	
Total						105	

* Including backlog vacancies

** only backlog vacancies

Abbreviations:

CPS - Contributory Pension Scheme

PFTR - Provident Fund Trust Rules

EPF - Employees' Provident Fund

SPF - Special Provident Fund

GSTR - Gratuity Fund Trust Rules

GSTR - Gratuity Scheme Trust Rules

3.1. The number of vacancies notified is tentative and is liable for modification, before the publication of the results of the written examination. Whenever the vacancies are revised, the number of candidates selected for the successive stages will also be revised commensurately.

3.2. The Commission reserves the right to include additional posts with different nomenclature and having similar eligibility conditions, as announced in this notification.

4. Eligibility Conditions:

4.1. Age Limit: (as on 01.07.2024)

The candidates should have completed the age of 21 years. The category wise maximum age limit and age concession details are given below.

4.1.1. Others (Candidates not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs):

S. No.	Name of the Post	Post Code	Maximum Age (Should not have completed)	Age Concession				
				Persons with Benchmark Disability	Ex-Servicemen	Destitute Widow		
1.	College Librarian	3003	57	57	57	No Maximum age Limit		
2.	College Librarian	3004						
3.	Manager (Mechanical)	3390	32	42	50			
4.	Manager (Chemical)	3391						
5.	Manager (Electrical)	3392						
6.	Manager (Marketing)	3394						
7.	Assistant Manager (Materials)	3401						
8.	Assistant Manager (Technical - Mechanical)	3402						
9.	Assistant Manager (Civil)	3403						
10.	Assistant Manager (Marketing)	3405						
11.	Manager - Grade III (Finance)	3301						
12.	Senior Officer (Finance)	3302						
13.	Veterinary Assistant Surgeon	1695	32 [@]	42 [@]	50 [@]			
14.	Accounts Officer Class-III	2093	32*	42	50			
15.	Accounts Officer	3374	32	NA				
16.	Assistant General Manager (Projects) Investment	3343						
17.	Unit Head - Deputy General Manager Cadre	3389						
18.	Deputy Manager (Mechanical)	3395						
19.	Deputy Manager (Electrical)	3396						
20.	Deputy Manager (Instrumental)	3397						
21.	Deputy Manager (Safety)	3399						
22.	Deputy Manager (Materials)	3400						
23.	Assistant Director	3511				34		39

24.	Assistant General Manager (Finance)	3373	47	NA	47	47
25.	Assistant Manager (Projects)	3361	32		32	32
26.	Automobile Engineer	1788	37	47	50	No Maximum age Limit
<p>* - In case of persons who are in regular service under Government of Tamil Nadu, the maximum age limit is 37.</p> <p>@ - For the post of Veterinary Assistant Surgeon (Post Code - 1695), as per the Supreme Court's order in Civil Appeal No.4351 of 2016, no maximum age limit for the appointees under Rule 10(a)(i) (Temporary Veterinary Assistant Surgeons).</p> <p>NA - Not Applicable, since persons with benchmark disability are not eligible to apply for this post.</p>						

4.1.2. BC (OBCM)s, BCMs, MBCs/DCs, SCs, SC(A)s and STs:

S. No.	Name of the Post	Post Code	Maximum Age (Should not have completed)	Age Concession		
				Persons with Benchmark Disability	Ex-Servicemen	Destitute Widow
1.	College Librarian	3003	No maximum age limit			
2.	College Librarian	3004				
3.	Automobile Engineer	1788				
4.	Accounts Officer Class-III	2093				
5.	Manager - Grade III (Finance)	3301				
6.	Senior Officer (Finance)	3302				
7.	Veterinary Assistant Surgeon	1695				
8.	Manager (Mechanical)	3390				
9.	Manager (Chemical)	3391				
10.	Manager (Electrical)	3392				
11.	Manager (Marketing)	3394				
12.	Assistant Manager (Materials)	3401				
13.	Assistant Manager (Technical - Mechanical)	3402				
14.	Assistant Manager (Civil)	3403				
15.	Assistant Manager (Marketing)	3405				
16.	Assistant General Manager (Projects) Investment	3343	No maximum age limit	NA	No maximum age limit	
17.	Unit Head - Deputy General Manager Cadre	3389				
18.	Deputy Manager (Mechanical)	3395				
19.	Deputy Manager (Electrical)	3396				
20.	Deputy Manager (Instrumental)	3397				
21.	Deputy Manager (Safety)	3399				
22.	Deputy Manager (Materials)	3400				
23.	Accounts Officer	3374				
24.	Assistant General Manager (Finance)	3373				
25.	Assistant Director	3511	39		55	39

26.	Assistant Manager (Projects)	3361	BC(OBCM)s, BCMs MBCs/DCs- 34, SCs, SC(A)s, STs-37	NA	BC(OBCM)s, BCMs MBCs/DCs- 34, SCs, SC(A)s, STs-37	BC(OBCM)s, BCMs MBCs/DCs- 34, SCs, SC(A)s, STs-37
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Abbreviations:

BC(OBCM)	- Backward Classes (Other than Backward Class Muslims)
BCM	- Backward Class Muslims
MBC / DC	- Most Backward Classes / Denotified Communities
SC	- Scheduled Castes
SC(A)	- Scheduled Castes (Arunthathiyars)
ST	- Scheduled Tribes
NA	- Not Applicable, since persons with benchmark disability are not eligible to apply for this post

4.1.3. No maximum age limit shall mean that the candidates should not have completed 60 years of age as on 1.7.2024 or at the time of selection / appointment to the post.

4.1.4. Candidates claiming age concession should upload / produce the supporting documents for such a claim. Failure to upload / produce such a document shall result in the rejection of candidature after due process.

4.2. Supporting Documents:

4.2.1. The date of birth will be verified against the tenth standard (SSLC) or twelfth standard (HSC) mark sheet, issued by the Tamil Nadu Board of Secondary Education and Tamil Nadu Board of Higher Secondary Education respectively.

4.2.2. Those candidates whose date of birth is not mentioned in their tenth standard / twelfth standard mark sheet must upload/produce their Birth Certificate / Transfer Certificate / Degree Mark Sheets, instead of the tenth standard or twelfth standard mark sheet. Any other form of evidence will not be accepted.

4.2.3. Failure to upload / produce such a document shall result in the rejection of candidature after due process.

4.3. Educational Qualification, Technical Qualification and Experience:

S. No	Name of the Post	Post Code	Qualification and Experience
1.	Assistant Director	3511	A Master's and Bachelor's degree in Tamil Literature
2.	Automobile Engineer	1788	(i) Must possess a degree in Automobile or Mechanical Engineering or be a holder the Post Diploma in Automobile Engineering awarded by the State Board of Technical Education and Training, Tamil Nadu or be Licentiate in Automobile Engineering or Mechanical Engineering (ii) Must possess experience in the administration of an office and management of workshops connected with the maintenance and upkeep of Motor Vehicles for a period of not less than two years (iii) Explanation: Workshop shall mean any workshop under the control of the Government / Public and Registered under the Factories Act 1948 (Central Act LXIII of 1948)

3.	Assistant General Manager (Projects) Investment	3343	(i) Full - time under graduate degree with (a) Chartered Accountant or (b) Full - time MBA (Finance) / equivalent in Finance (ii) 7 years of post qualification experience in evaluating financial models, business plans for infrastructure models preferable.
4.	Accounts Officer Class - III	2093	Must have passed the Final Examination conducted by the Institute of Chartered Accountants / Cost Accountants
5.	Accounts Officer	3374	Should have qualified CA/ICWA course i.e. Must have passed the final examination conducted by the Institute of Chartered Accountants of India/ Institute of Cost Accountants of India (or) its equivalent qualification
6.	Manager - Grade III (Finance)	3301	CA /ICWA
7.	Senior Officer (Finance)	3302	CA /ICWA
8.	Assistant General Manager (Finance)	3373	(i) Chartered / Cost Accountant preferably with Post graduate qualification in Industrial / Business Management (ii) Experience: Not less than 5 years experience in a Bank / Financial Institution / reputed Industrial or Commercial concern in independent senior capacity
9.	College Librarian	3004	(i) A Master's Degree in Library Science, Information Science or Documentation Science or an equivalent professional degree with atleast 55% marks (or an equivalent grade in a point scale, wherever the grading system is followed) Provided that a relaxation of 5 % marks shall be allowed at the Master's level for the candidates belonging to Scheduled Caste/ Scheduled Caste (Arunthathiyars)/ Scheduled Tribe / Backward Class / Backward Class Muslim/ Most Backward Class & Denotified Communities / Differently – abled ((a) Blindness and low vision; (b) Deaf and hard of Hearing; (c) Locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid-attack victims and muscular dystrophy; (d) Autism, intellectual disability, specific learning disability and mental illness; (e) Multiple disabilities referred under clauses (a) to (d) above including deaf blindness) for the purpose of eligibility and assessing good academic record for direct recruitment. The eligibility marks of 55 % marks (or an equivalent grade in a point scale wherever the grading system is followed) and the relaxation of 5 % marks to the categories mentioned above are permissible, based only on the qualifying marks without including any grace mark procedure Provided further that a relaxation of 5 % marks shall be allowed, (from 55% to 50% of the marks) to Ph.D.degree holders in library science who have obtained their Master's Degree prior to 19 th September, 1991 (ii) A consistently good academic record with knowledge of computerization of a library (iii) Besides fulfilling the above qualifications, the candidate must have cleared the National Eligibility Test (NET) conducted by the University Grants Commission, Council of Scientific & Industrial Research or similar test accredited by the University Grants Commission like State Level Eligibility Test/SET or who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum Standards and

			<p>Procedure for Award of M.Phil./Ph.D.(Degree) Regulations, 2009 or as subsequently amended</p> <p>Provided that the candidates registered for the Ph.D. Degree prior to July 11, 2009, shall be governed by the provisions of the then existing Ordinances / Bye – laws/ Regulations of the Institution awarding the degree, and such Ph.D. holders shall be exempted from the requirement of National Eligibility Test / State Level Eligibility Test/SET for recruitment and appointment of Assistant Professor or equivalent positions in Universities/Colleges / Institutions subject to the fulfillment of the following conditions, namely:-</p> <p>(a) The Ph.D. Degree of the candidate has been awarded in the regular mode;</p> <p>(b) The Ph.D thesis has been evaluated by at least two external examiners;</p> <p>(c) Open Ph.D viva voce of the candidate has been conducted;</p> <p>(d) The candidate has published two research papers from his/her Ph.D work, out of which at least one is in a refereed journal</p> <p>e) The candidate has presented at least two papers based on his/her Ph.D work in conferences/ seminars sponsored / funded/ supported by the University Grants Commission /Indian Council of Social Science Research / Council of Scientific and Industrial Research or any similar agency</p> <p>Explanation:</p> <p>a) The term “consistently good academic record” means candidates must have obtained not less than fifty percentage of marks in Higher Secondary Examination and in Bachelor’s Degree Examination</p> <p>b) One year Post Graduate Diploma in Library Automation and Networking; or Experience for a period of not less than one year as a Librarian or Assistant Librarian or Library Assistant or Cataloger in a Library, wherein Library automation software is used</p>
10.	College Librarian	3003	<p>(i) A Master’s Degree in Library Science or Information Science or Documentation Science or an equivalent professional degree, with not less than fifty five percentage of marks (or an equivalent grade in a point scale, wherever grading system is followed)</p> <p>Provided that a relaxation of five percentage shall be allowed at the Bachelor’s as well as at the Master’s level for the candidates belonging to Scheduled Castes /Scheduled Castes (Arunthathiyars)/ Scheduled Tribes / Backward Classes / Backward Class Muslims/ Most Backward Classes and Denotified Communities and Differently – abled for the purpose of eligibility and assessing good academic record for direct recruitment. The eligibility marks of fifty five percentage of marks (or an equivalent grade in a point scale wherever the grading system is followed) and the relaxation of five percentage to the categories mentioned above are permissible, only based on the qualifying marks without including any grace mark procedure</p> <p>Provided further that the holders of Ph.D Degree in Library Science, who have passed their Master’s degree in Library</p>

			<p>Science or Information Science or Documentation Science or equivalent professional degree prior to 19th September 1991, shall possess not less than fifty percentage of marks in the Master's Degree; and</p> <p>(ii) One year Post graduate diploma in Library Automation and Networking; or Experience for a period of not less than one year as a Librarian or Assistant Librarian or Library Assistant or Cataloger in a Library, wherein Library automation software is used; and</p> <p>(iii) A consistently good academic record; and</p> <p>(iv) Besides fulfilling the above qualifications, the candidate must have cleared the National Eligibility Test (NET) conducted by the UGC, CSIR or similar test accredited by the UGC like SLET/SET or who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of M.Phil./ Ph.D.Degree) Regulations, 2009 or 2016 and their amendments from time to time as the case may be:</p> <p>(v) Provided that the candidates registered for the Ph.D. Degree prior to July 11, 2009, shall be governed by the provisions of the then existing Ordinances / Bye – laws/ Regulations of the Institution awarding the degree, and such Ph.D. candidates shall be exempted from the requirement of NET/SLET/SET for recruitment and appointment of Assistant Professor or equivalent positions in Universities/Colleges /Institutions subject to fulfillment of the following conditions:-</p> <p>(a) The Ph.D. Degree of the candidate has been awarded in the regular mode;</p> <p>(b) The Ph.D thesis has been evaluated by at least two external examiners;</p> <p>(c) Open Ph.D viva voce of the candidate has been conducted;</p> <p>(d) The candidate has published two research papers from his Ph.D work out of which at least one is in a refereed journal;</p> <p>(e) The candidate has presented not less than two papers based on his Ph.D work in conferences/seminars sponsored / funded/ supported by the UGC/ICSSR/CSIR or any similar agency</p> <p>Explanation:</p> <p>(i) The fulfillment of these conditions is to be certified by the Registrar or the Dean (Academic Affairs) of the University concerned</p> <p>(ii) NET/SLET/SET shall also not be required for candidates in such Master's Programmes for which NET/SLET/SET is not conducted by the UGC, CSIR or similar test accredited by the UGC like SLET/SET</p> <p>(iii) The term "consistently good academic record" means candidates must have obtained not less than fifty percentage of marks in Higher Secondary Examination and in Bachelor's Degree Examination</p>
11.	Assistant Manager (Projects)	3361	Degree in Engineering (Mechanical / Electrical and Electronics) - Second class or its equivalent
12.	Unit Head - Deputy General Manager Cadre	3389	<p>(i) B.E / B.Tech., in Mechanical / Chemical / Electrical Engineering from a recognized University / Institute, preferable with PG Degree</p> <p>(ii) Experience: 20 Years (in one million ton capacity Cement Plant) with minimum 5 years experience in senior position</p>

13.	Manager (Mechanical)	3390	(i) B.E/B.Tech., Mechanical Engineering from a recognized University / Institute (ii) Experience:15 years (in one million ton capacity Cement Plant)
14.	Deputy Manager (Mechanical)	3395	(i) B.E/B.Tech., Mechanical Engineering from a recognised University / Institute (ii) Experience:10 years (in one million ton capacity Cement Plant)
15.	Deputy Manager (Safety)	3399	(i) B.E./B.Tech., Mechanical/Chemical/Electrical from a recognised University/Institute + Diploma in Safety Management (ii) Experience:10 years in the field of Industrial Safety
16.	Deputy Manager (Materials)	3400	(i) B.E./B.Tech., (Mechanical) from a recognised University/ Institute + Diploma in Materials Management (ii) Experience: 10 years in the field of materials inventory
17.	Assistant Manager (Materials)	3401	(i) B.E./B.Tech., (Mechanical) from a recognised University/ Institute + Diploma in Materials Management. (ii) Experience: 5 years in the field of materials inventory
18.	Assistant Manager (Technical - Mechanical)	3402	(i) B.E./B.Tech., Mechanical Engineering from a recognised University/Institute (ii) Experience: 5 years (in one million ton capacity Cement Plant)
19.	Assistant Manager (Civil)	3403	(i) B.E. Civil Engineering from a recognised University/Institute (ii) Experience: 5 years in the field of Civil Engineering
20.	Manager (Electrical)	3392	(i) B.E/B.Tech., in Electrical Engineering from a recognised University / Institute (ii) Experience:15 years (in one million ton capacity Cement Plant)
21.	Deputy Manager (Electrical)	3396	(i) B.E/B.Tech., in Electrical Engineering from a recognised University / Institute (ii) Experience:10 years (in one million ton capacity Cement Plant)
22.	Deputy Manager (Instrumental)	3397	(i) B.E/B.Tech., Instrumentation from a recognised University / Institute (ii) Experience: 10 years (in one million ton capacity Cement Plant)
23.	Manager (Chemical)	3391	(i) B.E/B.Tech., in Chemical Engineering / M.Sc., (Chemistry) from a recognized University / Institute (ii) Experience: 18 years in Modern Cement Plant of which atleast 3 years as departmental head
24.	Assistant Manager (Marketing)	3405	(i) MBA (Marketing) from a recognised University/Institute (ii) Experience: 5 years of experience in the field of Marketing preferably in Cement Industry with 3 years of service in junior managerial position
25.	Manager (Marketing)	3394	(i) MBA (Marketing) from a recognized University / Institute (ii) Experience: Minimum of 15 years of experience in the field of Marketing preferably in Cement Industry with 5 years of service in middle managerial position
26.	Veterinary Assistant Surgeon	1695	(i) B.V.Sc., Degree / B.V.Sc., & A.H and (ii) Must have passed SSLC Examination or its equivalent examination with Tamil as one of the languages (iii) Registered as Veterinary Practitioner with the Tamil Nadu State Veterinary Council constituted under the Indian Veterinary Council Act, 1984 (Central Act 52 of 1984)

4.3.1. The candidates should possess the educational qualification, technical qualification and experience prescribed for the post, on the date of notification.

4.3.2. Supporting Documents:

4.3.2.1. SSLC / HSC / Diploma / Degree / PG Degree / Integrated PG Degree / Ph.D Degree / Provisional Degree or Provisional Diploma Certificate / Consolidated Mark Sheet along with Degree or Provisional Degree Certificate shall be accepted as proof of educational qualification.

4.3.2.2. In cases where the Diploma / Degree / PG Degree / Ph.D Degree certificates had been issued after the date of notification, candidates must upload / produce proof (in the form of Provisional Diploma / Degree Certificate / Consolidated Mark Sheet) of the publication of results of the respective qualification(s) on or before the date of notification.

4.3.2.3. The Under Graduate / Post Graduate degree qualification prescribed for the above posts should have been obtained by passing the required qualification in the following order of studies viz., SSLC + HSC / Diploma or its equivalent + Under Graduate Degree + Post Graduate Degree+ Ph.D Degree.

4.3.2.4. Candidates claiming possession of qualification higher than that prescribed for a post, must upload / produce certificates, issued on / before the date of notification, in support of such claim.

4.3.2.5. Candidates claiming experience, should upload the experience certificate in the format available in Annexure V of this notification.

4.3.2.6. For the post of Veterinary Assistant Surgeon (Post Code - 1695), candidates should upload the Registration Certificate for having registered as a Veterinary Practitioner with the Tamil Nadu State Veterinary Council. For claiming experience, the appointees under Rule 10(a)(i) (Temporary Veterinary Assistant Surgeons) should upload the experience certificate in the format available in Annexure V of this notification

4.3.2.7. In cases where the duration of the prescribed educational / technical course / experience has been specified in the notification, any discrepancy between the claim in the application and the documents uploaded / produced, shall result in the rejection of candidature after due process.

4.3.2.8. In case the Degree Certificate is lost or is not immediately available for reasons to be specified, an extract from the Convocation Register will be accepted as evidence of qualification.

4.3.3. Equivalence of Qualification: The Government orders relating to equivalence of qualification are available on the Tamil Nadu Public Service Commission's website. However, if the candidate possesses an equivalence of qualification other than one mentioned in the Commission's website and if Government orders to this effect have been issued on or before the date of this notification, candidates should furnish the details of the same while applying and should upload a copy of the Government order at the time of uploading of documents, failing which his / her candidature will be rejected after due process. The Government orders regarding equivalence of qualification issued after the date of this notification will not be considered for this recruitment.

4.4. Medical and Physical Standards:

4.4.1. Candidates selected for appointment to the posts will be required to submit a certificate of physical fitness to the Appointing Authority at the time of joining the post.

4.4.2. The prescribed standards of visual acuity of the candidates selected for the following posts are mentioned below;

S.No.	Name of the Post	Post Code	Standard of Vision
1.	Automobile Engineer	1788	Standard – II or better
2.	Unit Head - Deputy General Manager Cadre	3389	Standard – III or better
3.	Assistant General Manager (Finance)	3373	
4.	Manager (Mechanical)	3390	
5.	Manager (Chemical)	3391	
6.	Manager (Electrical)	3392	
7.	Manager (Marketing)	3394	
8.	Deputy Manager (Mechanical)	3395	
9.	Deputy Manager (Electrical)	3396	
10.	Deputy Manager (Instrumental)	3397	

11.	Deputy Manager (Safety)	3399	Standard – III or better
12.	Deputy Manager (Materials)	3400	
13.	Assistant General Manager (Projects) Investment	3343	
14.	College Librarian	3003	
15.	College Librarian	3004	
16.	Accounts Officer	3374	
17.	Accounts Officer Class-III	2093	
18.	Manager - Grade III (Finance)	3301	
19.	Senior Officer (Finance)	3302	
20.	Veterinary Assistant Surgeon	1695	
21.	Assistant Director	3511	
22.	Assistant Manager (Projects)	3361	
23.	Assistant Manager (Materials)	3401	
24.	Assistant Manager (Technical - Mechanical)	3402	
25.	Assistant Manager (Civil)	3403	
26.	Assistant Manager (Marketing)	3405	

4.4.3. Candidates with defective vision should produce an Eye Fitness certificate from a qualified Eye Specialist working in a Government Hospital, to the Appointing Authority.

4.5. Knowledge in Tamil:

4.5.1. Candidates should possess adequate knowledge in Tamil on the date of this Notification. The candidate shall be deemed to possess an adequate knowledge of Tamil if, he/she has passed the SSLC examination or its equivalent examination / HSC / Degree, etc., with Tamil as one of the languages or studied the High School Course in Tamil medium; or passed the SSLC examination or its equivalent examination in Tamil medium; or passed the Second Class Language Test (Full Test) in Tamil conducted by the Tamil Nadu Public Service Commission.

4.5.2. Candidates must upload / produce either SSLC / HSC / Degree / PG Degree mark sheets or proof of having passed the Second Class Language Test (Full Test) in Tamil conducted by the Tamil Nadu Public Service Commission, at the time of submission of online application.

4.5.3. Failure to produce documents in support of the possession of adequate knowledge of Tamil, shall result in the candidate being required to pass the Second Class Language Test (Full Test) in Tamil conducted by the Commission, within a period of two years from the date of his / her appointment, failing which he / she shall be discharged from service. This instruction is not applicable to the post of Veterinary Assistant Surgeon (Post Code -1695).

4.6. Posts identified suitable for Persons with Benchmark Disability:

4.6.1. The following posts are identified as suitable for reservation to persons with benchmark disabilities as detailed below:

S. No.	Name of the Post	Post Code	Suitable Category of Benchmark Disabilities
1.	Automobile Engineer	1788	LD(OL),HH
2.	College Librarian	3003	LV,HI,HH,LD(OA,OL,Others),CP,LC,AC,DF,MuD, ASD, SLD,MI, MD of the above
3.	College Librarian	3004	LV,HH,LD,CP,LC,DF,AC,MuD,ASD,SLD,DB,MD
4.	Accounts Officer Class-III	2093	HH,LD(with mobility), AC,DF,LC
5.	Manager Grade- III (Finance)	3301	LV,HH,HI,LD(OA,OL,BL,OAOL,BLOA),AC,LC,DF
6.	Senior Officer (Finance)	3302	
7.	Veterinary Assistant Surgeon	1695	HH,LD,AC

8.	Manager (Mechanical)	3390	LV,HH,LD(OA,OL),CP,LC,DF,AC,MuD,ASD,SLD,MD
9.	Manager (Chemical)	3391	
10.	Manager (Electrical)	3392	
11.	Manager (Marketing)	3394	
12.	Assistant Manager (Materials)	3401	
13.	Assistant Manager (Technical - Mechanical)	3402	
14.	Assistant Manager (Civil)	3403	
15.	Assistant Manager (Marketing)	3405	
Abbreviations:			
LV	– Low Vision	CP	– Cerebral Palsy
VI	– Visually Impaired	LC	– Leprosy Cured
HH	– Hard of Hearing (with assistive device)	AC	– Acid Attack Victims
HI	– Hearing Impaired	DF	– Dwarfism
LD	– Locomotor Disability	MuD	– Muscular Dystrophy
BLOA	– Both Leg One Arm	ASD	– Autism Spectrum Disorder
OA	– One Arm	SLD	– Specific Learning Disability
OL	– One Leg	MI	– Mentally ill
OAOL	– One Arm One Leg	MD	– Multiple Disabilities
BABL	– Both Arm Both Leg	BL	– Both Leg
		DB	– Deaf Blindness

4.6.2. Persons with Benchmark Disability with only those category (ies) of disability (ies) mentioned above shall be eligible to apply for this Examination under Persons with Benchmark Disability category. Therefore candidates concerned are advised to read it carefully before applying appropriately for admission to the Examination.

4.7. Restrictions on applying for the Examination:

4.7.1. The candidates not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s, and BCMs, who have put in 5 years or more of service, since his / her first appointment to a service of Government of India or Government of a State / Union Territory, are not eligible to apply even if they are within the age limit, except for the post of Accounts Officer Class-III. This instruction is not applicable to the Temporary Veterinary Assistant Surgeons appointed under Rule 10(a)(i).

4.7.2. The persons with benchmark disabilities are not eligible for the following posts;

S. No.	Name of the Post	Post Code	Department/Organization
1.	Accounts Officer	3374	Tamil Nadu Minorities Economic Development Corporation Ltd.,
2.	Assistant General Manager (Projects) Investment	3343	Tamil Nadu Industrial Development Corporation Ltd.,
3.	Assistant Manager (Projects)	3361	State Industries Promotion Corporation of
4.	Assistant General Manager (Finance)	3373	Tamil Nadu Ltd.,
5.	Assistant Director	3511	Tamil Development
6.	Unit Head - Deputy General Manager Cadre	3389	Tamil Nadu Cements Corporation Ltd.,
7.	Deputy Manager (Mechanical)	3395	
8.	Deputy Manager (Electrical)	3396	
9.	Deputy Manager (Instrumental)	3397	
10.	Deputy Manager (Safety)	3399	
11.	Deputy Manager (Materials)	3400	

5. Plan of Examination:

5.1. The Combined Technical Services Examination (Interview Posts) comprises of two stages (i) Written Examination and (ii) Interview. The candidates shall be admitted to the written examination, based on the claims made in the online application.

5.2. Onscreen certificate verification will be conducted before admission to the physical certificate verification and interview. The Commission will draw a list of candidates to be qualified for the onscreen certificate verification based on the criterion of minimum qualifying marks as mentioned in para 6 of notification and rule of reservation of appointments. The candidates will be admitted to onscreen certificate verification in the ratio of 1:3 / 1:4 (posts not requiring experience) and 1:10 (posts requiring experience). The experience certificate uploaded by the candidates will be verified by the Head of the Department / Organisation concerned, during onscreen certificate verification.

5.3. After onscreen certificate verification, based on the marks obtained in the written examination and subject to the rule of reservation of appointments, candidates shall be admitted to physical certificate verification and interview.

5.4. If the number of vacancies notified / reserved to be filled up by any one or more of the reservation categories [viz., Scheduled Castes, Scheduled Caste (Arunthathiyars), Scheduled Tribes, Most Backward Classes / Denotified Communities, Backward Classes (other than Muslim) or Backward Classes (Muslim) or General Turn], is five and above, the number of candidates to be admitted to the physical certificate verification and interview from those particular reservation categories, shall be two times the number of vacancies. If the number of vacancies notified / reserved to be filled up by any one or more of the reservation categories is four and below, the number of candidates to be admitted to the physical certificate verification and interview from those particular reservation categories, shall be three times the number of vacancies.

5.5. In respect of posts whose total cadre strength is one only and for which the rule of reservation of appointments does not apply, the number of candidates to be admitted to the physical certificate verification and interview on the basis of the marks obtained in the written examination shall be three.

5.6. The interview will carry 60 marks, with no minimum qualifying marks.

5.7. Marks obtained by the candidates in the Written Examination (Part B of Paper I and Paper II) and Interview would determine final ranking. The final selection will be made based on the total marks obtained by the candidate in Written Examination (Part B of Paper I, Paper II) and Interview taken together subject to rule of reservation of appointments. Candidates will be allowed to participate in counselling (wherever applicable) based on his / her rank.

5.8. Appearance in Paper I, Paper II and the Interview is compulsory. Candidates who have not appeared either for Paper I, Paper II and Interview, will not be considered for selection, even if they secure the minimum qualifying marks.

6. Scheme of Examination:

Subject	Standard	No. of Questions	Duration	Maximum Marks	Minimum Qualifying Marks		Type of Examination	Mode of Examination
					SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs	Others*		
Paper I	SSLC	100	3 hours	150	60	60	Objective	CBT
Part A Tamil Eligibility Test								
Part B (i) General Studies	Degree	75	3 hours	150	135	180	Objective	CBT
(ii) Aptitude and Mental Ability Test	SSLC	25						
Paper II Subject Paper	Degree / PG Degree	200	3 hours	300				
Total (Part B of Paper-I and Paper-II)				450				
Interview				60		-		
Grand Total (Part B of Paper I, Paper II and Interview)				510		-		
*Others - Candidates not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs								
CBT- Computer Based Test								

6.1. For the post of Veterinary Assistant Surgeon (Post Code - 1695), as per the Supreme Court's order in Civil Appeal No.4351 of 2016, the appointees under Rule 10(a)(i) (Temporary Veterinary Assistant Surgeons) will be afforded weightage of marks towards weightage of experience in the selection process. The weightage will consist of marks at the rate of 5 marks for every year which is subjected to maximum of 50 marks (restricted to total marks in written examination). The contract employees will not be considered as the appointees under Rule 10(a)(i).

6.2 Paper II - Subject Paper					
Name of the Post	Post Code	Subject Paper	Subject Code	Standard	Language of Question Paper
Assistant General Manager (Projects) Investment	3343	Financial and Cost Accountancy	434	Final	English
		Business Administration	385	PG Degree	Tamil and English
Assistant Manager (Projects)	3361	Electrical Engineering / Electrical and Electronics Engineering	400	Degree	English
		Mechanical / Production / Manufacturing Engineering	399		Tamil and English
Automobile Engineer	1788	Automobile Engineering	404	Degree	English
		Mechanical / Production / Manufacturing Engineering	399		Tamil and English
College Librarian	3004	Library and Information Science	267	PG Degree	English
College Librarian	3003				

Veterinary Assistant Surgeon	1695	Animal Husbandry and Veterinary Science	396	Degree	English
Accounts Officer	3374	Financial and Cost Accountancy	434	Final	English
Assistant General Manager (Finance)	3373				
Accounts Officer Class-III	2093				
Manager - Grade III (Finance)	3301				
Senior Officer (Finance)	3302				
Unit Head - Deputy General Manager Cadre	3389	Mechanical / Production / Manufacturing Engineering	399	Degree	Tamil and English
		Chemical Engineering	405		English
		Electrical Engineering / Electrical and Electronics Engineering	400		
Manager (Mechanical)	3390	Mechanical / Production / Manufacturing Engineering	399	Degree	Tamil and English
Manager (Chemical)	3391	Chemical Engineering	405	Degree	English
		Chemistry	244	PG Degree	Tamil and English
Manager (Electrical)	3392	Electrical Engineering / Electrical and Electronics Engineering	400	Degree	English
Manager (Marketing)	3394	Business Administration	385	PG Degree	Tamil and English
Deputy Manager (Mechanical)	3395	Mechanical / Production / Manufacturing Engineering	399	Degree	Tamil and English
Deputy Manager (Electrical)	3396	Electrical Engineering / Electrical and Electronics Engineering	400	Degree	English
Deputy Manager (Instrumental)	3397	Electronics and Instrumentation Engineering	402	Degree	English
Deputy Manager (Safety)	3399	Mechanical / Production / Manufacturing Engineering	399	Degree	Tamil and English
		Chemical Engineering	405		English
		Electrical Engineering / Electrical and Electronics Engineering	400		
Deputy Manager (Materials)	3400	Mechanical / Production / Manufacturing Engineering	399	Degree	Tamil and English
Assistant Manager (Materials)	3401				
Assistant Manager (Technical - Mechanical)	3402				
Assistant Manager (Civil)	3403	Civil Engineering	398	Degree	Tamil and English
Assistant Manager (Marketing)	3405	Business Administration	385	PG Degree	Tamil and English
Assistant Director	3511	Tamil Language and Literature	331	PG Degree	Tamil

6.3. The Paper II and Part B of Paper I will be evaluated only if the candidate secures minimum qualifying marks of 40% (i.e., 60 Marks) in Part A of Paper I.

6.4. The questions in Part B of Paper I will be set both in English and Tamil.

6.5. The differently abled candidates can avail exemption from writing Part A in Paper I (Tamil Eligibility Test). Such candidates have to furnish the required details in the online application without fail. Subsequent claim will receive no attention. The candidates need to upload the Certificate in the format prescribed in the para 4 of Annexure IV of this notification.

6.6. The syllabus for the written examination is available in Annexure III of this Notification.

6.7. The instructions to be followed while appearing for the examination, are available in Annexure IV of this Notification.

6.8. The Notification is published in English and Tamil versions. In case of doubt, English version is final.

7. Reservation of Appointments:

7.1. The rule of reservation of appointments applies to this recruitment. The details of the reservation to candidates belonging to various categories are given in Annexure II of this Notification. In respect of posts whose total cadre strength is one only, the rule of reservation of appointment does not apply.

7.2. Reservation of appointment to Destitute Widow and Ex-Servicemen will not apply to this recruitment.

8. Communication to Candidates:

8.1. The memorandum of admission (Hall Ticket) for eligible candidates will be made available on the Commission's website www.tnpscexams.in / www.tnpsc.gov.in for downloading by candidates. The memorandum of admission will not be sent by post. The candidates must comply with every instruction given in the memorandum of admission.

8.2. The Commission will publish the written examination results, date and time of physical certificate verification, interview and counselling on the Commission's website www.tnpsc.gov.in. No individual communication will be sent to the candidates by Post. Candidates will be informed of the above fact only through SMS and e-mail, through the registered Mobile Number and email ID. Candidates are directed to watch the Commission's website in this regard. The Commission shall not be responsible if the communication does not reach the candidate due to an incorrect / invalid e-mail ID / mobile number and failure / delay in delivery of SMS / email to the candidates due to any reason including technical issues. Any representation from the candidates for non-receipt of SMS or e-mail will not be responded.

9. Communication with the Commission:

9.1. Candidates requiring clarification, can contact the office of the Tamil Nadu Public Service Commission in person or over the Toll-Free No.1800 419 0958 on all working days between 10.00 A.M and 5.45 P.M.

9.2. Queries relating to One Time Registration / online application may be sent to helpdesk@tnpscexams.in. Any other communication with the Commission must be made through email to grievance.tnpsc@tn.gov.in. Communications sent by post must be addressed only to the Secretary, Tamil Nadu Public Service Commission, TNPSC Road, V.O.C. Nagar, Park Town, Chennai - 600003.

9.3. All communications to the Commission should invariably contain the following particulars. Communications not containing the following particulars will not be attended to.

- a. Name of the examination
- b. Notification No. and year
- c. Registration No.

- d. Name of the Candidate (in full and in block letters)
- e. Complete postal address as given in the application
- f. Valid and Active E-mail ID

9.4. Request for exemption from age limit or other qualifications will receive no attention. Requests for furnishing causes of failure in the written examination or for non-selection based on the results of the written examination or for revaluation of answer sheets will not be entertained.

9.5. Requests from candidates for furnishing of their marks or answer paper copy before the completion of the entire selection process, will not be entertained by the Commission.

10. Litigations:

The selection for appointment to the posts included in this recruitment is purely provisional subject to the final orders in the court cases, if any, pending before the Hon'ble High Court of Madras and Madurai Bench of Madras High Court, relating to this recruitment.

Secretary

Annexure I

How to Apply Online

1. **Website:** Candidates should apply only through online mode in the Commission's website viz., www.tnpscexams.in.

2. One Time Registration:

2.1. It is essential for the candidate to register himself / herself first at the One Time Registration (OTR) platform, available on the Commission's website, and then proceed to fill up the online application for the examination. Candidates should register only once in the One Time Registration by paying Rs.150/- as registration fee. Successfully registered One Time Registration is valid for five years from the date of registration.

2.2. During One Time Registration, the candidates should keep ready the scanned image of their photograph, taken within the last 3 months of size 20 KB – 50 KB and saved as "Photograph.jpg" and signature of size 10 KB – 20 KB and saved as 'Signature.jpg'. Both photograph and signature, of 200 DPI resolution, should be saved in a CD / DVD / Pen drive, to upload the same.

2.3. One Time Registration is not an application for any post. It is just a collection of information from the candidates and provides a separate dashboard to each candidate to facilitate the maintenance of their own profile. A candidate should make an online application separately for every examination for which he / she intends to appear.

2.4. A valid e-mail ID and mobile number are mandatory for One Time Registration. E-mail ID and mobile number are to be kept in 'ACTIVE' mode. Every candidate should have his / her email ID and password. No candidate should share his/her e-mail ID, password, mobile number with any other person. In case a candidate does not have a valid personal email ID, he / she should create a new email ID before applying online and must maintain that email account live. Inquiries relating to One Time Registration / online applications will be answered only if the inquiries are received through a registered e-mail ID.

2.5. Linking the Aadhaar number with One Time Registration (OTR) is mandatory for candidates. The information associated with the Aadhaar number including biometrics will be used only for identification purposes and will not be stored or shared. Candidates are requested to give their consent in their respective OTR. The Aadhaar details will be submitted to the Central Identities Data Repository (CIDR) only for authentication. Linking of the Aadhaar number is mandatory for all prospective candidates to create new OTR, renew / access the existing OTR and apply for any recruitment to be notified henceforth.

2.6. Details to be furnished during One Time Registration:

2.6.1. Candidates shall furnish their correct SSLC Register Number and Certificate Number, Month and Year of Passing, Medium of Instruction, and Name of the Board that issued the certificate while registering online. If any detail furnished is found to be wrong, the online application will be rejected at any stage after due process.

2.6.2. Candidates who have more than one SSLC mark sheet, should enter the details available in the mark sheet issued on the final attempt in which he / she had passed the SSLC examination.

2.6.3. Besides details related to SSLC, all other details required in the One Time Registration, shall be furnished without any mistake, as these details shall form the basis of all other details given subsequently by the candidate while filling the online application for each recruitment.

2.7. One-Time Registration (OTR) Edit:

2.7.1. The candidates shall be permitted to edit the details in the OTR whenever required by uploading the supporting documents.

2.7.2. Any changes in the One Time Registration must be made before the submission of the online application since the details furnished in the One Time Registration will be filled in automatically in the online application. Hence, incorrect particulars furnished in the One Time Registration may result in the rejection of online application after due process. Candidates are therefore advised to fill in the One Time Registration particulars carefully and correctly.

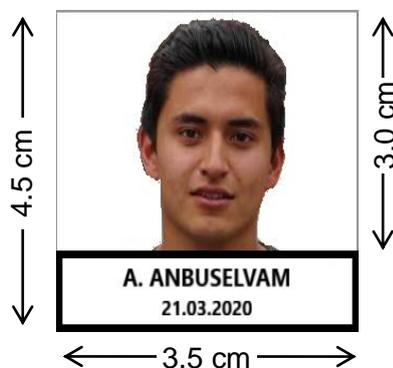
2.7.3. The Commission will not be responsible for any consequences arising out of failure on the part of the candidates to adhere to the instructions issued regarding One Time Registration or filling up of online application.

2.7.4. The instructions and illustration regarding One Time Registration are available on the website viz., www.tnpscexams.in.

3. Online Application:

3.1. A candidate who wishes to apply for any post shall click “APPLY” against the post notified on the Commission’s website and use the same User ID and Password given for One Time Registration. User ID and Password are to be created by the candidates themselves. In case the candidate forgets the User ID and Password, he/she can retrieve or reset them using the “FORGOT PASSWORD and FORGOT USER ID” options. The Commission will not furnish User ID and Password details to the candidates.

3.2. A candidate already having user ID and password, has to login. The available One Time Registration particulars will be displayed on the screen, including the photograph furnished at the time of One Time Registration, as well as the photographs uploaded with previous online applications. Candidates shall check and confirm the One Time Registration details before proceeding further. Thereafter, the candidates shall fill up additional details required in the specific recruitment application. If any of the One Time Registration details are found to be incorrect, the same should be corrected by clicking on OTR Edit. Changes made in the One Time Registration will be reflected only in online applications to be submitted subsequently.



3.3. Candidates shall upload their photograph taken on or after the date of notification at the time of submission of each and every online application. The photograph should be in colour, of passport size, against a white background and taken in a photo studio. The candidate should be photographed in frontal view showing both ears and part of the neck. The candidate should ensure that the name of the candidate and the date of photography (i.e., on or after the date of notification) are printed at the bottom of the photograph. The face of the candidate as well as his / her name and date of photography should be clearly visible in the photograph of height 4.5 cm (170 pixels) and width 3.5 cm (130 pixels). Of the total height of the photograph, the image of the candidate shall be 3.0 cm (115 pixels) and the candidate’s name and date of photography shall be 1.5 cm (55 pixels), as illustrated above. The photograph should be saved in a digital format (in CD / DVD / pen drive / hard drive), ready for uploading.

3.4. If the photograph is not available in a digital format, a passport-size photograph showing the image of the candidate along with the name of the candidate and the date of photography printed at the bottom, in the same dimensions as specified above, may be pasted on a plain white paper and scanned to obtain a resolution of 200 DPI. The image should then be cropped to show only the

photograph of size 20KB–50KB saved as “Photograph.jpg” and uploaded. The entire sheet of white paper on which the photograph is pasted should not be scanned / uploaded. Photographs taken using cellular phones, selfies, photocopies (Xerox) of photographs, photographs taken during family functions, at tourist places, or against a backdrop of plants or buildings should not be uploaded. Photographs of nature, wildlife, buildings, etc. shall not be uploaded. In case of uploading an inappropriate photograph, in violation of the aforementioned instruction, the application is liable to be rejected after due process.

3.5. Before uploading of signature, the candidate shall draw a box of dimension 6.0 x 2.0 cm (230 pixels x 75 pixels) on white paper and sign within the box, using a blue or black ink pen. The paper should then be scanned to obtain a resolution of 200 DPI. The image should then be cropped to show only the box with the signature, of size 10 KB –20KB, and saved as “Signature.jpg” and uploaded.

3.6. Clear images of the photograph and the signature should be uploaded in the correct dimensions, size, and format. Failure to upload/upload clear images of the photograph and signature will result in the rejection of the online application after due process.

3.7. Examination Centres:

3.7.1. While applying online, candidates shall be permitted to choose two district centres as their preference for the Written Examination. Candidates shall be allotted a venue in one of these two district centres. However, candidates with benchmark disability, shall be permitted to choose only one district centre and shall be allotted a venue in that district centre.

3.7.2. Candidates must appear for the examination at the venue they have been allotted, as mentioned in the memorandum of admission (hall ticket). Request for change of examination centre will not be permitted.

3.7.3. The Commission reserves the right to increase or decrease the number of examination centres and to re-allot the candidates accordingly. The Commission also reserves the right to allot a candidate to the nearby centre, if he / she could not be accommodated in the centres opted by the candidate.

3.7.4. The written examination will be held at the centres given below:

S.No.	Name of the Centre	Code	S.No.	Name of the Centre	Code
1.	Chennai	0101	11.	Salem	1701
2.	Coimbatore	0201	12.	Thoothukudi	2401
3.	Erode	0601	13.	Tiruchirappalli	2501
4.	Kancheepuram	0701	14.	Tirunelveli	2601
5.	Nagercoil	0801	15.	Tiruppur	3201
6.	Karur	0901	16.	Vellore	2701
7.	Madurai	1001	17.	Virudhunagar	2901
8.	Namakkal	1201			
9.	Pudukkottai	1501			
10.	Ramanathanpuram	1601			

3.8. Application Preview:

3.8.1. Candidates should carefully fill in the details in the online application at the appropriate places and click on the ‘SAVE AND PROCEED’ button at the end of each page of the application. Before pressing the ‘SAVE AND PROCEED’ button, candidates are advised to verify each particular field in the application.

3.8.2. Candidates can edit/add/delete any information while filling the online application. Before finally submitting the application, candidates will be given the option of seeing a preview of their application. As soon as a candidate clicks the button meant for preview, an SMS will be sent to the

registered mobile number, informing the availability of such a preview in the registered email ID provided by the candidate.

3.8.3. Once the candidate desires to make modifications based on the preview arrangement as indicated in the paragraph above, he/she may re-open the application and make necessary modifications using the Edit option and make the final submission of the corrected application, before the last date prescribed for submission of the online application. It is the responsibility of the candidate to carefully check the details available in the preview and make suitable corrections, if any, in the application / OTR before final submission. The candidate will be solely responsible for any non-rectification or non-submission of the application.

3.8.4. An individual is considered to have applied for a recruitment, if and only if, he / she finally submits the application, by clicking the 'SUBMIT' button. The mere availability of a preview shall not be tantamount to "having applied" for a particular recruitment.

3.9. Examination Fee:

3.9.1. The examination fee of Rs. 200 (Rupees Two hundred only) should be paid at the time of submitting the online application for this recruitment, unless exemption of fee is claimed.

3.9.2. Candidates belonging to special categories can avail of exemption from paying examination fees as per eligibility criteria. For further details refer to Annexure II of this Notification.

3.9.3. The total number of free chances availed, will be calculated based on claims made in previous applications. The number of free chances availed by the candidate may be verified by the Commission at any stage of the selection process. In case a candidate makes a false claim for exemption from payment of the application fee by suppressing information regarding his/her previous application(s), his / her candidature shall be rejected after due process and he / she shall be debarred for a period of one year, from appearing for examinations conducted by the Commission.

3.9.4. Candidates are directed to carefully choose the option "Yes" or "No" regarding availing of the fee concession. The choice made, cannot be modified or edited after successful submission of the online application. Candidates are advised in their own interest, to keep an account of the number of times fee concession has been availed, irrespective of the information displayed in the <Application History> of the candidate dashboard.

3.9.5. An application (irrespective of the post applied for) claiming fee concession will operate to exclude one chance from the number of free chances allowed. Candidates who have availed the maximum number of free chances permitted / candidates who do not wish to avail of the fee concession / candidates who are not eligible for fee concession shall choose the option "No" against the query regarding fee concession. Such candidates shall thereafter pay the requisite fee through the prescribed mode of payment.

3.9.6. Failure to pay the prescribed fee in time, along with the online application, will result in the rejection of the application after due process.

3.10. Examination Fee Payment:

3.10.1. After submitting the details in the online application, the candidates can pay the examination fee by online mode through Net Banking / Credit card / Debit card on or before the last date of submission of the online application by choosing the option in the online application. Candidates have to pay the service charges also as applicable.

3.10.2. Offline mode of payment if any received in the form of Demand Draft / Postal Order etc. will not be accepted and the applications forwarded with such modes of payment will be summarily rejected and the same will not be returned or refunded.

3.10.3. To facilitate payment of fees through the online mode, an additional page of the application format will be displayed wherein candidates may follow the instructions and fill in the requisite details to make payment. There is a possibility of online payment failure. Hence, if the online payment fails, candidates can check the status of the earlier transaction. If the earlier transactions have failed, the candidate shall retry paying the fee again by online mode. In case of online payment failure, the amount debited from the candidate's account will be reverted to his/her account. The candidates have been given a provision to check the status of the transaction made. If all the attempts/transactions have failed, candidates have to make the payment again. The Commission is not responsible for online payment failure. It is the responsibility of the candidates to ensure that the transaction made by them is successful.

3.10.4. After submitting the payment information in the online application format, wait for the intimation from the server. Meanwhile, DO NOT press 'Back' or 'Refresh' button to avoid payment failure or double payment.

3.10.5. If the online transaction has been successfully completed, an Application Number / Applicant ID will be generated. Candidates should note the Application Number / ID for future reference in respect of the recruitment applied for.

3.10.6. Tamil Nadu Public Service Commission reserves the right to change the mode of payment at any time.

3.11. Online Application Edit:

3.11.1. The candidates shall be permitted to edit all the details in the online application till the last date stipulated for submission of the online application.

3.11.2. If the candidate desires to change his / her photograph and/or signature in his / her online application, the candidate shall select the edit option in the online application to re-upload them which must be saved finally before submitting the online application.

3.11.3. Some of the information contained in the online application has been brought forward from the candidate's one-time registration. If such information has to be edited in the online application, the candidate shall select the edit profile option in One Time Registration (OTR) and shall make and save necessary corrections. After doing so, the candidate shall select the edit option in the online application and edit the details as desired. The candidate shall save the changes and submit it finally. The candidate shall take a printout of the same if required.

3.11.4. After editing the online application, if the edited details are not finally saved and submitted by the candidate, the details provided by the candidate in the application submitted before editing shall only be considered. If the candidate has to pay a fee based on the edited details, the candidate shall pay the prescribed examination fee in online. Candidates who have already paid the examination fee are not required to pay.

3.12. Application Correction Window:

3.12.1. After the last date for submission of the online application, the Online Application Correction Window shall open for 3 days as mentioned in Para 1 'Important Instructions' of this Notification. During this period, candidates will be able to edit the details in their online application. After the last date of the Correction Window period, no modification is allowed in the online application.

3.12.2. The applications shall be processed as per the details finally furnished by the candidates. It is the responsibility of the candidates and the Commission has no liability for subsequent rejection of the application consequent to the editing details already submitted in the online application. Request / representation received for modification of claims in the online application, in any mode shall not be entertained.

3.13. Candidates are advised in their own interest to apply online much before the closing date and not to wait till the last date to avoid the possibility of disconnection / inability / failure to log on to the Commission's website on account of heavy load on internet / website.

3.14. The Commission does not assume any responsibility for the candidates not being able to submit their online applications within the last date on account of the aforesaid reasons or for any other reason beyond the control of the Commission.

3.15. Candidates need not send the printout of the online application or any other supporting documents to the Commission by post unless asked for specifically.

3.16. The name of the candidate or the name of his / her father or mother, should be spelt correctly in the application as it appears in the certificates / mark sheets.

3.17. Any discrepancy between the details as given in the online application and the documents submitted shall result in the summary rejection of candidature after due process.

3.18. The Commission will not be responsible for any consequences arising out of furnishing of incorrect and / or incomplete details in the application or omission to provide the required details in the application.

3.19. Upload of Documents:

3.19.1. Candidates should upload the required documents of proof in respect of all the claims made in the application with reference to this notification while applying for this post / these posts. If the required certificates are not uploaded by the candidate, within the stipulated time, his/her candidature will be rejected after due process.

3.19.2. The candidates shall have the option of verifying the uploaded certificates / documents through their OTR. If any of the certificates / documents have wrongly been uploaded or not uploaded or if any modifications are to be done in the uploading of documents, the candidates shall be permitted to upload / re-upload the documents till two days prior to the date of hosting of hall tickets for that particular examination. (i.e., twelve days prior to the date of examination).

3.19.3. The uploaded credentials shall be mapped with the One Time Registration of the respective candidate along with the Application number and Notification Number (i.e., with reference to the notification for each post), so that they can be used during future submission of application by the same candidates.

3.19.4. The online application of the candidates who have not uploaded the required supporting documents (correctly / clearly / legibly) on or before the stipulated period shall be rejected after due process.

3.19.5. The documents uploaded by the candidates shall be linked with OTR and retained in the server for a maximum period of two years. If the candidate applies subsequently for other posts within two years, the documents that were already uploaded shall be displayed to the candidate during the online application process for confirmation and the same need not once again be uploaded by the candidates. If the candidate applies to other posts after the period of retention i.e. two years, the candidate shall be instructed to upload all the documents afresh.

4. Information regarding criminal cases / disciplinary cases:

4.1. Candidates who have declared pending criminal or disciplinary cases in their online application, must upload / produce a copy of the First Information Report (FIR) or memorandum of charges / show cause notice, as the case may be. Failure to upload / produce such papers at the time of submission of online application, shall result in rejection of candidature after due process.

4.2. Candidates who have declared conviction in criminal cases or punishment in disciplinary cases, in their online application, must upload / produce the relevant court orders and / or release orders or memorandum of proceedings, as the case may be, at the time of submission of online application. Failure to upload / produce such papers shall result in the rejection of candidature after due process.

4.3. In case any criminal case is filed / disciplinary action is taken against or conviction / punishment is imposed on a candidate after submission of the online application, at any stage of the recruitment

process before the completion of the entire selection process, such candidates should report this fact to the Commission in the next immediate stage when Commission calls for uploading / producing documents. Failure to comply with these instructions shall result in the rejection of candidature after due process and debarment for a period of one year.

4.4. The pendency of disciplinary cases / criminal cases shall in no way affect the selection prospects of candidates. However, failure to inform such pendency, shall result in the rejection of candidature after due process.

5. Employment Details:

5.1. Candidates who are in the service of the Indian Union or a State in India or in the employment of Local Bodies or Universities or Quasi Government Organizations or Public Sector Units constituted under the authority of the Government of India or of a State in India, in regular service, must inform the Commission of such fact, at the time of applying. Suppression of the fact of employment by candidates shall result in rejection of candidature after due process.

5.2. Candidates need not send their applications through their Head of Department or employer. Instead, they may directly apply to the Commission after duly informing their employer in writing that they are applying for the particular recruitment, subject to the condition that they should produce 'No Objection Certificate' in the format prescribed as shown below.

No Objection Certificate

This is to certify that Thiru/Tmt./Selvi. (Name) employed as (designation) in this office from(specify the date from which appointed), who is regularly / temporarily appointed and who is as probationer / approved probationer / full member, had applied for the post ofinservice called for by the Tamil Nadu Public Service Commission through online application form to the Tamil Nadu Public Service Commission and informed the fact to this department / organisation. This department / organisation has 'no objection' for processing the said application of the individual by the Tamil Nadu Public Service Commission subject to the condition that the particulars furnished by the individual are found to be correct.

Appointing Authority
(Signature with Seal)

* In the case of a Government servant against whom departmental or criminal proceedings are contemplated or pending, the appointing authority shall inform the said fact to the Tamil Nadu Public Service Commission along with the "No Objection Certificate" and shall also inform the Tamil Nadu Public Service Commission about the initiation of departmental or criminal proceedings, if any, subsequently, till the date of his / her actual relief from the office to take up appointment in the post for which he / she has been selected.

5.3 Candidates who secure employment after submission of online application, must upload / produce a 'No Objection Certificate' or at least an undertaking regarding the fact of employment and that 'No Objection Certificate' has been applied for. Failure to upload / produce the 'No Objection Certificate' / an undertaking shall result in the rejection of candidature after due process.

5.4. Candidates who have been removed / dismissed / resigned from a post, shall intimate such fact to the Commission, through the One Time Registration Dashboard. Any failure in this regard shall result in the rejection of the candidature after due process.

5.5. Any change in the employment status of the candidate, whether appointment to or resignation / removal / dismissal, from a post, at any stage of the recruitment process, until completion of the entire selection process, must be informed to the Commission. Any failure in this regard shall result in the rejection of the candidature after due process.

5.6. Failure on the part of employed candidates to upload / produce the 'No Objection Certificate' shall result in the rejection of candidature after due process.

Annexure II

1. Ex-Servicemen:

1.1. 'Ex-Serviceman' means,

1.1.1. any person who had served in any rank (whether as combatant or not) in the Armed Forces of the Union for a continuous period of not less than six months after attestation, if released between 1st July 1979 and 30th June 1987 (both days inclusive):

- a. for reasons other than at his own request or by way of dismissal or discharge on account of misconduct or inefficiency; or
- b. at his own request after serving for a period of not less than five years; or

1.1.2. any person who had served in any rank (whether as combatant or not) in the Armed Forces of the Union, and had retired or had been released on or after 1st July 1987 from such service:

- a. at his own request after earning his pension; or
- b. on medical grounds attributable to military service or circumstances beyond his control and awarded medical or other disability pension; or
- c. otherwise than at his own request after earning his pension, as a result of reduction in establishment; or
- d. after completing specific period of engagement, otherwise than at his own request or by way of dismissal or discharge on account of misconduct or inefficiency and has been given a gratuity.

1.1.3. any person of the Territorial Army of the following categories, namely, pension holder for continuous embodied service, person with disability attributable to military service and gallantry award winner retired on or after 15th November 1986; or

1.1.4. any person of the Army Postal Service, who retired on or after 19th July 1989 directly from the said service without reversion to Postal and Telegraph Department with pension or who has been released on or after 19th July 1989 from such service on medical grounds attributable to military service or circumstances beyond his control and awarded medical or other disability pension; or

1.1.5. any person who was on deputation in the Army Postal Service for more than 6 months prior to the 14th day of April 1987; or

1.1.6. any person who was boarded out or released on medical grounds and granted medical or disability pension; or

1.1.7. any person discharged on or after July 1987 under Army Rule 13(3) III (V) for the reason that his service is no longer required and in receipt of pension; or

1.1.8. such other person as may be notified by the Government from time to time.

1.2. Ex-Servicemen does not mean the wards / dependants of those mentioned above.

1.3. A person discharged before July 1987 under Army Rule 13(3) III (V) for the reason that his service is no longer required is not an Ex-Serviceman.

1.4. In all cases, an Ex-Serviceman once recruited to a post in any class or service or category, cannot claim the concession of being called an Ex-Serviceman for his further recruitment.

1.5. Persons serving in the Armed Forces shall be eligible to apply for posts under the Government, if they are due to complete the specified term of their engagement in the Armed Forces, within one year from the last date prescribed by the Commission, for receipt of the online application in respect of a particular recruitment.

1.6. The above mentioned age concession will not apply to the Ex-Servicemen candidates who have already been recruited to any class or service or category.

1.7. Fee Concession: Two free chances.

1.8. Reservation of Appointments: The rule of reservation of appointment to Ex-Servicemen will not apply to this recruitment.

1.9. Supporting Documents:

1.9.1. A candidate who claims to have been demobilised from the Army or Navy or Air Force needs to upload/produce either a properly authenticated extract from his Discharge Certificate (viz., a Bonafide Certificate) issued by the Ex-Servicemen's Welfare Board in the format as depicted below or the Pension Pay Order at the time of submission of online application.

Form of Bonafide Certificate to be produced by Ex-Servicemen

1. Name of the applicant
2. Rank held, Name of the Service (Army / Navy / Air force)
3. Date of enrolment
4. Date of discharge
5. Reasons for discharge
6. Whether an 'Ex-Serviceman' should be specifically stated
7. Whether in receipt of pension
8. P.P.O No.
9. Conduct and character while serving in the defence forces
10. Name of the post applying for
11. Unique Service No.
12. Whether the individual is employed in any post under the Government of Tamil Nadu? If so, Name of the post and date of appointment

1.9.2. Persons serving in the Armed Forces who are due to complete the specified term of their engagement in the Armed Forces, within one year from the last date prescribed by the Commission, for receipt of the online application in respect of this recruitment, shall upload / produce at the time of certificate verification, an undertaking and a certificate from their Commanding Officer in the format as depicted below.

Form of Undertaking to be given by the Serving Personnel

I hereby accept that if selected on the basis of the recruitment / examination to which this application relates, I will produce documentary evidence to the satisfaction of the appointing authority that I have been duly released / retired / discharged from the Armed Forces and I am entitled to the benefits admissible to Ex-Servicemen given under Section 63 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016.

Place:

Signature of the Applicant

Form of Certificate for Serving Personnel

I hereby certify that according to the information available with me (Number)(Rank) (Name) is due to complete the specified term of his engagement with the Armed Forces on the (date)

Place:
Date:

Signature of the Commanding Officer

1.9.3. Failure to upload/produce the supporting documents, shall result in the rejection of candidature after due process.

2. Persons with Benchmark Disability:

2.1. "Person with Benchmark Disability" means a person with not less than forty percent of a specified disability where specified disability has not been defined in measurable terms and includes a person with disability where specified disability has been defined in measurable terms, as certified by the certifying authority designated by the Government under sub-section (1) of section 57 of the Rights of Persons with Disabilities Act, 2016.

2.2 Fee Concession: Full exemption.

2.3. Reservation of Appointments: (For posts identified suitable for persons with benchmark disabilities) Out of the total number of appointments to be made in the communal reservation categories, viz., Scheduled Castes / Scheduled Caste - Arunthathiyars (on preferential basis) / Scheduled Tribes / Most Backward Classes / Denotified Communities / Backward Classes (other than Muslim) / Backward Classes (Muslim) and General Turn, in the case of appointment made by direct recruitment, 1% each shall be reserved for persons with benchmark disabilities under categories (a), (b) and (c) and 1% for persons with benchmark disabilities under categories (d) and (e) both taken together, namely:

- a. blindness and low vision;
- b. deaf and hard of hearing;
- c. locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid attack victims and muscular dystrophy;
- d. autism, intellectual disability, specific learning disability and mental illness;
- e. multiple disabilities from amongst persons under categories (a) to (d) including deaf-blindness in the posts identified for each disability.

2.4. Supporting Documents:

2.4.1. The Persons with Benchmark Disability should produce Disability Certificate at the time of online application in the format shown below, prescribed in the Rights of Persons with Disabilities Rules, 2017 and issued by the competent authority as mentioned below;

Form V
Certificate of Disability

(In cases of amputation or complete permanent paralysis of limbs or dwarfism and in case of blindness)

(Name and Address of the Medical Authority issuing the Certificate)

Recent passport size attested
photograph (Showing face
only) of the person with
disability.

Certificate No. _____

Date: _____

This is to certify that I have carefully examined Shri./ Smt./ Kum. _____
Son / wife / daughter of Shri. _____ Date of Birth (DD/ MM/YY) _____ Age _____
years, male / female Registration No. _____ permanent resident of House No. _____ Ward /
Village / Street Post Office _____ District State _____, whose photograph is affixed above,
and am satisfied that:

(A) he / she is a case of:

- locomotor disability
- dwarfism
- blindness

(Please tick as applicable)

(B) the diagnosis in his / her case is _____

(C) he / she has _____% (in figure) _____ percent (in words) permanent locomotor disability/
dwarfism/ blindness in relation to his / her _____ (part of body) as per guidelines
(..... number and date of issue of the guidelines to be specified).

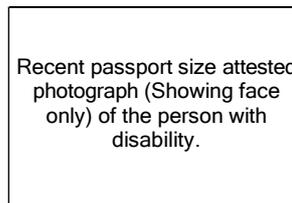
2. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate
--------------------	---------------	--

(Signature and Seal of Authorized Signature of notified Medical Authority)

Form VI
Certificate of Disability
(In cases of multiple disabilities)

(Name and Address of the Medical Authority issuing the Certificate)



Certificate No. _____

Date. _____

This is to certify that we have carefully examined Shri./ Smt./ Kum. _____ son/ wife/
daughter of Shri _____ Date of Birth (DD/ MM/ YY) _____ Age _____ years,
male/ female _____. Registration No. _____ permanent resident of House No.
_____ Ward/ Village/ Street _____ Post Office _____ District _____ State
_____, whose photograph is affixed above, and am satisfied that:

(A) he/ she is a case of Multiple Disability. His/ her extent of permanent physical impairment/ disability
has been evaluated as per guidelines (..... number and date of issue of the guidelines to be
specified) for the disabilities ticked below, and is shown against the relevant disability in the table below:

Sl. No.	Disability	Affected part of body	Diagnosis	Permanent physical impairment/ mental disability (in%)
1.	Locomotor disability	@		
2.	Muscular Dystrophy			
3.	Leprosy cured			
4.	Dwarfism			
5.	Cerebral Palsy			
6.	Acid attack Victim			
7.	Low vision	#		
8.	Blindness	#		
9.	Deaf	£		
10.	Hard of Hearing	£		
11.	Speech and Language disability			
12.	Intellectual Disability			
13.	Specific Learning Disability			
14.	Autism Spectrum Disorder			
15.	Mental illness			
16.	Chronic Neurological Conditions			
17.	Multiple sclerosis			
18.	Parkinson's disease			
19.	Haemophilia			
20.	Thalassemia			
21.	Sickle Cell disease			

(B) In the light of the above, his/ her over all permanent physical impairment as per guidelines (..... number and date of issue of the guidelines to be specified), is as follows : -

In figures :- ----- percent

In words :- ----- percent

2. This condition is progressive/ non-progressive/ likely to improve/ not likely to improve.

3. Reassessment of disability is:

(i) not necessary, or

(ii) is recommended/ after years months, and therefore this certificate shall be valid till --- --- ---

(DD) (MM) (YY)

@ e.g. Left/ right/ both arms / legs

e.g. Single eye

£ e.g. Left/ Right/ both ears

4. The applicant has submitted the following document as proof of residence:-

Nature of document	Date of issue	Details of authority issuing certificate
--------------------	---------------	--

5. Signature and seal of the Medical Authority.

Name and Seal of Member	Name and Seal of Member	Name and Seal of the Chairperson
-------------------------	-------------------------	----------------------------------

Signature/ thumb impression of the person in whose favour certificate of disability is issued.
--

Form VII
Certificate of Disability
(In cases other than those mentioned in Forms V and VI)
(Name and Address of the Medical Authority issuing the Certificate)

Recent passport size attested
photograph (Showing face
only) of the person with
disability.

Certificate No. _____

Date. _____

This is to certify that I have carefully examined Shri./ Smt./ Kum. _____ son / wife / daughter of Shri _____ Date of Birth (DD/ MM/ YY) ___ __ __ Age _____ years, male/ female _____ Registration No. _____ permanent resident of House No. _____ Ward/ Village/ Street _____ Post Office _____ District _____ State _____, whose photograph is affixed above, and am satisfied that he/ she is a case of _____ disability. His/ her extent of percentage physical impairment/ disability has been evaluated as per guidelines (..... number and date of issue of the guidelines to be specified) and is shown against the relevant disability in the table below:-

Sl. No.	Disability	Affected part of body	Diagnosis	Permanent physical impairment/mental disability (in %)
1.	Locomotor disability	@		
2.	Muscular Dystrophy			
3.	Leprosy cured			
4.	Cerebral Palsy			
5.	Acid attack Victim			
6.	Low vision	#		
7.	Deaf	€		
8.	Hard of Hearing	€		
9.	Speech and Language disability			
10.	Intellectual Disability			
11.	Specific Learning Disability			
12.	Autism Spectrum Disorder			
13.	Mental illness			
14.	Chronic Neurological Conditions			
15.	Multiple sclerosis			
16.	Parkinson's disease			
17.	Haemophilia			
18.	Thalassemia			
19.	Sickle Cell disease			

(Please strike out the disabilities which are not applicable)

2. The above condition is progressive / non-progressive / likely to improve / not likely to improve.

3. Reassessment of disability is:

(i) not necessary, or

(ii) is recommended/ after ___ years ___ months, and therefore this certificate shall be valid till (DD/ MM/ YY) _____

@ - eg. Left/ Right/ both arms/ legs

- eg. Single eye/ both eyes

€ - eg. Left/ Right/ both ears

4. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate
--------------------	---------------	--

(Authorized Signatory of notified Medical Authority)
(Name and Seal)

Countersigned

{Countersignature and seal of the
Chief Medical Officer/ Medical Superintendent/
Head of Government Hospital, in case the
Certificate is issued by a medical authority who is
not a Government servant (with seal)}

Signature/ thumb impression of the person in whose favour certificate of disability is issued.
--

List of Certifying Authority for the issue of disability certificate

TABLE – I

S. No.	Specified disability	Medical Authority for the purpose of the issue of disability certificate	Certifying authority to issue certificate of disability
1	In case of amputation or complete permanent paralysis of limbs or dwarfism	Hospitals/ Institutions/ Primary Health Centres run by Central and State Government/ Statutory Local bodies	Any doctor/ medical practitioner working in the Hospitals/ Institutions/ Primary Health Centres run by Government/ Statutory Local bodies.
2	Multiple Disability	District Hospital/ Other hospitals/ Institutions run by Central and State Government /Statutory Local Bodies having relevant medical specialist and testing/assessment facilities	Medical Board consisting of three members of whom two will be specialist dealing with relevant disabilities
3	Specified Disabilities not mentioned in Serial numbers 1 & 2 above	Hospitals / Primary Health Centers / Institutions run by Central and State Government/ Statutory Local bodies having relevant medical specialist and testing / assessment facilities	A specialist dealing with the relevant disability as specified in the Table - II given below

TABLE – II

Sl. No.	Category	Specialist
1	Locomotor disability other than amputation or complete permanent paralysis of limbs and dwarfism	Specialist in Physical Medicine and Rehabilitation or Orthopaedician.
2	Muscular Dystrophy	Specialist in Physical Medicine and Rehabilitation or Orthopaedician.
3	Leprosy cured person	Specialist in Physical Medicine and Rehabilitation or Orthopaedician.
4	Cerebral Palsy	Specialist in Physical Medicine and Rehabilitation or Orthopaedician.
5	Acid Attack Victim	Specialist in Physical Medicine and Rehabilitation or Orthopaedician.
6	Blindness	Specialist in the field of Ophthalmology.
7	Low Vision	Specialist in the field of Ophthalmology.
8	Deaf	Specialist in the field of Ear, Nose, Throat (E.N.T).
9	Hard of Hearing	Specialist in the field of Ear, Nose, Throat (E.N.T).
10	Speech and Language Disabilities	Specialist in the field of Ear, Nose, Throat (E.N.T) and Neurologist.

11	Intellectual Disability	Children with intellectual disability below the age of 18 years – Paediatrician or Paediatric Neurologist or Psychiatrist. Adults with intellectual disability above the age group of 18 years – Psychiatrist.
12	Specific Learning Disabilities	Medical board consisting of a) Paediatrician; and b) Psychiatrist and Trained Psychologist.
13	Autism spectrum disorder	Medical Board consisting of a) Psychiatrist and Trained psychologist; and b) Paediatrician or General Physician.
14	Mental Illness	Psychiatrist.
15	Chronic Neurological Conditions such as Multiple Sclerosis and Parkinson's Disease	Medical Board consisting of a) Psychiatrist and Trained Psychologist; and b) Neurologist; and c) Orthopaedician or Specialist in Physical Medicine and Rehabilitation.

2.4.2. In case the certificate is issued by a medical authority who is not a Government servant, it shall be valid only if countersigned by the Joint Director, Medical Services.

2.4.3. The disability claimed in the online application, shall be exactly the same as stated in the Disability Certificate. Any discrepancy in this regard shall result in rejection of candidature after due process.

2.4.4. Claim as person with benchmark disability, unsupported by the prescribed documents shall result in rejection of candidature after due process.

3. Destitute Widow:

3.1. "Destitute Widow" means a widow whose total monthly income from all sources shall not be more than Rs.4,000/- (Rupees Four Thousand only), including any family pension or other receipts including income from private practice in the case of professionals. Destitute Widow shall not include a divorcee or a woman deserted by her husband. The status of an individual as Destitute Widow is with reference to the date of notification.

3.2. Fee Concession: Full exemption.

3.3. Reservation of Appointments: The rule of reservation of appointment to Destitute Widow candidates will not apply to this recruitment.

3.4. Supporting Documents:

3.4.1. The Destitute Widows should produce a certificate from the Revenue Divisional Officer or the Assistant Collector or the Sub-Collector concerned, in the format prescribed below. Failure to upload / produce such certificate or uploading / production of a widow or divorcee certificate, shall result in rejection of candidature after due process.

Form of Destitute Widow Certificate

1. Name of the individual
2. Full Postal Address
3. Details of job held, if any:
4. Particulars of her children, if any
5. Name and last occupation of her late husband

6. Date of demise of her husband
7. Monetary benefits received after her husband's death by way of family pension, insurance, etc., if any
8. Details of Properties if any immovable and movable left behind by him
9. Present monthly income
 - a. From salaries/wages
 - b. From family pension
 - c. From private properties
 - d. Rents received
 - e. From private practice
 - f. Other sources, if any
 - g. Total
10. Whether living alone or living with her husband's parents / in-laws / parents / brother(s)
11. Whether she satisfies the definition of the term "Destitute Widow" as defined in section 20(8) and 26 of Tamil Nadu Government Servants (Conditions of Service) Act, 2016.

Certified that I have verified the particulars furnished by the individual and satisfied myself as to the correctness of her claim with reference to the definition of the term – "Destitute Widow" in section 20(8) and 26 of Tamil Nadu Government Servants (Conditions of Service) Act, 2016.

Certificate Reference No.:
Place:
Date:

Signature:
Name:
Designation:

Revenue Divisional Officer / Assistant Collector / Sub-Collector

Explanation - The above certificate should be issued only by the Revenue Divisional Officer or the Assistant Collector or the Sub-Collector concerned.

3.4.2. A 'Widow Certificate' is different from a 'Destitute Widow Certificate'. Candidates who have uploaded / produced Widow Certificates will not be considered as Destitute Widow.

3.4.3. Claim as Destitute Widow shall be admitted only if the date of demise of husband is on or before the date of notification.

3.4.4. Any correction in the Destitute Widow certificate must be attested by the issuing authority or a fresh certificate in lieu thereof must be uploaded / produced.

4. Person Studied in Tamil Medium (PSTM):

4.1. "Person Studied in Tamil medium" means a person who has studied through Tamil medium of instruction up to the educational qualification prescribed for direct recruitment in the rules or regulations or orders applicable to any appointment in the services under the State.

4.1.1. In cases where a Degree is prescribed as the educational qualification, one shall have studied from first standard to Degree through Tamil medium of instruction.

4.1.2. In cases where a Post Graduate Degree is prescribed as the educational qualification, one shall have studied from first standard to Post Graduate Degree through Tamil medium of instruction.

4.2. Supporting Documents:

4.2.1. Candidates claiming to be Persons Studied in Tamil Medium (PSTM) must upload/produce evidence for the same, in the form of SSLC, HSC, Transfer Certificate, Provisional Certificate, Convocation Certificate, Degree Certificate, PG Degree Certificate, Mark Sheets, Certificate from the Board or University or from the Institution, as the case may be, with a recording that he had studied the entire duration of the respective course(s) through Tamil medium of instruction.

4.2.2. Candidates must upload/produce documents as evidence of having studied in the Tamil medium, all educational qualifications from 1st standard up to the educational qualification prescribed.

4.2.3. If no such document as evidence for 'Person Studied in Tamil Medium' is available, a certificate from the Principal / Head Master / District Educational Officer / Chief Educational Officer / District Adi Dravidar Welfare Officer / Registrar / Controller of Examinations / Head / Director of the Educational Institution / Director / Joint Director of Technical Education/ Registrar of Universities as the case may be, in the format as shown below, must be uploaded / produced, for each and every educational qualification, from 1st standard upto the educational qualification prescribed.

4.2.4. Failure to upload/produce such documents as evidence for 'Persons Studied in Tamil Medium' for all educational qualification up to the educational qualification prescribed, at the submission of online application shall result in the rejection of candidature after due process.

4.2.5. Documents uploaded / produced as proof of having studied in Tamil medium, for the partial duration of any course / private appearance at any examination, shall not be accepted and shall result in the rejection of candidature after due process.

Certificate for having studied in Tamil Medium #

This is to certify that Thiru./Tmt./Selvi.(Name) had studied Classes to with Tamil as the medium of instruction, during the year toand had satisfactorily completed the course of studies prescribed for Classes to

Thiru./Tmt./Selvi.(Name) was / was not awarded scholarship meant for students studying in the Tamil medium.

This certificate is issued with reference to Section 2(d) of the PSTM (Amendment) Act, 2020, based on verifiable documentary evidence. The undersigned assumes full responsibility for the veracity of the contents herein.

Signature of Principal / Head Master /
District Educational Officer /
Chief Educational Officer /
District Adi Dravidar Welfare Officer

Place:

Date:

Seal of the Institution

Mobile No. _____

- If the candidate has studied in different schools from 1st std. up to 10th std./ 12th std., then the above certificate shall be obtained from each of the schools the candidate has studied in.

Certificate for having studied in Tamil Medium @

This is to certify that Thiru./Tmt./Selvi.(Name) had studied..... (Diploma/Degree/PG Degree, etc.) during the year to with Tamil as the medium of instruction and had satisfactorily completed the course of studies prescribed for (Diploma / Degree/PG Degree, etc.).

Thiru./Tmt./Selvi.(Name) was / was not awarded scholarship meant for students studying in the Tamil medium.

This certificate is issued with reference to Section 2(d) of the PSTM (Amendment) Act, 2020, based on verifiable documentary evidence. The undersigned assumes full responsibility for the veracity of the contents herein.

Signature of Registrar / Principal / Controller of Examinations /
Head / Director of Educational Institution / Director/Joint
Director of Technical Education/ Registrar of Universities

Place:

Date:

Seal of the Institution

Mobile No.

@If the candidate has completed different courses in different Institutions, such a certificate shall be obtained from each of these Institutions for the courses completed therein.

5. Scheduled Castes, Scheduled Caste (Arunthathiyars) and Scheduled Tribes:

5.1. "Scheduled Castes" means the communities given in the Annexure to the "Instructions to Applicants" [extracted from Part-A of Schedule-II of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016].

5.2. 'Arunthathiyar' means the castes: Arunthathiyar, Chakkiliyan, Madari, Madiga, Pagadai, Thoti and Adi Andhra.

5.3. "Scheduled Tribes" means the communities given in the Annexure to the "Instructions to Applicants" [extracted from Part-B of Schedule-II of Tamil Nadu Government Servants (Conditions of Service) Act, 2016.

Note: Persons belonging to Tamil Nadu and to any one of the communities mentioned in the lists shown in the Annexure to the "Instructions to Applicants" alone shall be treated as Scheduled Castes or Scheduled Tribes as the case may be. Persons belonging to other States shall not be treated as belonging to the Scheduled Castes or Scheduled Tribes even though they may belong to any one of the communities specified in the list.

5.4. **Fee Concession:** Full exemption

5.5. **Reservation of Appointments:** The selection will be made following the rule of reservation of appointments for Scheduled Castes / Scheduled Caste (Arunthathiyars) / Scheduled Tribes.

Scheduled Caste (SC)	15%
Scheduled Caste (Arunthathiyar) (SCA)	3%
Scheduled Tribe (ST)	1%

5.6. Supporting Documents:

5.6.1. The Scheduled Caste (Arunthathiyars) and Scheduled Castes candidates should produce the Community certificate, citing either father's / mother's name, issued by Taluk Tahsildar, in whose jurisdiction the candidate claims to have permanent residence.

5.6.2. The Scheduled Tribe candidates should produce the Community certificate, citing either father's / mother's name, issued by the Revenue Divisional Officer / Assistant Collector / Sub-Collector / Personal Assistant (General) to the Collector of Chennai / District Adi-Dravidar Welfare Officer, in whose jurisdiction the candidate claims to have permanent residence.

5.6.3. Candidates belonging to Scheduled Tribe communities must upload/produce the report of the State Level Scrutiny Committee (SLSC), if available. Failure to do so would render their claim liable to verification by the State Level Scrutiny Committee.

5.6.4. Uploading / production of a community certificate citing name of the spouse, shall result in rejection of candidature after due process.

5.6.5. The certificate obtained by the candidates in the form other than the one referred to in G.O. Ms. No.781, Revenue Department, dated 2nd May 1988 and solely based on the entries in SSLC or Transfer Certificate or other school / college records will not be accepted.

5.6.6. Candidates are warned that if the community recorded in the certificate produced by them from the competent authority is not included in the list of Scheduled Castes, Scheduled Caste (Arunthathiyars), Scheduled Tribes, given in the Annexure to the "Instructions to Applicants" [extracted from the Tamil Nadu Government Servants (Conditions of Service) Act, 2016], they will not be permitted to claim to belong to Scheduled Castes, Scheduled Caste (Arunthathiyars), Scheduled Tribes, as the case may be. They will, in that case, be permitted to claim to belong to 'Others' category only.

5.6.7. Candidates belonging to Scheduled Castes, on conversion to religions other than Christianity / Islam, shall be treated as 'Others'. However, Scheduled Caste converts to Sikhism and Buddhism shall be treated as Scheduled Castes.

5.6.8. Failure to upload / produce the supporting documents, when called for shall result in the rejection of candidature after due process.

6. Backward Classes:

6.1. "Backward Classes" means the communities specified as Backward Classes, Backward Class Muslims, Most Backward Classes / Denotified Communities given in the Annexure to the "Instructions to Applicants" [extracted from Parts A, B, C and D respectively, of Schedule-I of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016].

6.2. Explanation - Persons who belong to the State of Tamil Nadu alone, who belong to one of the communities specified in Schedule-I, of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016 shall be treated as persons who belong to one of such communities.

6.3. Fee Concession: Three Free Chances

6.4. **Reservation of Appointments:** The selection will be made following the rule of reservation of appointments for Backward Classes (Muslim), Backward Classes, Most Backward Classes and Denotified Communities.

Backward Class (BC)	26.5%
Backward Class (Muslim) [BC (M)]	3.5%
Most Backward Class / Denotified Communities (MBC / DC)	20.0%

6.5. Supporting Documents:

6.5.1. The candidates belonging to Backward Classes (Muslim), Backward Classes, Most Backward Classes and Denotified Communities should produce the Community certificate, citing either father's / mother's name, issued by Revenue Officer not lower in rank than a Tahsildar or Head Quarters Deputy Tahsildar or Special Deputy Tahsildar appointed to issue Community Certificate or Deputy Tahsildar (School Certificates) or Executive Deputy Tahsildar (in respect of Chennai district) or Additional Head Quarters Deputy Tahsildar or Zonal Deputy Tahsildar, in whose jurisdiction the candidate claims to have permanent residence.

6.5.2. The candidates belonging to Thottia Naicker (including Rajakambalam, Gollavar, Sillavar, Thockalavar, Thozhuva Naicker, and Erragollar) included in the list of MBC / DC should produce the Community certificate, citing either father's / mother's name, issued by Head Quarters Deputy Tahsildar/ Zonal Deputy Tahsildar, in whose jurisdiction the candidate claims to have permanent residence.

6.5.3. Uploading / production of a community certificate citing name of the spouse, shall result in rejection of candidature after due process.

6.5.4. The certificate obtained by the candidates in the form other than the one referred to in G.O. Ms. No.781, Revenue Department, dated 2nd May 1988 and solely based on the entries in SSLC or Transfer Certificate or other school / college records will not be accepted.

6.5.5. Candidates are warned that if the community recorded in the certificate produced by them from the competent authority is not included in the list of Backward Classes (Muslim), Backward Classes, Most Backward Classes / Denotified Communities, given in the Annexure to "Instructions to Applicants" [extracted from the Tamil Nadu Government Servants (Conditions of Service) Act, 2016], they will not be permitted to claim to belong to Most Backward Classes / Denotified Communities, Backward Classes (other than Muslim) or Backward Classes (Muslim), as the case may be. They will, in that case, be permitted to claim to belong to 'Others' category only.

6.5.6. Candidates belonging to Backward Classes, Most Backward Classes / Denotified Communities on conversion to religions other than Christianity / Islam, shall be treated as 'Others'.

6.5.7. Failure to upload / produce the supporting documents, when called for shall result in the rejection of candidature after due process.

7. Women:

7.1. Reservation of Appointments: A minimum of 30% of all vacancies shall be set apart for women candidates, irrespective of the fact of whether the rule of reservation of appointments applies to the posts or not. In respect of the posts to which the rule of reservation of appointments applies, 30% of vacancies shall be set apart for women candidates, following the reservation for each communal category as well as open category. Women / Transgender (women) candidates shall be entitled to compete for the said 30% of vacancies. They shall also be entitled to compete for the remaining 70% of vacancies along with male / Transgender / Transgender (men) candidates.

7.2. Supporting Documents: Gender claimed shall be verified against the Transfer Certificate / Community Certificate. Failure to upload/produce the supporting documents at the time of submission of online application shall result in the rejection of candidature after due process.

8. Transgender:

8.1. Supporting Documents:

8.1.1. Transgender / Transgender (Male) / Transgender (Female) candidates should produce the Transgender ID card issued only by the Tamil Nadu Transgender Welfare Board.

8.1.2. Uploading / production of Transgender ID card, issued by any authority other than the Tamil Nadu Transgender Welfare Board shall result in rejection of candidature after due process.

8.1.3. Transgender or Transgender (Male) or Transgender (Female) claim made in the online application must correspond to what is stated in the Transgender ID card. Any discrepancy in this regard shall result in rejection of candidature after due process.

8.1.4. Gender claim unsupported by the requisite documents shall result in rejection of candidature after due process.

8.2. Community:

8.2.1. Transgender candidates, who do not possess any community certificate may choose to be considered under 'Others' or under Most Backward Classes.

8.2.2. Transgender candidates who belong to Scheduled Caste / Scheduled Caste (Arunthathiyar) / Scheduled Tribe communities and possess community certificate as such, shall be considered as per their respective community.

8.2.3. Transgender candidates who belong to communities other than Scheduled Caste / Scheduled Caste (Arunthathiyar) / Scheduled Tribe and possess community certificate as such, are permitted to choose to be considered as belonging to their own community or as Most Backward Class, whichever is advantageous to them, at the time of One Time Registration itself. Once the individual opts to be considered as a particular community, it shall be crystallized and this option shall not be changed in the future.

8.2.4. Transgender candidates who do not possess a community certificate and have chosen to be considered under 'Most Backward Classes' or 'Others' and those in possession of a community certificate as Backward Classes / Backward Classes (Muslim) / Denotified Communities but have chosen to be considered under 'Most Backward Classes', need not upload / produce a community certificate in support of their claim.

8.2.5. Transgender candidates, in possession of a community certificate and who have chosen to be considered under the communal reservation category as stated in the community certificate, must upload / produce the same. Failure to upload / produce such a certificate shall result in rejection of candidature after due process.

8.2.6. All concessions permitted to Transgender candidates in the matter of choice of communal reservation category, shall be wholly dependent on the uploading / production of a Transgender ID card issued by the Tamil Nadu Transgender Welfare Board. Failure to upload / produce the same or uploading / production of a Transgender ID card issued by other authorities, shall result in rejection of candidature after due process.

Annexure III

Syllabus

Paper I

தமிழ் மொழி தகுதித் தேர்வு (பத்தாம் வகுப்பு தரம்)

1. பிரித்தெழுதுதல் / சேர்த்தெழுதுதல்.
2. எதிர்ச்சொல்லை எடுத்தெழுதுதல்.
3. பொருந்தாச் சொல்லைக் கண்டறிதல்.
4. பிழை திருத்தம் (i) சந்திப்பிழையை நீக்குதல் (ii) மரபுப் பிழைகள், வழுவச் சொற்களை நீக்குதல் / பிறமொழிச் சொற்களை நீக்குதல்.
5. ஆங்கிலச் சொல்லுக்கு நேரான தமிழ்ச் சொல்லை அறிதல்.
6. ஒலி மற்றும் பொருள் வேறுபாடறிந்து சரியான பொருளையறிதல்.
7. ஒரு பொருள் தரும் பல சொற்கள்.
8. வேர்ச்சொல்லைத் தேர்வு செய்தல்.
9. வேர்ச்சொல்லைக் கொடுத்து / வினைமுற்று, வினையெச்சம், வினையாலணையும் பெயர், தொழிற் பெயரை / உருவாக்கல்.
10. அகர வரிசைப்படி சொற்களை சீர் செய்தல்.
11. சொற்களை ஒழுங்குப்படுத்தி சொற்றொடராக்குதல்.
12. இருவினைகளின் பொருள் வேறுபாடு அறிதல்.
(எ.கா.) குவிந்து-குவித்து
13. விடைக்கேற்ற வினாவைத் தேர்ந்தெடுத்தல்.
14. எவ்வகை வாக்கியம் எனக் கண்டெழுதுதல் - தன்வினை, பிறவினை, செய்வினை, செய்ப்பாட்டு வினை வாக்கியங்களைக் கண்டெழுதுதல்.
15. உவமையால் விளக்கப்பெறும் பொருத்தமான பொருளைத் தேர்ந்தெழுதுதல்
16. அலுவல் சார்ந்த சொற்கள் (கலைச் சொல்)
17. விடை வகைகள்.
18. பிறமொழிச் சொற்களுக்கு இணையான தமிழ்ச் சொற்களைக் கண்டறிதல் (எ.கா.) கோல்டு பிஸ்கட் - தங்கக் கட்டி.
19. ஊர்ப் பெயர்களின் மருஉவை எழுதுக (எ.கா.) தஞ்சாவூர் - தஞ்சை
20. நிறுத்தற்குறிகளை அறிதல்.
21. பேச்சு வழக்கு, எழுத்து வழக்கு (வாரான் - வருகிறான்).
22. சொற்களை இணைத்து புதிய சொல் உருவாக்கல்.
23. பொருத்தமான காலம் அமைத்தல்
(இறந்தகாலம், நிகழ்காலம், எதிர்காலம்).
24. சரியான வினாச் சொல்லைத் தேர்ந்தெடு.
25. சரியான இணைப்புச் சொல்
(எனவே, ஏனெனில், ஆகையால், அதனால், அதுபோல).
26. அடைப்புக்குள் உள்ள சொல்லைத் தகுந்த இடத்தில் சேர்க்க.
27. இருபொருள் தருக.
28. குறில் - நெடில் மாற்றம், பொருள் வேறுபாடு.
29. கூற்று, காரணம் - சரியா? தவறா?
30. கலைச் சொற்களை அறிதல் :-
எ.கா. - Artificial Intelligence - செயற்கை நுண்ணறிவு
Super Computer - மீத்திறன் கணினி
31. பொருத்தமான பொருளைத் தெரிவு செய்தல்
32. சொற்களின் கூட்டுப் பெயர்கள் (எ.கா.) புல் -புற்கள்
33. சரியான தொடரைத் தேர்ந்தெடுத்தல்
34. பிழை திருத்துதல் (ஒரு-ஓர்)
35. சொல் - பொருள் - பொருத்துக
36. ஒருமை-பன்மை பிழை
37. பத்தியிலிருந்து வினாவிற்கான சரியான விடையைத் தேர்ந்தெடு.

GENERAL STUDIES
(Degree Standard)

CODE: 003

UNIT I: GENERAL SCIENCE

- (i) Scientific Knowledge and Scientific Temper - Power of Reasoning - Rote Learning vs Conceptual Learning - Science as a tool to understand the past, present and future.
- (ii) Nature of Universe - General Scientific Laws – Mechanics - Properties of Matter, Force, Motion and Energy - Everyday application of the Basic Principles of Mechanics, Electricity and Magnetism, Light, Sound, Heat, Nuclear Physics, Laser, Electronics and Communications.
- (iii) Elements and Compounds, Acids, Bases, Salts, Petroleum Products, Fertilisers, Pesticides.
- (iv) Main concepts of Life Science, Classification of Living Organisms, Evolution, Genetics, Physiology, Nutrition, Health and Hygiene, Human Diseases.
- (v) Environment and Ecology.

UNIT II: CURRENT EVENTS

- (i) History - Latest diary of events - National symbols - Profile of States - Eminent personalities and places in news – Sports - Books and authors.
- (ii) Polity - Political parties and political system in India - Public awareness and General administration - Welfare oriented Government schemes and their utility, Problems in Public Delivery Systems.
- (iii) Geography - Geographical landmarks.
- (iv) Economics - Current socio - economic issues.
- (v) Science - Latest inventions in Science and Technology.
- (vi) Prominent Personalities in various spheres – Arts, Science, Literature and Philosophy.

UNIT III: GEOGRAPHY OF INDIA

- (i) Location – Physical features - Monsoon, Rainfall, Weather and Climate - Water Resources - Rivers in India - Soil, Minerals and Natural Resources - Forest and Wildlife - Agricultural pattern.
- (ii) Transport - Communication.
- (iii) Social Geography – Population density and distribution - Racial, Linguistic Groups and Major Tribes.
- (iv) Natural calamity – Disaster Management – Environmental pollution: Reasons and preventive measures – Climate change – Green energy.

UNIT IV: HISTORY AND CULTURE OF INDIA

- (i) Indus Valley Civilization - Guptas, Delhi Sultans, Mughals and Marathas - Age of Vijayanagaram and Bahmani Kingdoms - South Indian History.
- (ii) Change and Continuity in the Socio-Cultural History of India.
- (iii) Characteristics of Indian Culture, Unity in Diversity – Race, Language, Custom.
- (iv) India as a Secular State, Social Harmony.

UNIT V: INDIAN POLITY

- (i) Constitution of India - Preamble to the Constitution - Salient features of the Constitution - Union, State and Union Territory.
- (ii) Citizenship, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy.
- (iii) Union Executive, Union Legislature – State Executive, State Legislature – Local Governments, Panchayat Raj.
- (iv) Spirit of Federalism: Centre - State Relationships.
- (v) Election - Judiciary in India – Rule of Law.
- (vi) Corruption in Public Life – Anti-corruption measures – Lokpal and Lok Ayukta - Right to Information - Empowerment of Women - Consumer Protection Forums, Human Rights Charter.

UNIT VI: INDIAN ECONOMY

- (i) Nature of Indian Economy – Five year plan models - an assessment – Planning Commission and Niti Ayog.
- (ii) Sources of revenue – Reserve Bank of India – Fiscal Policy and Monetary Policy - Finance Commission – Resource sharing between Union and State Governments - Goods and Services Tax.

- (iii) Structure of Indian Economy and Employment Generation, Land Reforms and Agriculture - Application of Science and Technology in Agriculture - Industrial growth - Rural Welfare Oriented Programmes – Social Problems – Population, Education, Health, Employment, Poverty.

UNIT VII: INDIAN NATIONAL MOVEMENT

- (i) National Renaissance – Early uprising against British rule - Indian National Congress - Emergence of leaders – B.R.Ambedkar, Bhagat Singh, Bharathiar, V.O.Chidambaranar Jawaharlal Nehru, Kamarajar, Mahatma Gandhi, Maulana Abul Kalam Azad, Thanthai Periyar, Rajaji, Subash Chandra Bose, Rabindranath Tagore and others.
- (ii) Different modes of Agitation: Growth of Satyagraha and Militant Movements.
- (iii) Communalism and Partition.

UNIT VIII: HISTORY, CULTURE , HERITAGE AND SOCIO - POLITICAL MOVEMENTS IN TAMIL NADU

- (i) History of Tamil Society, related Archaeological discoveries, Tamil Literature from Sangam Age till contemporary times.
- (ii) Thirukkural :
 - (a) Significance as a Secular Literature
 - (b) Relevance to Everyday Life
 - (c) Impact of Thirukkural on Humanity
 - (d) Thirukkural and Universal Values - Equality, Humanism, etc
 - (e) Relevance to Socio-Politico-Economic affairs
 - (f) Philosophical content in Thirukkural
- (iii) Role of Tamil Nadu in freedom struggle - Early agitations against British Rule - Role of women in freedom struggle.
- (iv) Evolution of 19th and 20th Century Socio-Political Movements in Tamil Nadu - Justice Party, Growth of Rationalism - Self Respect Movement, Dravidian Movement and Principles underlying both these Movements, Contributions of Thanthai Periyar and Perarignar Anna.

UNIT IX: DEVELOPMENT ADMINISTRATION IN TAMIL NADU

- (i) Human Development Indicators in Tamil Nadu and a comparative assessment across the Country – Impact of Social Reform Movements in the Socio - Economic Development of Tamil Nadu.
- (ii) Political parties and Welfare schemes for various sections of people – Rationale behind Reservation Policy and access to Social Resources - Economic trends in Tamil Nadu – Role and impact of social welfare schemes in the Socio - Economic Development of Tamil Nadu.
- (iii) Social Justice and Social Harmony as the Cornerstones of Socio- Economic Development.
- (iv) Education and Health Systems in Tamil Nadu.
- (v) Geography of Tamil Nadu and its impact on Economic growth.
- (vi) Achievements of Tamil Nadu in various fields.
- (vii) e-Governance in Tamil Nadu.

UNIT X: APTITUDE AND MENTAL ABILITY

- (i) Simplification – Percentage - Highest Common Factor (HCF) - Lowest Common Multiple (LCM).
- (ii) Ratio and Proportion.
- (iii) Simple interest - Compound interest - Area - Volume - Time and Work.
- (iv) Logical Reasoning - Puzzles-Dice - Visual Reasoning - Alpha numeric Reasoning – Number Series.

Paper II - Subject Paper

1. ANIMAL HUSBANDRY AND VETERINARY SCIENCE (Degree Standard)

CODE: 396

UNIT I: GENERAL

Livestock Population Census in the nation and state, - Role of livestock and their products in the Indian economy and human health, current livestock programs and policies of State and Nation Policy note on Animal Husbandry, Government of Tamil Nadu – Economics of dairy, sheep, goat, poultry, pig and rabbit farming; Livestock project preparation, constraints to the livestock development programs, common offenses against animals – SPCA, Animal Welfare Board of India, NGOs. Livestock marketing and Livestock entrepreneurship.

UNIT II: LIVESTOCK PRODUCTION MANAGEMENT

Common terms used in Animal Husbandry – Dentition and ageing of animals – Livestock and poultry breeds and breed characters, housing systems for different classes of livestock, and requirements of space, ventilation, water, sanitation, and waste disposal. Management of milk, meat, egg, and wool-producing livestock, management of calves and heifers, management of breeding bulls, draught animal power, rearing buffaloes for meat, organic livestock production, small ruminant production systems, economic traits of cattle, sheep and goat. Farm records and their maintenance, strategies for livestock improvement for enhancing productivity. Systems of swine production in India, Exotic and indigenous breeds of pigs, Housing condition requirements for different classes of swine, feeding management for different classes of swine, breeding sow and boar management, piglet management, fatterer management. Indian breeds of horses, Equine housing, feeding and breeding management. Importance and significance of laboratory animal production and management, Wild animals in captivity and management.

UNIT III: ANIMAL NUTRITION

Nutritional terms and definitions – Role of nutrition in health and production- Feeds and fodder classification, composition, anti-nutritional factors, and toxins- Requirements of nutrients for different categories of livestock/poultry and formulation of least cost rations- Feeding of pet animals- BIS specifications for livestock and poultry feeds -Nutritional deficiency and its influence on livestock performance -Feed supplements and additives- Conservation and preservation of feed and fodders - Economic utilization of agro-industrial by-products for feeding livestock – Utilization of unconventional feeds – Feeding of captive wild animals and birds - Quality control of feed - Feed milling technology- Feed block/baling- By-Pass Proteins and by-pass Fat - Feeding livestock during scarcity - Metabolic disorders in Livestock and Poultry- Processing of feeds and forage to improve nutritive value - Use of NPN compounds for ruminants.

UNIT IV: LIVESTOCK BREEDING AND GENETICS

Important breeds of cattle, buffalo, sheep, goat, pig, and poultry with special reference to economic characters - Principles of Genetics, Cytogenetics, and Basis of Population Genetics, Genetic parameters - Nature of DNA and RNA, their models and functions - Selection of livestock for production, reproduction, and disease resistance traits – Response to selection - Mating systems including Nucleus Breeding Schemes - Current livestock and poultry breeding policies and programs in the state and country - Applications of Recombinant DNA technology, Cloning, Transgenesis, and Marker-Assisted Selection - Conservation of Animal Genetic Resources.

UNIT V: VETERINARY ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY

Gross study of bones of Ox and differences in Horse, Dog, Pig and Fowl, Joints and Muscles of Skeleton of Ox, Gross study of Heart and Conduction system, General plan of Pulmonary and systemic circulation, Gross anatomy of Brain and Spinal cord, the Gross study of organs of the digestive, respiratory, urinary and reproductive system of Ox, Horse, Dog, Pig and Fowl, Systemic histology.

Mechanism of respiration. General functions of blood (blood cells, plasma & serum) coagulation, cardiac cycle, Blood circulation, Blood pressure, renal function Hormonal control of Lactogenesis. Environmental factors affecting animal production – Environmental stress on animal performance – Green Houses Gases – Role of ruminants. Endocrine System-Functional aspects of hormones in Systemic Physiology. Renal system-Counter Current Mechanism-AcidBase Balance.

Enzymes: Definition and classification. Clinical Enzymology - Diagnostic importance of non-functional plasma enzymes and Isoenzymes; Carbohydrate metabolism and its disorders: Glycolysis, Krebs cycle, Carbohydrate fermentation pathway. Disorders - Diabetes mellitus, Bovine Ketosis, Pregnancy toxemia, Lactic acidosis and Bloat in ruminants; Lipid metabolism and its disorders: Beta oxidation of fatty acids, ketone body formation, Disorders- Bovine Ketosis, Pregnancy toxemia; Lipid Profile in disease diagnosis; Protein metabolism and its disorders: Urea cycle and Urea poisoning in ruminants. Utilization of NPN compounds by ruminants; Organ Function tests: Liver function and Renal function tests - Biochemical tests for differential diagnosis.

UNIT VI: VETERINARY MICROBIOLOGY, PUBLIC HEALTH AND PREVENTIVE MEDICINE

General and Systematic Veterinary Bacteriology – Bacterial Diseases of Veterinary Importance in relation to Isolation, Culture, Morphology, Biochemical and Antigenic Characteristics, Pathogenesis, Diagnosis, and control. Veterinary Mycology – Important Pathogenic Fungi in relation to Isolation, Culture, Morphology, Biochemical and Antigenic Characteristics, Pathogenesis, Diagnosis, Prevention, and Control. General and Systematic Veterinary Virology – Structure, Viral Replication, Viral Pathogenesis, Viral Interaction, and Oncogenesis – Important Veterinary Viral Diseases – RNA and DNA Viruses, Cultivation, Pathogenesis, Clinical Sciences, and Diagnosis. Veterinary Immunology – Antigen – Types of Immunity, Antigen and Antibody, Concepts of Immunity and Microbes, Vaccine and other Biologicals – Antigen and Antibody-based Diagnostic Test and Microbial Biotechnology.

Epidemiology – definitions, terms, triad, concept, scope, objectives, and uses. Monitoring and surveillance, epidemiological disciplines, methods, mode and route of disease transmission, rates, ratios, the occurrence of disease, properties of diagnostic tests, the gradient of infection, and pattern of diseases. Epidemiology, treatment, prevention, and control of common bacterial, viral, fungal, rickettsial, protozoan, ectoparasitic and endoparasitic diseases() of livestock, poultry, companion animals, and wildlife species, regional - emerging and re-emerging important diseases. Allergic skin tests, modern diagnostic techniques, and vaccination protocol for infectious diseases.

Role of Veterinarians in public health, one health concept - Milk Hygiene, Meat Hygiene - Foodborne diseases and Food Safety, Zoonoses - Classification, Zoonotic diseases of bacterial, viral, fungal, parasitic and rickettsial origin - Prevention and control of Zoonotic Diseases - Emerging and Re-Emerging Zoonoses -Biodiversity -Environmental contaminants in the food chain - Air, water, Thermal, radiation and land pollution - water purification, Chlorination - Sanitation and disinfection of farm and hospital - Management of waste from animal industries - Role of Pollution Control Board in India - Disaster Management - Vector control and reservoir control.

UNIT VII: PATHOLOGY, PARASITOLOGY AND PHARMACOLOGY

General concepts and etiology of diseases in animals; Common pathological conditions seen in domestic, wild, zoo, and laboratory animals and birds. Veterinary clinical pathology methods (with special reference to hematology, urinalysis, biopsy, and cytology) as rapid diagnostic methods. General oncology and pathology of various types of tumors in domestic animals. General principles and procedures of necropsy; Collection, preservation, and dispatch of morbid materials for laboratory diagnosis; Veterinary legal necropsy procedures.

Classification of Parasites – Parasite and parasitism in animals; important morphological features, life-cycles, mode of transmission, pathogenesis, diagnosis, chemotherapy, prophylaxis, and general control measures of parasites associated with disease in animals, birds, captive and free range wild animals.

Drug action – Pharmacokinetics (absorption, distribution, metabolism, and excretion), Pharmacodynamics – (types and structure of receptors. Dose-response curve)- Anaesthetics(local and general), analgesics, sedatives – drugs for euthanasia of animals - Chemotherapy (general principles including resistance, antibacterials, anthelmintics, antiprotozoals) – Toxicology (toxicity of pesticides, herbs, venoms, and toxins) – pharmacy (pharmaceutical calculations, prescription writing) – useful herbal preparations.

UNIT VIII: EXTENSION EDUCATION

Farming and types of farming in India. Early extension efforts in India. Extension Education – Principles, philosophy, objectives, dimensions. Extension Educational Process. Teaching and learning process. Rural development programs. Panchayati Raj. Sociology and Rural sociology in animal husbandry extension – culture, tribal, rural and urban communities, social control, social stratification, social institutions, social change, leadership. Adoption and diffusion of innovations – innovation-decision process, attributes of innovations, adopter categories, factors affecting adoption and diffusion process,

and the role of change agents. Extension program planning and evaluation. Livestock and poultry development programs in India. TOT Projects of ICAR. Communication – Process, elements, theories, and methods. ICTs and their application in the livestock sector. Gender and animal husbandry. Sustainable livestock production.

UNIT IX: VETERINARY CLINICAL MEDICINE, VETERINARY GYNAECOLOGY AND OBSTETRICS AND VETERINARY SURGERY AND RADIOLOGY

General and special clinical examination - General systemic state - etiology, clinical signs, pathogenesis, diagnosis and differential diagnosis, treatment and management of diseases of the digestive system, cardiovascular, respiratory, urinary, nervous, musculoskeletal, hemopoietic, Mammary gland, skin and sense organs - zoo and wild animal diseases - etiology, clinical signs, pathogenesis, diagnosis, prevention and control of metabolic, deficiency diseases - Ethics and jurisprudence and animal welfare in domestic and wild animals.

Female reproductive physiology, Puberty and sexual maturity, Aberrations of estrus and their clinical management, Problems in estrus detection and estrus detection aids, Follicular dynamics, Ovulation and its aberrations, Fertilization, Embryonic mortality, Anoestrus and repeat breeding syndrome, Diagnostic procedures in infertility investigation in female animals, Clinical uses of hormones and drugs in the management of infertility, Assisted reproductive techniques – Synchronization of estrus and ovulation, Multiple ovulation and embryo transfer technology in livestock and zoo animals, *In vitro* fertilization, Maternal recognition of pregnancy, Pregnancy diagnosis and factors affecting gestation length, Implantation, Placentation and its classification, Abortion, Accidents of gestation, Pre, peri and postpartum complications, Parturition and its stages, Dystocia and obstetrical interventions, Obstetrical anesthesia, Male sexual behavior and libido, semen collection techniques, semen evaluation, semen extenders and cryopreservation, Artificial insemination techniques in farm and pet animals, Forms of male infertility, Breeding soundness evaluation of bull, Medical and surgical procedures for population control of the reproduction.

Reproductive physiology; hormones and reproduction; Accidents of gestation, livestock fertility and infertility; artificial insemination; semen characteristics of different species of livestock and cryopreservation. Multiple ovulation and embryo transfer technology in livestock and zoo animals Reproductive disorders and their management.

General surgical principles – pre-and post-operative considerations, anesthesia, asepsis and anti-sepsis and sterilization; scope, history and development of veterinary radiology; Imaging pathology of different parts of body-surgical emergencies – Intensive care – Physiotherapy – Diathermy. Aural Hematoma in dogs-Small Animal GI tract surgical affections- Esophageal foreign Body- GDV-Intussusception-Foreign body syndrome- Megacolon-Ophthalmic affections in small animals-Amputation of tail-Large Animal GI tract affections-Choke-Rumenotomy-Abomasal Affections-Cecal Dilation and Torsion- Atresia Ani-Urogenital affections in small and large animals-Cystotomy-Urethrotomy-Pernieal Urethrostomy-Tube Cystotomy. Orthopaedic Examination of Small Animals-Principles of Internal Fixation- Osteoarthritis and Hip Dysplasia-Patellar luxation in small animals. Conformation of Horses-Lameness examination in large animals-Hoof affections on horses and cattle- musculoskeletal diseases.

UNIT X: LIVESTOCK PRODUCTS TECHNOLOGY

Layout and management of rural, urban, and modern abattoirs. HACCP concepts in abattoir management. Animal welfare and pre-slaughter care of meat animals. Significance of Meat Inspection in Wholesome Meat Production Procedures of antemortem and post-mortem examination of meat animals. Slaughtering and dressing of meat animals and birds. Importance of evaluation of meat animals and grading their carcasses. Utilization of abattoir byproducts, rendering, and treatment of condemned meat and carcasses. Management of effluent emanating from abattoir. The prospect of the meat industry in India. Structure and composition of muscle. Conversion of muscle to meat. Nutritive value of meat. Fraudulent substitution of meat. Preservation of meat and poultry; drying, salting, curing, smoking, chilling, freezing, canning, irradiation, and chemicals. Aging of meat. Modern processing technologies of meat and meat products. Concept of value addition – Importance of value addition in the meat industry. Physico-chemical and microbiological quality of meat and its products. Nutritive value of egg. FSSAI, Codex Alimentarius Commission rules, and regulations pertaining to meat.

Retrospect and prospects of milk industry in India - Layout of milk processing plant and its management - Composition and nutritive value of milk - factors affecting milk composition. Physico-chemical properties of milk. Collection, chilling, standardization, pasteurization, UHT treatment, homogenization,

and bactofugation. Preparation of cream, butter, ghee, channa, paneer, khoa, ice cream, dahi, lassi, mozzarella cheese, and dairy by-products - Dried, dehydrated and fermented milk - Introduction to functional milk products - Organic milk products. Common defects of milk products and their remedial measures - Microbiological deterioration of milk and milk products - - Packaging, transportation, storage and distribution of milk and milk products - Good manufacturing practices and implementation of HACCP in milk plant - Food safety standards for milk and milk products - Cleaning and sanitation in milk plant - Dairy effluent management - Sampling of milk - Platform tests - Estimation of fat, solid not fat (SNF) and total solids - Cream separation - Detection of adulteration of milk - Determination of efficiency of pasteurization.

2. AUTOMOBILE ENGINEERING (Degree Standard)

CODE: 404

UNIT I: ENGINES

Working principle and constructional details of petrol and diesel engines, four stroke and two stroke engines. Fuel supply system in SI engines – Carburettors, types, working principle, different circuits, compensation circuits, TBFI, MPFI, GDI. Fuel Injection system in diesel engines – Mechanical injection, CRDI. Dual fuel engines. Engine Accessories - Cooling system, air and water cooling system, forced circulation and pressure cooling system. Lubrication system – pressure lubrication – splash lubrication – wet and dry sump lubrication. Properties of lubricants and coolants. Combustion in SI and CI engines – stages of combustion – flame propagation – detonation in SI engine and knocking in CI engines. Combustion chambers – Turbo and super chargers. Fuels for IC engines, Desirable Properties of IC engine fuels, Gaseous fuels, LPG, CNG, Hydrogen, Alcoholic fuels, Flexi fuel engines. Advanced engine technologies - VVT, HCCI, Lean burn engines. Engine testing – Performance parameter calculations.

UNIT II: AUTOMOTIVE CHASSIS

Types of chassis layout – various types of frames – front axles – types, stub axle, front wheel geometry – Condition for true rolling motion - Ackermann and Davis steering mechanism – steering gear boxes – Under steer, Neutral steer and Over steer - Hydraulic and Electric Power Assisted Steering. Hotchkiss and torque tube drive. Propeller shaft – Universal Joint and Constant Velocity joint - Final drive – types. Differential – principle and construction details – Differential housing - Limited Slip Differential – Rear axle - types. Wheels – types and construction. Tyres – types and construction details.

UNIT III: SUSPENSION AND BRAKING SYSTEM

Suspension system – requirements – types - construction details of leaf spring, coil spring and torsion bar. Rubber and air suspension systems. Front and rear independent suspension systems – shock absorbers. Braking system – need, stopping distance, classification of brakes. Constructional details of drum brake and disc brakes - Power assisted braking systems. Retarders, ABS, TCS, EBD, ESP.

UNIT IV: AUTOMOTIVE TRANSMISSION

Clutches – coils spring, diaphragm clutches – centrifugal and semi centrifugal clutches – multiplate clutches. Electromagnetic clutch - Gear box – sliding mesh, constant mesh and synchromesh – construction and operation. Automated Manual Transmission - Automatic transmission – fluid coupling, torque converter, epicyclic gear box, CVT, Dual Clutch Transmission – Hydrostatic transmission, Electric Vehicle powertrain.

UNIT V: AUTOMOTIVE ELECTRICAL AND ELECTRONICS

Lead acid battery – types, battery charging, rating, and testing. Lithium Ion battery. Ignition system – principle and operation of coil, magneto and electronic ignition system. Spark plug. Starting system – types of drives - bendix drive, solenoid drive system. Charging system – generator system – types – alternator, principle and operation of cut-out and regulators. Engine sensors and actuators – types, principle and operation. Recent Trends - Navigation system, ADAS, TPS, Rain sensing wipers, micro-hybrid, keyless entry, antitheft technologies, V2V communication, CAN, LIN, OBD, Climate control system, Power windows and central locking system.

UNIT VI: VEHICLE BODY ENGINEERING

Classification of cars, buses, HCVs and LCVs – Driver visibility – forward and rearward visibility – Vehicle Safety – Passive and Active Safety systems. Car Body terminology - Constructional details of cars body panels. Construction of buses – conventional and integral construction. Driver's seat design considerations – compactness of driver's cab – segmental design – modern painting processes for car bodies. Body trim items. Body mechanisms – window winding, door locking and seat height adjustment – Body repair – hand and power tools - Aerodynamics of vehicles – different types of drags – optimization techniques - Wind tunnel testing to measure aerodynamic coefficients.

UNIT VII: VEHICLE DYNAMICS

Concept of vibration –Types of vibration. Response analysis of single DOF, Two DOF and multi DOF. Magnification factor and Transmissibility factor. Vibration absorbers. Tyre forces and moments – longitudinal and lateral forces. Rolling resistance. Tractive and cornering properties of tyres. Tire Testing. Human response to vehicle vibration. Design and analysis of passive, semi active and active suspension using quarter car, half car and full car models. Load distribution. Vehicle Resistances to motion, vehicle performance characteristics. Steady state and transient state handling characteristics – direction control of vehicle. Stability of vehicle under various conditions.

UNIT VIII: VEHICLE CONTROL SYSTEMS

Degree of freedom for vehicle control – calculation of the control - degree of freedom. Selection of control, manipulator and measured disturbances variables. General types of vehicle controllers configuration. Dynamic behaviour of first order and second order vehicle system – dynamic responses characteristics of vehicle systems. Basic control modes – proportional control – integral control. PID controls. Lambda control – knock control – adaptive knock control – drive line modelling – active suspension control. Adaptive cruise control. Lane Departure Warning System. Adaptive Headlamps.

UNIT IX: AUTOMOTIVE POLLUTION AND CONTROL

Pollutants – sources, formation and effects on environment and human beings. Emission standards. HC, CO and NO_x formation in SI and CI engines. Smoke formation and NO_x emission and its types from diesel engine, Particulate emissions. Control techniques – EGR, SCR, LNT, Secondary air induction, Positive crankcase ventilation system particulate trap and catalytic converters. Test procedures CVS1, CVS3 – Test cycles – SHED test. NDIR analyser – Flame ionization detectors – Chemiluminescent analyser – dilution tunnels – gas chromatograph – smoke meters.

UNIT X: MOTOR VEHICLE ACT, MAINTENANCE AND SERVICING

Motor vehicle act – registration, driving licence, insurance, pollution and control. organization and management of workshop - Scheduled and unscheduled maintenance – Workshop stores – inventory management – 5S Principles in workshops – Cost estimation for maintenance and servicing – Different forms and registers for workshop – Workshop Safety - Trouble shooting and servicing of clutch, gear box, brakes, suspension and steering systems. Trouble shooting and servicing of engine and its auxiliary systems – Servicing of vehicle air conditioning system – Manual, power tools and equipment required for servicing and maintenance.

3. BUSINESS ADMINISTRATION (PG Degree Standard)

CODE: 385

UNIT I: MANAGEMENT CONCEPTS

The development of Management thought-Pre scientific management era – Human relation era – Social sciences era – Management sciences era. Definitions of Administration and Management – Basic Principles and Process of Management. Functions of Management Planning, Organising, Staffing, Directing, Coordination and Controlling. Management by objectives – Process of MBO – Management by Exception.

UNIT II: MANAGERIAL ECONOMICS

Introduction to Economics; Nature and Scope of Managerial Economics – Significance in Decision-Making and Fundamental Concepts - Objectives of a Firm - Role of Economic Analysis in managerial decisions. The Concept of Profit. Nature and Measurement of Profits - Profit Maximization - Profit

Planning and control – Profit Policies – Cost Volume Profit Analysis. National Income – Definition, Concepts and Various Methods of its Measurement– Inflation, Types and Causes - National Income and Economic Welfare - Business Cycles and Business Forecasting – Measuring Business Cycles Using Trend Analysis

UNIT III: ORGANISATIONAL BEHAVIOUR

Organisational Behaviour : Importance – Historical Development of Organisation Behaviour- Understanding Individual Personality- Perception-Learning-Values-Attitude- Job Involvement – Organisational Commitment – Job Satisfaction – Emotions – Emotional Intelligence – Spiritual Quotient. Understanding groups: Meaning of group and group dynamics – Theories of Group Dynamics – Group Cohesiveness – Team Building- Management of change-Organisational Culture-Management of Conflict-Organizational Citizenship Behaviour.

UNIT IV: HUMAN RESOURCE MANAGEMENT

Functions of HRM – Managerial Functions and Operative functions – Organisation of HRM Department – Qualities and Qualification of HR Managers – HR Policies - Environmental influences of HRM – HRM Challenges – HRM Strategies. Recruitment and Selection- Job Analysis- Job Evaluation- Performance Appraisal-Training and Development- Quality of Working Life-e HRM

UNIT V: RESEARCH METHODOLOGY AND STATISTICS

Research – Meaning – Types – Nature and scope of research – Review of Literature - Problem formulation – Statement of research Objective – Value and cost of information – Research Questions – Research Gap - Decision theory –Research process – Research designs – Experimental Research. Methods of data collection-Sampling – Measure of Central Tendency-Measure of Dispersion-Testing of Hypothesis- Correlations- Regression- Multivariate Analysis-Research Report

UNIT VI: OPERATIONS MANAGEMENT

Operations Management concept, objectives and types –Characteristics of Modern Operation Management – Differences between Services and Goods – Operation Strategy – Supply Chain Management – Warehousing and Supply Chain Strategies – Supply Chain Dynamics. Operations Planning- Work study: Objectives, Procedures – Method Study and Motion Study - Work Measurement and Productivity. Total Productive Maintenance- Materials management and Purchase Management- Project management-Quality Control – Quality Movement – Continuous Improvement – Tools – Total Quality Management (TQM) concepts – ISO Quality Certification – Quality Assurance.

UNIT VII: MARKETING MANAGEMENT

Marketing – Definition – Importance – Concepts in Marketing, Marketing Concepts – Traditional and Modern Concepts – Marketing Environment, Marketing Strategies – Kinds of Marketing Strategies – Marketing Mix Concept – Marketing Research and Information – Objectives and Process. Consumerism – Problems of consumer protection – Developments in Consumer Protection in India - Government and Marketing – Neo Marketing Trends – e-Marketing – Tele-marketing – Green Marketing – Event Marketing – Viral Marketing – Direct Marketing- Ethics in Marketing & Advertisement.

UNIT VIII: MANAGEMENT INFORMATION SYSTEM AND E-COMMERCE

Data, Information, Intelligence, Information Technology, Information System, Functional Information Systems, DSS, EIS, KMS, GIS, International Information System-Data Base Management System- Role of information management in ERP, e-governance, Data Mining, Business Intelligence, Pervasive Computing, Cloud computing, CMM. Electronic Commerce: Technical Components of E-Commerce Functions of E-Commerce - Advantages and disadvantages of E- Commerce - Electronic Commerce and Electronic Business- Electronic Commerce Technology - Building the E-Business application- Avoiding legal issues- Web strategy: Attracting and retaining visitors - Search Engines and Portals - Cyber service -Online Banking.

UNIT IX: ACCOUNTS AND AUDITING

Basic Accounting concepts - Kinds of Accounts. Double Entry Book Keeping - Journal and Ledger Accounts- Subsidiary books- Trial balance - Errors – Types of errors - Rectification of errors – Bank reconciliation statement – Manufacturing - Trading - Profit & Loss Account - Balance sheet. – Accounting

for non-trading Institutions-Income & Expenditure Account- Receipts and Payment Accounts and Balance sheet – Accounting for depreciation – methods of depreciation – Preparation of accounts from incomplete records. Auditing-Origin-Objectives-Types- qualities of an Auditor- Audit programmes- verification and valuation of Assets and Liabilities. Investigation-objectives of investigation-Audit of computerized-Accounts-electronic auditing

UNIT X: FINANCIAL MANAGEMENT

Finance Functions – Nature And Scope – Evolution Of Finance Function – Its New Role in The Contemporary Scenario – Goals Of Finance Function – Maximising Profit Vs Wealth – Cost – Risk – Return- Trade Off – Concept Of Time Value Of Money – Future Value And Present Value And The Basic Valuation Model - Sources Of Short Term Financing – The Management Of Working Capital- Cash Management Strategies- Receivables Management- Sources Of Long Term Finance- Cost Of Capital And Capital Structure- Economic Value Added (EVA) -Risk & Uncertainty -Risk Management- Return on Investment.

4. CHEMISTRY (PG Degree Standard)

CODE.244

UNIT I:

Reaction Kinetics:- Rate laws - rates constant for first, second, third and zero order reaction - Half life period - Arrhenius theory - collision theory - Absolute reaction rate theory - ionic reaction - salt effect - catalysis – Laws of photo chemistry, quantum efficiency - photo physical processes of electronic excited molecules. Green Chemistry – reactions and reagents

Chemical Equilibrium:- partial molar quantities, gibbs - Duhem equation, Equilibrium constant - temperature dependence of equilibrium constant - phase rule and its applications to two and three components systems.

UNIT II:

Solid State:- crystal systems - designation of crystal faces, lattice structure and unit cell - law of rational indices - Bragg's law and x rays diffraction by crystals - Schottky and Frenkel defects - Electrical properties - Insulators and semiconductors - band theory of solids – Superconductors – nano materials preparations and properties.

Electrochemistry:- Types of Reversible electrodes - Nernst equation - calculation of thermodynamic quantities of cell reactions - overpotential and hydrogen over voltage - Determination of pKa of acids by potentiometric methods - Kohlrausch's law - Ostwald's dilution law - Debye - Huckel Onsager equation for Strong electrolytes - (no derivation required) - Primary and Secondary fuel cells - corrosion and prevention – dry cells and storage batteries

UNIT III:

Structure and Bonding:- Electronic configuration of atoms, Term symbols and periodic properties of elements, Ionic radii, ionisation potential electron affinity, electronegativity, concept of Hybridization, molecular orbitals and electronic configuration of homonuclear and heteronuclear diatomic molecules, shapes of polyatomic molecules VSEPR theory, symmetry elements and point groups for simple molecules, Bond lengths, Bond angles, bond order and bond energies Types of chemical bond (weak and strong) inter molecular forces, structure of simple and covalent bonds – covalent character in ionic bond and partial ionic character – lattice energy.

Acids and Bases:- Bronsted and Lewis acids and bases - pH and pKa acid - base concept in non - aqueous media – HSAB concept - Buffer Solutions. Redox Reactions:- Oxidation numbers, Redox potential, Electro chemical series – application of EMF measurements - Redox indicators.

Chemistry of Non - transition elements:- General characteristics, structure and reaction of simple compounds - boranes - silicates Oxoacids of N,P,S and halogens - xenon compounds - interhalogens, Pseudo halides and noble gas compounds – metal clusters – S,N ring and chain compounds - inorganic Polymers such as silicones, Borazines and phosphonitrilic compounds. IUPAC Nomenclature of simple organic and Inorganic compounds.

UNIT IV:

Organic reaction mechanism:- General methods (Kinetic and non Kinetic) of study of reaction mechanisms Methods of determining reaction mechanism. – isotopic labelling SN1, SN2 mechanisms - addition substitution, elimination and rearrangements -free radical mechanism - aromatic substitution - and stability of reactive intermediate (Carbocations, Carbanion's free radicals, nitrates and benzyne) - Polar effects - Hammett's equation and its modification.

Chemistry of important organic reaction:- Aldol condensation - Claisen condensation - perkin reactions - cannizzaro reaction - Fridel craft reaction - Favorski reaction - Stork enamine reaction - Michael addition - Baeyer - villiger reaction - Chichibabin reaction - Asymmetric synthesis pericyclic reactions - classification and examples - Woodward and Hoffmann rules. - use of OsO₄, NBS, diborane, NaBH₄, LiAlH₄ in organic synthesis.

UNIT V:

Quantum Chemistry:- Planck's quantum theory wave - particle duality, uncertainty principle, operators and commutation relations, postulates of quantum mechanics, Schrodinger wave equation, particle in one dimensional box and three dimensional box - harmonic oscillator, rigid rotator and hydrogen atom, angular momentum, spin - orbit coupling.

Classical thermodynamics and elements of statistical thermodynamics:- First law of thermodynamics:- heat capacity - isothermal adiabatic processes - Thermo chemical laws - Kirchoff's equation second law of thermodynamics, entropy, in reversible and irreversible processes - Gibe's free energy and Helmholtz free energy - Third law of thermodynamics

UNIT VI:

Spectroscopy:-

Rotational spectra of diatomic molecules - Isotopic substitution and rotational constants - vibrations spectra of linear symmetric, linear asymmetric and bent triatomic molecules - electronic spectra - selection rules - nuclear magnetic resonance - chemical shifts - spin - spin coupling - electron spin resonance and hyperfine splitting theoretical principles of mass spectroscopy. Application's of UV, IR, NMR, ESR and mass spectroscopy for structural elucidation of organic compounds, inorganic complexes and free radicals.

UNIT VII:

Chemistry of Co-ordination Compounds:- structural aspects, isomerism - octahedral and tetrahedral, crystal - splitting of orbitals - CFSE - magnetism and colour of transition metal ions - charge transfer spectra - crystal field theory and ligand field theory – MO theory complexes of pi acceptor ligands - stereochemistry of inorganic co-ordination compounds – ORD and CD Techniques.

Chemistry of lanthanides and actinides:- Electronic configuration - occurrence and separation techniques -oxidation states, colour. magnetic and spectroscopic properties – lanthanide contraction, use of lanthanide compounds as shift reagents.

UNIT VIII:

Organometallic compounds and bio inorganic chemistry:- Metal carbonyls, Metal nitrosyls, metal alkyl, alkenes and arene compounds - organo metallic compounds in catalysis - Chemistry of porphyrins - chlorophyll hemoglobin, myoglobin, ferredoxin, rubredoxin, and cytochromes, copper proteins, enzymes, zinc enzymes, toxicity of metals and the effect of excess and deficient levels, metal complexes in therapy

UNIT IX:

Stereochemistry:- Elements of symmetry - optical and geometric isomerism E. Z and R.S notation's - Conformational analysis of simple cyclic and acyclic systems - Effects of conformation on reactivity in acyclic compounds and cyclohexanes.

Carbohydrates:- Classification - configuration and general reactions of monosaccharides - Chemistry of glucose, fructose, Sucrose and Maltose, Important compounds in chemistry - Dyes - aze, triphenylmethane, and phthalin groups - indigo - alizarin vitamins, hormones - antibiotics - proteins. Polymers: Preparation and uses of polyethylene, poly butylenes PVC, Nylon - Ziegler - Natta catalysts

UNIT X:

Instrumental methods of analysis:- Adsorption, partition chromatography - Gas chromatography - HPLC - Solvent extraction and ion turlaexchange methods - atomic absorption spectroscopy - Eletroanalytical techniques voltammetry, cyclic voltammetry, polarogaphy, amperometry, Coulometry and conductometry, ion - Selective elctrodes- TGA, DTA, DSC and ICPU. Analysis of industrial products such as ores and Minerals, Coal, Water, Soaps & Detergents, Metals & Alloys, Manures & fertilizer, cement, Aggregate, Bricks, petroleum products, food & products, plastics.

5. CHEMICAL ENGINEERING (Degree Standard)

CODE: 405

UNIT I: CHEMICAL PROCESS CALCULATIONS AND CHEMICAL ENGINEERING THERMODYNAMICS

Properties of gases, liquids and solids, Humidity and saturation, Gas laws, steady and unsteady state material and Energy balances including multiphase- involving recycle, by-pass and purge systems, Material and Energy balance with reactions, use of tie components, Gibbs Phase rule and degree of freedom analysis. Laws of Thermodynamics and its applications- Thermodynamics functions - Chemical and Phase Equilibrium -Ideal and non-ideal gases and solutions – Equation of state and residual properties, compression of fluids, Second law and entropy, Chemical potentials, properties of mixtures- fugacity, partial molal properties, excess properties and activity coefficient. Predicting VLE of systems, Free Energy Change and Chemical Reaction Equilibrium.

UNIT II: MECHANICAL OPERATIONS AND ENGINEERING MATERIALS

Characteristics of solids, laws of size Reduction, free and hindered settling, centrifuge and cyclone, thickeners and classifiers, Mixing and agitation, Filtration, Sedimentation. Conveying of solids. Materials of construction for chemical Industries, Metallic, Non-metallic, Polymeric and composite materials, Refractory, corrosion -prevention and control. Smart materials for Chemical Engineering applications- Nano and biomaterials.

UNIT III: CHEMICAL TECHNOLOGY AND RENEWABLE ENERGY SOURCES

Acids, Fertilizers, marine Chemicals, Cement, Glass, Ceramic and Refractories, Petroleum Refining Products, Fermentation Products, Oils, Soaps and Detergents, Pulp and paper, Dyes, sugar, leather and rubber, polymer, pharmaceutical and food industries. Sustainable energy resources- solar, thermal, photoelectric, tidal, geothermal, nuclear, wind, bio-energy, sources, energy storage and conversion- battery and fuel Cells, Energy efficiency estimation.

UNIT IV: FLUID MECHANICS AND HEAT TRANSFER OPERATIONS

Fluid Statics, Newtonian and Non-Newtonian fluids, Types of Manometers, Equation of continuity, Equation of motion, Bernoulli equation, Friction Factor, Dimensional analysis and similitude, Flow through pipes, velocity profiles, flow through fixed and fluidized beds, flow meters, Fans, blowers, pumps and compressors, Energy Equations, Modes of Heat transfers, Heat transfer with phase change, thermal insulation, thermal boundary layer and heat transfer coefficient. Design of heat exchangers- Double pipe, Shell and tube, single and multiple effect evaporators

UNIT V: MASS TRANSFER AND SEPARATION OPERATIONS

Fick's Laws, Diffusion, Mass Transfer Coefficient and theories of Mass Transfer, Momentum, heat and mass transfer analogies, Inter phase Mass transfer operations, HTU, NTU and HETP concepts, Design of equipment -Distillation column, Extraction, Adsorption, Absorption, Drying, humidification and de-humidification. Crystallization, Membrane separation processes - frame, tubular, spiral wound and hollow fibre membrane reactors, dialysis, reverse osmosis, nano/ultra filtration, microfiltration. Ion Exchange chromatography and electro dialysis, Separations involving pervaporation and permeation techniques for solids, liquids and gases, supercritical fluid extraction.

UNIT VI: CHEMICAL REACTION ENGINEERING

Reaction rates - laws - theories and analysis, homogeneous and heterogeneous reactions, single and multiple reactions in ideal reactors. Kinetics of enzyme reactions. Non ideal reactors - Residence time

distribution, Single parameter model. Design of reactors- Isothermal and adiabatic fixed bed reactors, non-isothermal and non-adiabatic fixed bed reactors, fluidized bed reactors. Kinetics of heterogeneous catalytic reactions. Diffusion effects in catalysis- rate and performance equations for Catalyst deactivation.

UNIT VII: PROCESS DESIGN, INSTRUMENTATION AND CONTROL

Problem formulation, degree of freedom analysis, objective functions, Simplex method, Barrier method, sensitivity analysis, Convex and concave functions, unconstrained NLP, Newton's method, Quasi-Newton's method, Direct substitution, Quadratic programming, Cost estimation, Plant utilities, Heat exchanger networks, Pinch technology. Principles of measurements and classification of process instruments, measurement of process variables - Laplace transformation, application to solve ODEs. Open-loop systems, first order systems, first order systems in series, linearization and its application in process control, second order systems and their dynamics; transportation lag. Closed loop control systems, feed-back control systems, BODE diagram, stability criterion, frequency response, tuning of controller settings, cascade control, feed forward control, control of distillation towers and heat exchangers.

UNIT VIII: NUMERICAL AND COMPUTATIONAL METHODS

Curve fitting, Equations with real and rational Coefficients, Imaginary roots and irrational roots, Transformation of equations. Numerical solutions of linear and non linear algebraic equations- solution of initial value and boundary value, ordinary and non-linear differential equations, Integration of trapezoidal and Simpson rule. Solution of partial differential equations. Partial Differential equation – finite element, finite difference method - Matrix, determinants and properties – Elementary Row transformations algebraic equations; ordinary differential equations and non homogeneous first order ordinary differential equations, rank of Matrix, Eigen value problems, Orthogonal and ortho normal vectors; Gram-Schmidt orthogonalization; Theorem for Eigen values and Eigen functions.

UNIT IX: ENVIRONMENTAL ENGINEERING, OCCUPATIONAL SAFETY AND HEALTH IN CHEMICAL INDUSTRIES

Air, Water and soil pollution, causes, effects and remedies, Nuclear waste disposal, Noise control. Wastewater treatment by various methods: Chemical, biochemical and advanced oxidation process. Industrial hygiene, occupational safety & health in chemical industries, Industrial safety principles, site selection and plant layout, chemical hazards identification & classification, Safety in operations and processes, fire safety, hazard identification techniques, disposal of hazardous and toxic wastes, onsite and offsite emergency preparedness plan, safety audit, work permit system, roles and responsibilities of safety officers and welfare officers, occupational diseases.

UNIT X: PROFESSIONAL ETHICS, LAWS AND LEGISLATIONS

Morals, values and Ethics – Integrity – Work ethic - Valuing time – Cooperation – Commitment – Empathy – Senses of Engineering Ethics – Variety of moral issues – Types of inquiry – Moral dilemmas – Moral Autonomy – Kohlberg's theory – Gilligan's theory – Consensus and Controversy – Models of professional roles – Theories about right action - Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics – A Balanced Outlook on Law. Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk – Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights. Intellectual Property Rights (IPR), Employee Discrimination. Multinational Corporations, Environmental Ethics & legislation – Engineers as Managers, Expert Witnesses and Advisors. Moral Leadership, Code of Conduct, Corporate Social Responsibility. Labour laws and legislations – Criminal procedure code – Indian Penal Code.

6. CIVIL ENGINEERING (Degree Standard)

CODE: 398

UNIT I: BUILDING MATERIALS AND CONSTRUCTION PRACTICES

Properties and testing of engineering materials-brick, stones, M-sand, aggregates, cement, timber, recycled and modern materials-glass, plastic FRP, ceramic- concrete – properties and testing- mix

design-admixtures, Self-compacting concrete steel construction practice-stone masonry, brick masonry, R.C.C. and block masonry – construction equipment - building bye-laws and development regulations practiced in Tamil Nadu - Provisions for fire safety, lighting and ventilation- Acoustics.

UNIT II: ENGINEERING SURVEY

Survey - Chain- Compass - Plane table - levelling - Theodolite - computation of area and volume-L.S. and C.S. – Contour - Traversing – traverse adjustment - Heights and Distances - Tacheometry and Triangulation - total station and GPS and Remote sensing techniques for surveying.

UNIT III: ENGINEERING MECHANICS AND STRENGTH OF MATERIALS

Forces- types-laws - centre of gravity-moment of inertia-friction-Stresses and strains -Thermal stress - elastic constants - Beams - Bending moment and shear force in beams - Theory of simple bending - deflection of beams - torsion - Combined stresses – stresses on inclined planes - Principal stresses and principal planes - Theories of Failure – Analysis of plane trusses.

UNIT IV: STRUCTURAL ANALYSIS

Indeterminate beams - Stiffness and flexibility methods of structural analysis - Slope deflection - Moment Distribution method – Arches and suspension cables - Theory of columns - moving loads and influence lines – Matrix method - Stability of retaining walls – plastic theory - Seismic analysis of high rise building

UNIT V: GEOTECHNICAL ENGINEERING

Formation of soils - types of soils - classification of soils for engineering practice - Field identification of soils - Physical properties and testing of soils - Three phase diagram - permeability characteristics of soils - stress distribution in soils - Theory of consolidation, shear strength parameters of soils – stabilization of soil - Compaction of soils- Stability analysis of slope - Soil exploration - Soil sampling techniques – SPT - Borelog profile - shallow foundations - Terzaghi's bearing capacity theory - Pile foundation –pile load test- Group action of piles - settlement of foundations- Ground Improvement techniques.

UNIT VI: ENVIRONMENTAL ENGINEERING AND POLLUTION CONTROL

Sources of water - Water Demand -- Characteristics and analysis of water – hydraulics for conveyance and transmission - water borne diseases – Functional design of water treatment plant – desalination plant - water distribution system – pipe network analysis- characteristics and composition of sewage - Planning and design of sewerage system - sewer appurtenances - Pumping of sewage - sewage treatment and disposal - Design of storm water drain- plumbing system in high rise building - industrial waste treatment - solid waste management – Air and Noise pollution control – E-Waste management.

UNIT VII: DESIGN OF REINFORCED CONCRETE, PRESTRESSED CONCRETE AND STEEL STRUCTURES

Design of concrete members - limit state and working stress design concepts - design of slabs - one way, two way and flat slabs - Design of singly and doubly reinforced sections and flanged sections - design of columns and footings – pre- stressing - systems and methods- post tensioning slabs - Design of pre-stressed members for flexure. Design of tension and compression members - Design of bolted and welded connections design of members of truss - designs of columns and bases - design of beams, plate girders and gantry girder- design of liquid storage structures –elevated and underground- design of retaining wall.

UNIT VIII: HYDRAULICS AND WATER RESOURCES ENGINEERING

Hydrostatics-applications of Bernoulli equation – losses in pipes - flow measurement in channels - open channel flow- types of pumps and characteristics - Applications of Momentum equation, Kinematics of flow. Water resources in Tamil Nadu - Water resource planning - Master plan for water management - flood control – Runoff estimation – hydrograph – flood routing - Soil plant water relationship - Water requirement for crops - Irrigation methods – Design of alluvial canal and design of headworks. Water logging and land reclamation - cross drainage works.

UNIT IX: URBAN AND TRANSPORTATION ENGINEERING

Urbanization trend and impact - Slum clearance and slum improvement programmes - Different modes of transport and their characteristics. Geometric design of highways. – Pavement materials and testing – alternate pavement materials- modified binders - Design and Construction of bituminous and concrete roads – pavement distress and evaluation - Maintenance of roads – Railways - Components of permanent way - Signalling, Interlocking and train control - drainage in roads and railways. Airport planning - Components of Airport - Site selection – Runways – Planning of terminal buildings Harbours & Ports - Layout of a harbour - Docks - Breakwaters.

UNIT X: PROJECT MANAGEMENT AND ESTIMATION

Construction management - Construction planning - Scheduling and monitoring - Cost control, Quality control and inspection - Network analysis - CPM and PERT -methods of project management - Resources planning and resource management - Types of estimates - Preparation of technical specifications and tender documents – e-tender - Building valuation - law relating to contracts and arbitration.

7. ELECTRICAL ENGINEERING / ELECTRICAL AND ELECTRONICS ENGINEERING (Degree Standard)

CODE: 400

UNIT I: ELECTRICAL CIRCUITS

Circuit elements – Kirchoff's Laws – Mesh and Nodal Analysis - Network Theorems and Applications for DC and AC circuits: Thevenin's Theorem, Norton's Theorem, Superposition Theorem, Maximum Power Transfer Theorem – Sinusoidal Steady State Analysis of RL-RC-RLC Circuits- Resonant Circuits - Natural and Forced Response – Transient Response of RL-RC-RLC Circuits-Two-port networks – Three Phase Circuits-Star-delta transformation-real and reactive power-powerfactor

UNIT II: ELECTRIC AND MAGNETIC FIELDS

Coulomb's Law-Electric Field Intensity-Electric Flux Density-Gauss's Law- Divergence - Electric Field and Potential due to Point, Line, Plane and Spherical Charge Distributions - Effect of Dielectric Medium - Capacitance of Simple Configurations- Magnetic Circuits- Magnetomotive force - Reluctance-Faraday's laws-Lenz's law-Biot-Savart's law - Ampere's law - Fleming's Left and Right Hand Rule-Lorentz force - Inductance - Self and Mutual Inductance-Dot Convention-Coupled Circuits

UNIT III: MEASUREMENTS AND INSTRUMENTATION

Units and Standards – Static and Dynamic Characteristics-Types of Errors-Error Analysis – Measurement of Current, Voltage, Power, Power-factor and Energy – Indicating instruments – Measurement of Resistance, Inductance, Capacitance and Frequency – Bridge Measurements – Instrument Transformers-Electronic Measuring Instruments – Multi meters-True RMS meter-Spectrum Analyzer-Power Quality Analyser- Recording Instruments-X-Y Recorder-Magnetic Recorders-Digital Data Recorder-Oscilloscopes-DSO-LED and LCD Display-Transducers and their applications to the Measurement of Non-Electrical Quantities like Temperature, Pressure, Flow-rate, Displacement, Acceleration, Noise level — Data Acquisition Systems – A/D and D/A Converters- Data Transmission Systems-PLC –smart meters

UNIT IV: CONTROL SYSTEMS

Mathematical Modelling of Physical Systems – Transfer Function - Block Diagrams and Signal Flow Graphs and their Reduction using Mason's Rule – Time Domain and Frequency Domain Analysis of Linear Time Invariant (LTI) System – Errors for Different Type of Inputs and Stability Criteria for Feedback Systems – Stability Analysis Using Routh-Hurwitz Array – Nyquist Plot and Bode Plot – Root Locus – Gain and Phase Margin – Basic Concepts of Compensator Design – PI,PD and PID Controllers-State Variable formulation-state transition matrix- Eigen values and Eigen vectors-free and forced responses of Time Invariant systems-controllability and observability.

UNIT V: ELECTRICAL MACHINES

D.C. Machines – Construction, Excitation methods – Armature Reaction and Commutation – Characteristics and Performance Analysis – Generators and Motors – Starting ,Speed Control and braking – Testing – Losses and Efficiency. Transformers-Types-Construction and Operation- Testing –

Equivalent Circuits – Losses and Efficiency-All day efficiency – Regulation – Parallel Operation – Three Phase Transformers – Auto-transformer. Induction Machines – Construction, Principle of operation – Rotating Magnetic Field – Performance, Torque-Speed Characteristics, No-load and Blocked Rotor tests, Equivalent Circuit, – Starting ,Speed Control and braking – Single-Phase Induction Motors – Linear Induction Motors – Hysteresis Motors – Reluctance Motors. Synchronous Machines – Construction – Operating characteristics and Performance analysis – Efficiency and Voltage regulation – Parallel operation – V and inverted V curves of synchronous motors – Power factor improvement-permanent magnet synchronous motor-Permanent magnet brushless dc motor – stepper motor

UNIT VI: POWER SYSTEMS

Single Line Diagram of Power System-Per Unit Quantities-Power Generation Types- Hydro, Thermal and Nuclear Stations – Pumped storage plants – Co generation– Economic and operating factors – Modelling and performance characteristics of Power transmission lines and Cables-HVDC transmission– Mechanical Design of Transmission Lines-Sag-Insulators - Z_{BUS} and Y_{BUS} formulation - Load flow studies – Shunt and Series Compensation- Symmetrical and Un symmetrical Faults Analysis - Transient and Steady-State Stability of Power Systems – Equal Area Criterion-Voltage and Frequency Control – Power System Transients – Power System Protection – Circuit Breakers – Relays classification of protection schemes-overcurrent, distance, differential and carrier-Equipment protection-transformer, generator, motor, busbars and transmission line –AC and DC Distribution-deregulation-energy conservation and energy auditing

UNIT VII: ANALOG AND DIGITAL ELECTRONICS

Semiconductor Devices – PN junctions – Transistors – FET – Zener, Photo diodes and their applications – Rectifier circuits – Voltage regulators – Multipliers. Biasing circuits – Small signal amplifiers – Frequency response – Multistage amplifiers – Coupling methods – Large signal amplifiers – Push-pull amplifiers – Feedback amplifiers – Oscillators – Operational amplifiers and its applications – Precision rectifiers – Multivibrators - Voltage Controlled Oscillator-Timer. Digital logic gate families (DTL,TTL,ECL,MOS,CMOS) – Logic gates - Simplification of Logic Functions- Design of Combinational circuits - Sequential logic circuits-latch–Flipflops– Counters – Registers – multiplexers and demultiplexers- Schmitt triggers-Memories(ROM,PLA and FPGA).

UNIT VIII: POWER ELECTRONICS AND DRIVES

Principle of Operation and Static and dynamic behaviour of Power Semiconductor devices -- Power Diode, DIAC, SCR, TRIAC, GTO, MOSFET and IGBT- - Single and Three Phase AC to DC Converters – uncontrolled and controlled rectifiers -performance parameters – Single and Three Phase AC to AC converters - Switched Mode Power Supplies – buck ,boost and buck-boost converter topologies - switching losses-Inverters-Single and Three Phase Inverters – Voltage control- Pulse Width Modulation techniques-harmonic elimination techniques– Uninterrupted Power Supplies- Electrical drives-motor load dynamics-load torque characteristics-Speed Control of DC Drives– Converter/Chopper fed dc motor drives- Speed control of AC drives- induction motor drives –stator voltage control and V/f control - synchronous motor drives-V/f control, self control, margin angle control and power factor control

UNIT IX: DIGITAL PROCESSORS AND COMMUNICATION

Architecture of 8085, 8086 and 8051 – Instruction Sets – Assembly Language Programming – Interfacing for memory and I/O: 8255 Programmable Peripheral Interface – 8253 Programmable Timer Interface – 8279 Programmable Keyboard and Display Interface – 8257 Direct Memory Access Interface - Embedded processors (ARM and PIC basics only). Classification of Signals and systems – Properties of Discrete Fourier Transforms - FFT Computation – FIR Filters – IIR Filters: Butterworth Filters – Chebyshev Filters.

Digital Communication Systems: Pulse Code Modulation and Demodulation – Adaptive Delta Modulation - Frequency Division and Time Division Multiplexing – Data Communication Network Topologies - 7-layer OSI Protocol-IoT concepts

UNIT X: RENEWABLE ENERGY SOURCES AND STORAGE DEVICES

Renewable Energy – Sources and Features - Solar Radiation Spectrum- Radiation Measurement-Solar Photovoltaic Cell –principle of operation-types-MPPT - Microhydel- Operating principle- Wind Energy – components- wind power turbine types-MPPT- Site Selection-Types of Wind Generators-smart grid - Electric vehicles -V2G and G2V- Fuel Cells- Batteries-types and characteristics- Super Capacitors.

8. ELECTRONICS AND INSTRUMENTATION ENGINEERING (Degree Standard)

CODE : 402

UNIT I: ANALOG ELECTRONICS

Characteristics and Applications of Diode, BJT, JFET, SCR, UJT, MOSFET- Small Signal Analysis of BJT and JFET amplifiers, Feedback Amplifiers, RC and LC Oscillators – Characteristics and Applications of Operational Amplifier, Differentiator, Integrator, Instrumentation Amplifier, Precision Rectifier, V to I and I to V Converter, Active Filters, Oscillators and Signal Generators.

UNIT II: DIGITAL ELECTRONICS

Digital Logic Theory:

Number Systems – Combinational Logic Circuits – Minimization of Boolean Functions – IC Families: TTL and CMOS – Arithmetic Circuits, Multiplexer & Decoders – Sequential Circuits: Flipflops, Counters, Shift Registers, Schmitt Trigger, Timers, Multivibrators, S/H Circuit, – Analog to Digital Converter (Successive approximation, Integrating and Sigma Delta) – Digital to Analog Converters (Binary Weighted Resistor, R-2R, Inverted R-2R) – Characteristics of ADC and DAC.

Embedded Systems:

Microprocessor and Microcontroller Applications, RISC and CISC Processors, Memory and Input-Output Interfacing, Embedded C Programming, Multiprocessors, Scheduling, Power Optimization Strategies, I²C and CAN Buses.

UNIT III: DIGITAL SIGNAL PROCESSING AND COMMUNICATION ENGINEERING

Discrete Time Signals and Systems:

Sampling Theorem, Characteristics and Classifications of DT Signals and Systems - LTI System Characteristics, Convolution and Correlation, Time Domain and Frequency Domain Analysis – ZT, DTFT, DFT - FFT Algorithms – IIR and FIR Filters.

Communication Engineering:

Amplitude and Frequency Modulation and Demodulation – Shannon's Sampling Theorem, Pulse Code Modulation, Frequency and Time Division Multiplexing. Digital Communication System (ASK, FSK, PSK and QAM) - Digital Communication Concepts – Network Protocols – ISO/OSI reference model – Fiber Optic Communication.

UNIT IV: TRANSDUCER ENGINEERING

Units and Standards - Calibration Methods – Errors in Measurement and Uncertainty analysis – Static and Dynamic Characteristics of First and Second Order Transducers - Resistive, Capacitive, Inductive, Piezoelectric, Magnetostrictive, Hall Effect and Smart Sensors and Associated Signal Conditioning Circuits.

UNIT V: ELECTRICAL AND ELECTRONIC MEASUREMENTS

Measurement of Resistance, Capacitance, Inductance and Frequency using Bridges (Wheatstone, Kelvin, Megohm, Maxwell, Anderson, Schering and Wien Bridge) - Q-meter– Galvanometer, Measurement of Voltage and Current - Power and Energy Measurements – Potentiometers, and Instrument Transformers - Digital Voltmeter, Digital Multimeter, Time, Phase and Frequency Measurements – Oscilloscopes – Digital and Recording Devices.

UNIT VI: INDUSTRIAL INSTRUMENTATION

Measurement of Displacement (Linear and Angular), Force, Torque, Velocity, Acceleration, Vibration, Density, Viscosity, Humidity and Moisture, Measurement of Flow (Variable Head, Variable Area, Mass, Electromagnetic, Ultrasonic, Turbine and Open Channel Flow Meters) – Measurement of Level, pH, Temperature (Thermocouple, Bolometer, RTD, Thermistor, Pyrometer and Semiconductor) and Pressure – Universal Smart Transmitter.

UNIT VII: ANALYTICAL AND BIO-MEDICAL INSTRUMENTATION

Analytical Instruments: Spectrophotometers – Spectral Methods of Analysis – Source, Detectors and Applications – Ion Conductivity: Sampling System, Ion Selective Electrodes, Conductivity and pH meters – Gas Analyzers – Chromatography – NMR Spectroscopy – Mass Spectrometers – Dust and Smoke Measurements – Water Quality Analyzer.

Biomedical Instruments: Bio-potentials and their Measurement Techniques & Signal Conditioning Circuits – ECG, EEG, EMG and ERG - Medical Imaging Systems: X-Ray, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), Ultrasound.

UNIT VIII: CONTROL SYSTEMS

Modeling of Mechanical and Electrical Systems (First Principle, Transfer Function and State Space Models) -Block Diagram Reduction-Signal Flow Graphs-Time and Frequency Domain Analysis - Stability Analysis (Root Locus, Routh Hurwitz Criterion, Nyquist Stability Criterion) -Lead/Lag Compensators-Controllability and Observability.

UNIT IX: PROCESS CONTROL

Process Modeling: Level and Thermal Processes-Interacting and Non-Interacting Systems- Self regulation - Degrees of freedom - Characteristics of ON/OFF, PID Control Modes-PID Controller Tuning (Z-N, Cohen-Coon and Continuous Cycling)- PID Implementation Issues (Bumpless Transfer and Anti-reset Windup)- Control Valve Characteristics and Sizing- Control Schemes: Cascade, Feed-Forward, Ratio, Adaptive, Internal Model Controller and Model Predictive Control.

UNIT X: PLC, SCADA AND DCS

PLC: Architecture, I/O Modules, Programming Languages (Ladder Logic, Instruction List and Functional Block Diagram) -Internet of Things.

SCADA: RTU, Master Station and Communication Architectures.

DCS: Architecture, Local Control Unit, Field Control Unit, Operator and Engineering Human Interface Station, Displays – HART and Field Bus Communication Protocols.

9. FINANCIAL AND COST ACCOUNTANCY (Final)

CODE: 434

UNIT I: ACCOUNTING

- (i) Accounting Standards – GAAP - AS - applicability, interpretation, scope and compliance-IFRS- Ind AS 2, 10, 115, 16, 21, 20, 23, 37 & 38.
- (ii) Company Accounts - Presentation of Financial Statements as per Schedule III of Companies Act 2013 - Statement of Profit or Loss, Balance Sheet, Change in Equity, Cash flow statement
- (iii) Accounting of Banking, Electricity and Insurance Companies
- (iv) Accounting for Cooperative Societies
- (v) Branch and Departmental Accounts (including foreign branches)
- (vi) Accounting for non-profit organisations and incomplete records
- (vii) Computerised Accounting System (ERP features and advantages)

UNIT II: AUDITING

- (i) Nature and scope and significance of auditing
- (ii) Audit Engagement, Audit Programme, Audit working papers , Audit note book audit evidence and audit report
- (iii) Internal check, internal control and internal audit- industry specific
- (iv) Reporting requirements under companies act - report vs certificate, contents of the report and qualifications in the report.
- (v) Cost audit and Secretarial audit
- (vi) Auditing of different types of undertaking - education, hospitals, cooperative societies, trusts.

UNIT III: FINANCIAL MANAGEMENT

- (i) Meaning-objectives -scope of financial management
- (ii) Sources of Funds- Introduction of Financial Markets- Capital & Money Markets
- (iii) Tools for Financial Analysis - Ratio, Funds flow analysis, Cash flow analysis
- (iv) Cost of Capital, Capital Structure and Leverages
- (v) Working Capital Management- Financing - Cash, Inventory, Receivables and Payables
- (vi) Capital Budgeting.
- (vii) Risk Management - risk measurement- risk analysis- Value at Risk(VAR)- Capital Adequacy Norms & Income Recognition Norms (NPA) in NBFCs.

UNIT IV: TAXATION

- (i) Direct Taxation- Residential Status- Heads of Income and Computation of Total Income under various heads- assessment of income of different persons - TDS/TCS/Advance Tax- Income Computation and Disclosure standards (Basic Concepts only) - Taxation as applicable to Government undertaking and Cooperative Societies. Due dates and compliances. Effects of non compliance and penalty. Tax audit provisions under I.T. Act
- (ii) Indirect Taxation- Canons of Taxation- Customs Law - Goods and Services Tax (GST) - CGST- SGST-IGST- Cess - Registration - Supply- Time of Supply- Value of Supply- Place of Supply- E-Invoicing, E-Way Bill, Input tax credit- Reverse Charge Mechanism (RCM) - Payment of Taxes, Penalties.

UNIT V: COMMERCIAL LAW, INDUSTRIAL LAW AND COMPANY LAW

- (i) MSMED Act 2006.
- (ii) Laws and Regulations relating to Cyber Security and Data Protection.
- (iii) Factories Act
- (iv) Payment of Gratuity Act
- (v) Employees Provident Fund Act 1952
- (vi) Employees State Insurance Act 1948
- (vii) Payment of Bonus Act 1965
- (viii) Minimum Wages Act 1948
- (ix) Companies Act 2013-Promotion - Formation and related procedures – Types – Appointment and duties of Directors, Loans and Deposits, CSR, Salient features of Insolvency and Bankruptcy Code.

UNIT VI: MANAGEMENT ACCOUNTING

- (i) Introduction to Management Accounting - Relationship between Management accounting and cost accounting- Decision Making tools
- (ii) Analysis and Interpretation of Financial Statements
- (iii) Learning Curve - concepts and its application

UNIT VII: COST MANAGEMENT

- (i) Life Cycle costing
- (ii) Target Costing
- (iii) Kaizen Costing
- (iv) Value analysis and Engineering
- (v) Throughput Costing
- (vi) Business Process Re-engineering
- (vii) Back flush costing
- (viii) Activity Based Costing (ABC).

UNIT VIII: DECISION MAKING TECHNIQUES

- (i) Marginal Costing - CVP analysis - Profit Volume Graph- Decision involving alternative choices - Make or Buy; Evaluation of Orders; Multiple scarce: Product sales
- (ii) Pricing Decisions - New Product pricing- use of costs in pricing - sensitivity analysis - monopoly pricing - competitive pricing- Transfer pricing - Costing of Service Sectors
- (iii) Variance Analysis and Reporting- Material, Labour, Overheads, Turnover and Profit.

UNIT IX: PERFORMANCE EVALUATION AND IMPROVEMENT TOOLS

- (i) Balanced Score Card
- (ii) Supply Chain Management
- (iii) Key Performance Indicators (KPI) like ROI, Economic Value Added (EVA).
- (iv) Bench Marking
- (v) Six sigma, Statistical Quality Control
- (vi) Plan-Do-Check Action
- (vii) Management Information Systems (MIS)
- (viii) Total Productivity Management (TPM) and Total Quality Management (TQM)
- (ix) SWOT analysis
- (x) Profitability Analysis.

UNIT X: BUSINESS VALUATION

- (i) Meaning of Value, Valuation and Business Valuation
- (ii) Valuation Methods - Non Discounted cash flow method- Discounted Cash Flow Method - Free Cashflow Method, Net Present Value Method (NPV)- Profitability Index Method(PI) - Internal Rate of Return Method (IRR)
- (iii) Valuation of Inventory
- (iv) Valuation of Investments
- (v) Valuation of Intangibles
- (vi) Valuation of Human Resources
- (vii) Valuation of Equity

10. LIBRARY AND INFORMATION SCIENCE (PG Degree Standard)

CODE: 267

UNIT I: INFORMATION AND COMMUNICATION

- (i) Data, Information and Knowledge; Information – Notions; Information Theories
- (ii) Library – Social relevance; Types; Functions, Legislation.
- (iii) Information Transfer Cycle; Diffusion pattern; Communication – Theories and Models; Channels and Barriers to Communication
- (iv) Information / Memory institution of different kinds: Libraries, Archives, Documentation Centers, Information Analysis Centers, Museums and respective roles and functions.
- (v) Professional bodies and Association – UNESCO, IFLA, ALA, CILIP, ILA, IASLIC, IATLIS, etc

UNIT II: MANAGEMENT OF INFORMATION CENTRES

- (i) Management - Concept, Definition; Schools of Management Thought, functions of Management (POSDCORB).
- (ii) Human Resource Management - Organisation models; job description and job Analysis; selection, recruitment, training
- (iii) Financial Management: Planning and Control; Resource generation; Budget and Budgeting; Budgetary control techniques; Cost Benefit, Cost Effective analysis
- (iv) Materials Management: Collection development Policy; Issues – selection, acquisition; Library routines, Circulation, Preservation and conservation, Physical facilities - building and equipments, Marketing of information.
- (v) Planning – Concept, Definition Types; Systems Analysis and Design; Knowledge Management, total quality management, MBO and MIS

UNIT III: KNOWLEDGE ORGANISATION

- (i) Universe of Subjects; Modes of formation of Subjects; Knowledge Organization
- (ii) Classification- Various Schemes of Classification - CC, UDC, LC and DDC – Overview; BSO; General theory of classification; CRG; Cannons and Principles - Idea, Verbal and Notation planes; Facet analysis;
- (iii) Cataloguing - Purpose, Structure, Types – Inner and Physical forms; Normative Principles, Canons & Laws; Standards – ISBDs, AACR, RDA; FRBR
- (iv) Subject Cataloguing – Principles; Subject heading lists; Thesauri and Vocabulary control

- (v) Bibliographic formats – International Standards - ISO 2709, MARC21, UNIMARC, CCF and National formats. Metadata – Standards: Dublin Core, Mark up languages – HTML, XML, RDF

UNIT IV: INFORMATION SOURCES

- (i) Information Sources – Types – Documentary and Non documentary; Primary, Secondary and Tertiary; Electronic Sources of Information; Human and Institutional Sources; Invisible Colleges; Tehnological Gatekeepers
- (ii) Reference Sources - Ready Reference Sources – Types - Dictionaries, Encyclopedias, Annuals, Biographical sources, Handbooks and Manuals, Geographical Sources.
- (iii) Bibliographical Sources – Bibliographies; Union Catalogues; Indexing and Abstracting sources; News summaries;
- (iv) Web Resources - Subject Gateways and Portals; Databases – Bibliographical, Abstracting and Indexing; Full-text databases; Citation Databases
- (v) Evaluation of Information sources - Print and Web Resources; Multimedia; Open Access Resources

UNIT V: INFORMATION SYSTEM, PRODUCTS AND SERVICES

- (i) Information Systems - Concept, Purpose, and Types; Global & National Information Systems; MEDLARS, INIS, AGRIS, INSPEC, OCLC, ERONAT, NISCAIR, NASSDOC, Library Networks: INFLIBNET, DELNET, etc.
- (ii) Information Services- Users Education and Information Literacy; Douments Delivery, Translation; Current Awareness, SDI, E-Alert & Webbased Services
- (iii) Users of Information- Understanding the users; Categories of users and their needs; Information use contexts; Information seeking behaviour of users; Theories of Information seeking behaviour.
- (iv) Information Analysis and Consolidation Products and Services.
- (v) Use Studies; Methods of Users studies; Major information users and use studies and their findings

UNIT VI: INFORMATION STORAGE AND RETRIEVAL

- (i) Information Retrieval System – Concept, Definition, and Components
- (ii) Indexing systems – Pre-coordinate and Post-coordinate; General Theory of Subject Indexing; Keyword Indexing; Citation Indexing
- (iii) Information Retrieval Models – Boolean, Probabilistic, Cognitive and Vector Models; Alternative IR Models: algebraic and probabilistic models (Bayesian networks)
- (iv) Search and Searching - Search Process; Search strategies; Search engines
- (v) Evaluation of Information Retrieval Systems - Purpose, Criteria – Recall and Precision; Major Evaluation Studies – MEDLARS; SMART Retrieval; STAIRS, Project TREC.

UNIT VII: RESEARCH METHODS

- (i) Research - Concept, Definition, Objectives and Significance; Types; Research Problems
- (ii) Research Design – Definition, Need; Sampling; Hypothesis – Types and Testing
- (iii) Methods and Tools - Data collection - Survey, Experimental, Case-study, Observation, Questionnaire, Interview schedules.
- (iv) Introduction to Statistics; definition of statistical terms-population, sample, data and variables; frequency distributions; scales of measurement; presentation of data- graphical and tabular; frequency tables, histogram, frequency curves; correlation and regression analysis; measures of central tendency.
- (v) Report Writing – Components of a Research Report; Style manuals – MLA, APA, Chicago, Turabian.

UNIT VIII: INFORMATION TECHNOLOGY (IT) AND LIBRARY AUTOMATION

- (i) Information Technology – Concept – Definition - Evolution of Digital Computers; Introduction to Telecommunications; Number Systems: Binary, Octal, Hexadecimal, Representation of Numbers in Computers; Character Representation: ASCII, ISCII and UNICODE; File formats
- (ii) Basic components of a Computer – Arithmetic Logic Unit; Control Unit; Memory Unit – Static and Dynamic RAM, ROM, Cache memory; Input / Output devices
- (iii) Operating System- Linux, Windows; Fundamentals of Programming; Introduction to C programming; Object Oriented programming; Java, PHP
- (iv) Database Management System– Concepts, Functions; Integrity and Security issues
- (v) Library Automation - Overview of library automation software; Criteria for selection of software; and Hardware (including differently-abled); Open and Commercial LMS

UNIT IX: DIGITAL LIBRARIES

- (i) Digital Libraries - Concept and Definition; Historical development of Digital Libraries. Copyright and license issues.
- (ii) Digitization Process - Software, Hardware and Best practices; Scanners and Scanner types; OCR and OCR software
- (iii) Technology for DLs - Open source software - Open Standards and File formats; Harvesting metadata, OAI-PMH and DL Interoperability;
- (iv) Digital Library Architecture - Grid architecture; Open URL integration;
- (v) Digital Resources Management - Digital Preservation- Persistent identifiers – DOI and CNRI Handles; Multilingual digital repositories and Cross- language information retrieval

UNIT X: QUANTITATIVE TECHNIQUES AND INFORMETRICS

- (i) Informetrics - Genesis, Scope and Definition; Librametry, Bibliometrics, Scientometrics and Wbometrics
- (ii) Classical Bibliometrics laws - Zip's Law, Lotka's Law, Bradford's Law of Scattering; Generalized Bibliometrics distributions. 80-20 rule, Price's Law relating to scientific productivity; Analysis of use statistics.
- (iii) Growth and Obsolescence of literature - Various growth models; Aging factor and half-life: real vs. apparent; synchronous vs. diachronous.
- (iv) Citation analysis - Bibliographic Coupling and Co-citation Analysis
- (v) Bibliometric indicators: Impact factor, h-index, g-index,i-10;Mapping of Science; Citation Index.

11. MECHANICAL ENGINEERING / PRODUCTION ENGINEERING / MANUFACTURING ENGINEERING (Degree Standard)

CODE: 399

UNIT I: MECHANICS, KINETICS AND DYNAMICS

Statics of Particles, Equilibrium of Rigid bodies, Mechanism of Deformable Bodies, Properties of Surfaces and Solids, Centroid, Centre of Gravity, Dynamics of Particles, Elements of Rigid Body Dynamics, Basics of Mechanisms, Kinematics of mechanisms, gyroscope, Gears and Gear Trains, Fly Wheels and Governors, Balancing of Rotating and Reciprocating Masses, Friction in Machine Elements, Force Analysis, Balancing, Single Degree Free Vibration, Forced Vibration, mechanisms for Vibration Control, Effect of Damping, Vibration Isolation, Resonance, Critical Speed of Shaft.

UNIT II: STRENGTH OF MATERIALS AND DESIGN

Stress, Strain and Deformation of Solids, Combined Stresses, Theories of Failures, Transverse Loading on Beams, Stresses in Beams, Torsion, Deflection of Beams, Energy Principles, Thin Cylinders and Thick Cylinders, Spherical Shells, Fundamentals of Design for Strength and Stiffness of Machine Members, Design of Shafts and Couplings, Design for Static and Dynamic Loading, Design of Fasteners and Welded Joints, Reverted Joints, Design of Springs, Design of Bearings, Design of Flywheels, Design of Transmission Systems for Flexible Elements, Spur Gears and Parallel Axis Helical Gears, Bevel Gears, Worm Gears and Crossed Helical Gears, Design of single and two stage speed reducers, Design of cam, Clutches and Brakes, Design of Piston and Connecting Rods.

UNIT - III: FLUID MECHANICS AND TURBO MACHINERY

Fluid properties, fluid statics, manometry, buoyancy, control volume analysis of mass, momentum and energy, fluid acceleration, differential equations of continuity and momentum, Bernoulli's equation, Dimensional Analysis, viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends. Turbomachinery: Pelton wheel, Francis and Kaplan turbines - impulse and reaction principles – velocity diagrams, pumps and its applications-Valves and Types - Theory of Jet Propulsion- Pulse Jet – Ram Jet Engines, Online Continuous Flow Monitoring System.

UNIT IV: THERMAL ENGINEERING AND THERMODYNAMICS

Basic concepts, Zeroth, First and Second laws of thermodynamics, thermodynamic system and processes, Carnot cycle. irreversibility and availability, behaviour of ideal and real gases, thermodynamic

relations, properties of pure substances, calculation of work and heat in ideal processes, analysis of thermodynamic cycles related to energy conversion, Fuel and combustion, Fuels Characteristics, Emissions and Controls, Testing of IC Engine-Renewable sources of Energy.

Power Engineering: Steam Tables, Rankine, Brayton cycles with regeneration and reheat. I.C. Engines: air-standard Otto, Diesel cycles. Refrigeration and air-conditioning: Vapour refrigeration cycle, heat pumps, gas refrigeration, Reverse Brayton cycle; moist air: psychometric chart, basic psychometric processes.

UNIT V: HEAT AND MASS TRANSFER

Modes of heat transfer - one dimensional heat conduction, resistance concept, electrical analogy, unsteady heat conduction, fins dimensionless parameters in free and forced convective heat transfer, various correlations for heat transfer in flow over flat plates and through pipes, thermal boundary layer, effect of turbulence, radiative heat transfer, black and grey surfaces, shape factors, network analysis; heat exchanger performance, LMTD and NTU methods.

Basic Concepts of Mass transfer, Diffusion Mass Transfer, Fick's Law of Diffusion Steady state Molecular diffusion, Convective Mass Transfer, Momentum, Heat and Mass Transfer Analogy, Convective Mass Transfer Correlations, Radiative Heat Transfer.

UNIT VI: MATERIALS SCIENCE AND METALLURGY

Constitution of alloys and phase diagrams, Iron – Iron Carbide Phase Diagram - steels, cast iron, phase transformations- diffusion-TTT diagram, ferrous and nonferrous alloys, heat treatment of ferrous and non-ferrous metal, surface modification techniques, powder metallurgy, non-metallic materials, mechanical properties and testing, crystal defects and strengthening mechanisms, conducting and semi conducting materials, magnetic and dielectric materials, Engineering ceramics, Engineering and commodity polymers, composites, nano-materials.

UNIT VII: PRODUCTION TECHNOLOGY

Foundry Technology- types of pattern, cores, moulding and casting methods, Solidification, design of castings, defects, Melting Furnaces, Hot and Cold working, Metal Forming Processes - types, Defects and Remedies, Sheet Metal Operation, metal joining processes, types and design of weldment, welding metallurgy, welding defects, Casting, Welding Inspection (NDT), Manufacturing of Thermo Setting and Thermo Plastic Products, Metal cutting, Cutting Tool Nomenclature, Machinability machine tools - center lathe, drilling, milling, grinding, gear cutting and broaching, Machining Time Calculation, unconventional machining processes, Micro Manufacturing, CNC machine tools, Manual Part Programming - Machining and Turning Centre.

UNIT VIII: METROLOGY AND QUALITY CONTROL

Limits, Fits and Tolerance, Linear and angular measurements, Interferometry, laser interferometers - Types, Computer Aided Inspection, Basic concept of CMM - Types of CMM, Machine vision, Form measurement-Straightness- Flatness, Roundness, Surface finish measurement, contact and non-contact method, Measurement of power, flow and temperature. Statistical quality control, control charts, acceptance sampling, reliability, TQM, 5S, ISO standards.

UNIT IX: CAD / CAM / CIM / FEA

Fundamentals of Computer Graphics, Geometric Modeling, Visual Realism, Assembly of Parts, CAD Standards, Fundamentals of CIM, Production Planning and Control, Computer Aided Process Planning, Cellular Manufacturing, Flexible Manufacturing System and Automated Guided Vehicle System, Group Technology, Production Flow Analysis, Industrial Robotics, Additive Manufacturing, Just in Time(JIT), lean manufacturing, One Dimensional Problems in FEA, Two Dimensional Scalar Variable Problems, Two dimensional vector variable problems, Isometric Parametric Formulation.

UNIT X: INDUSTRIAL ENGINEERING AND MANAGEMENT

Work study - Techniques, Method study and work measurements - objectives - basic procedure, machine loading and scheduling, product sequencing, inventory control - E O Q - quantity discounts, ABC Analysis material handling systems, operations research, Linear Programming, simplex method, Transportation model, Assignment model CPM and PERT, Queuing Models. Management theory and practice, planning - Decision making, Organising, staffing, Motivation, Leadership, controlling, control techniques, Industrial Safety - Standards – OSHA.

12. TAMIL LANGUAGE AND LITERATURE
(PG Degree Standard)

CODE: 331

அலகு 1:

மொழியின் தோற்றமும் வளர்ச்சியும் - பேச்சு வழக்கு எழுத்து வழக்கு, என்னும் மொழியின் இருவகை நிலை - காலம்தோறும் எழுத்து வளர்ச்சி - மொழிக்குடும்பம் - திராவிட மொழிகள் - திருந்திய மொழிகள், திருந்தா மொழிகள் கிளைமொழிகள் தமிழில் பிறமொழிக் கலப்பு -வடமொழி, ஆங்கிலம் பிறமொழிகளில் தமிழின் செல்வாக்கு - தமிழின் தனித்தன்மை.

அலகு 2:

தமிழில் உள்ள எழுத்துக்களும் அவற்றின் வகைகளும் - முதல் எழுத்து, சார்பெழுத்து உயிரெழுத்து, மெய்யெழுத்து அவற்றின் வகைகள் - ஒலியன் - சொல்லும் சொல்லின் வகைகளும் பெயர், வினை, இடை, உரி உருபன் - வேற்றுமை, வேற்றுமை உருபுகள் வினை, வினை வகைகள் - மூவிடம், பால்காட்டும் விசுதிகள் சந்தி இலக்கணம்.

அலகு 3:

பொருளிலக்கணம் - அகப்பொருள், புறப்பொருள் - திணையும் துறையும் - அகத்திணை 7 - புறத்திணை 7 - இருவகை கைகோள்- களவு, கற்பு - முதற்பொருள், கருப்பொருள், உரிப்பொருள் - இரவுக்குறி, பகற்குறி உடன்போக்கு, அறத்தொடு நிறை, வெறியாட்டு - போர்மறம் விழுப்புண்படல் - புறமுதுகிடாமை - கொடை விருந்தோம்பல் - புரவலர், புலவர் உறவு.

அலகு 4:

யாப்பு - பா வடிவங்கள் - ஆசிரியப்பா, வெண்பா, வஞ்சிப்பா, கலிப்பா, பிற - இலக்கணமற்ற புதுக்கவிதைப் போக்கு - அணிநலன் உவமை அணி, உருவக அணி, வஞ்சப்புக்கச்சி அணி, தற்குறிப்பேற்ற அணி, சொற்பொருள் பின்வருநிலை அணி - பொருள்கோள் வகைகள்,

அலகு 5:

இலக்கண நூல்கள் - தொல்காப்பியம் - நன்னூல் - யாப்பருங்கலக்காரிகை - தண்டியலங்காரம் - நம்பியகப்பொருள் - புறப்பொருள் வெண்பாமாலை - வீரசோழியம் நேமிநாதம்.

அலகு 6:

சங்க இலக்கியம் - எட்டுத்தொகை, பத்துப்பாட்டு - அக இலக்கியம், புற இலக்கியம் - ஆற்றுப்படை நூல்கள் - தொகுப்பு முயற்சி முச்சங்கம் குறித்த செய்திகள் - சங்க இலக்கியத் தொன்மையும் சிறப்பும், முத்தொள்ளாயிரம்.

அலகு 7:

அற இலக்கியம் - திருக்குறள், நாலடியார், ஒளவையாரின் நூல்கள் - குமரகுருபரரின் நீதிநெறி விளக்கம் பாரதியாரின் ஆத்திச்சூடி

அலகு 8:

காப்பிய இலக்கியம் - ஐம்பெருங்காப்பியம், ஐஞ்சிறு காப்பியம் - சிலப்பதிகாரம். மணிமேகலை, சீவகசிந்தாமணி, கம்பராமாயணம், பெரியபுராணம், சீராப்புராணம், தேம்பாவணி.

அலகு 9:

பக்தி இலக்கியமும் சிற்றிலக்கியமும் - பன்னிரு திருமுறைகள், நாலாயிர திவ்ய பிரபந்தங்கள் - திருப்புகழ் - நந்திக் கலம்பகம் - மீனாட்சியம்மை பிள்ளைத்தமிழ் - குற்றாலக் குறவஞ்சி - அழகர் கிள்ளைவிடு தூது - முக்கூடற்பள்ளு - திருவருட்பா - மஸ்தான் சாகிப்புாடல்கள் - இரட்சணிய யாத்திரிகம்

அலகு 10:

புதினம் - தோற்றம் வளர்ச்சி - மாயூரம் வேதநாயகம் பிள்ளை, நா.பார்த்தசாரதி, தி.ஜானகிராமன், ஜெயகாந்தன், சுந்தர ராமசாமி, பாலகுமாரன், ஆ.மாதவன், இராஜம் கிருஷ்ணன், இந்திரா பார்த்தசாரதி, அசோகமித்திரன், சோ.தர்மன், ஜெயமோகன், எஸ்.இராமகிருஷ்ணன், வண்ணநிலவன், நீலபத்மநாபன், பூ.மணி, நாஞ்சில் நாடன், பிரபஞ்சன், ஆதவன், சுஜாதா, தோப்பில் முகமதுமீரான், மேலாண்மை பொன்னுசாமி, வாஸந்தி, தமிழவன், சாரு நிவேதிதா, சுப்பரபாரதி மணியன், தமிழ்ச்செல்வி, ஜோ.டி.குருஸ்,பாமா உள்ளிட்ட இக்காலப் படைப்பாளர்கள் வரை.

சிறுகதை - தோற்றம், வளர்ச்சி - வ.வே.சு. ஐயர், புதுமைப்பித்தன், கு.பரா., மௌனி, ந.பிச்சமுர்த்தி, அகிலன், கிராஜநாராயணன், ராமாமிர்தம், நகுலன், அசோகமித்திரன், ஜெயகாந்தன், பிரமிள், கோணங்கி, தமிழ்ச்செல்வன், நாஞ்சில் நாடன், பாவண்ணன், பிரேம்ரமேஷ், சா.கந்தசாமி, பிரபஞ்சன், மாலன், இந்திரா பார்த்தசாரதி. கந்தர்வன், அம்பை, சூடாமணி, தமிழ்ச்செல்லி, சிவகாமி, பெருமாள் முருகன், உள்ளிட்ட இக்காலப் படைப்பாளர்கள் வரை.

மரபுக்கவிதை - பாரதியார், பாரதிதாசன், கவிமணி, நாமக்கல் கவிஞர், வாணிதாசன், தமிழ் ஒளி, கம்பதாசன், கண்ணதாசன், சுரதா. பெருஞ்சித்திரனார் உள்ளிட்ட படைப்பாளர்கள் வரை.

புதுக்கவிதை - மீரா, மேத்தா, அப்துல் ரகுமான், ஈரோடு தமிழன்பன், சிற்பி, வைரமுத்து, அறிவுமதி, கலாப்பிரியா, கனிமொழி, தமிழ்ச்சி, புவியரசு, குட்டிரேவதி, மனுஷ்யபுத்திரன் உள்ளிட்ட படைப்பாளர்கள் வரை.

நாடக இலக்கியம் - சங்கரதாஸ் சுவாமிகள், பம்மல் சம்பந்த முதலியார், இந்திரா பார்த்தசாரதி முதலியோர்

உரையாசிரியர்களும் உரைநடை வளர்ச்சியும் - உரையாசிரியர்கள் உரைநடை - ஆறுமுக நாவலர் - உ.வே. சாமிநாத ஐயர் - வ.வே.சு. ஐயர் - மறைமலை அடிகள் - திருவிக - ரா.பி. சேதுபிள்ளை - எஸ்.வையாபுரிப் பிள்ளை, பண்டிதமணி மு.கதிரேசனார் - தெ.பொ.மீ, மு.வ, வ.சுப, மாணிக்கம், பெருஞ்சித்திரனார், பாவாணர், சாமி சிதம்பரனார், நா.வானமாமலை, தொ.மு.சி. இரகுநாதன், க.நா.சு.

மொழிபெயர்ப்பு இலக்கியம் - மொழிபெயர்ப்புச் சிக்கல்கள் - மலையாள தமிழ் மொழிபெயர்ப்பு இலக்கியங்கள் ஆங்கில தமிழ் மொழிபெயர்ப்பு இலக்கியங்கள்

நாட்டுப்புற இலக்கியம் - நாட்டுப்புறக் கதைகள், பாடல்கள், நம்பிக்கைகள்

ஊடகவியல் - இதழியல் தமிழ் மொழி வளர்ச்சியில் இதழ்களின் பங்களிப்பு - மணிக்கொடி - எழுத்து - முதலிய இலக்கிய இதழ்கள், சிற்றிதழ்கள்.

Annexure IV

Instructions to be followed by candidates while appearing for examination

1. General Instructions

1.1. Candidates shall present themselves at the examination venue with the memorandum of admission (hall ticket) downloaded from the Commission's website, failing which, they shall not be allowed to write the examination. Candidates shall also bring with them, a photocopy of their Aadhaar card / Passport / Driving Licence / Permanent Account Number (PAN) card / Voter ID card.

1.2. Candidates must appear for the examination at the venue they have been allotted, as mentioned in the memorandum of admission (hall ticket). Change of venue will not be permitted. No candidate, without prior approval, shall be allowed to appear for the examination at a venue other than the one originally allotted.

1.3. Candidates may be subjected to frisking at the examination venue, if required, with the assistance of male / female police personnel or any authorized persons, as the case may be.

1.4. Candidates are advised, in their own interest, not to bring any of the banned items including mobile phones to the venue of the examination, as arrangements for safekeeping of the same cannot be assured.

1.5. Parents and others who accompany the candidates will not be permitted inside the examination venue.

1.6. If the photograph of the candidate in the memorandum of admission (hall ticket) is not printed or not clear or does not match with candidate's appearance, he / she should furnish a separate photograph affixed on a plain paper, along with his name, address, register number and signature along with a copy of the memorandum of admission (hall ticket) and a copy of Aadhaar card / Passport / Driving Licence / Permanent Account Number (PAN) card / Voter ID card, to the Chief Invigilator, who shall countersign it.

1.7. The ID proof in original, should also be shown to the room invigilator for verification. The room invigilator upon verification of the identity of the candidate, shall obtain an undertaking as to the genuineness of the candidate and to the effect that he / she is aware that he / she is liable to any criminal / penal action initiated by the Commission, if the information furnished is found to be incorrect at a later date. The undertaking shall then be handed over to the Chief Invigilator.

1.8. In order to facilitate verification of the identity of the candidates and explanation of the procedures pertaining to the examination, the candidates shall present themselves at the examination venue one hour before the time scheduled for the commencement of the examination.

1.9. All gates serving as entry into the examination venue shall be closed thirty minutes before the commencement of the examination and no one shall be allowed into the venue thereafter. (e.g., in case of forenoon session, for an examination scheduled to commence at 09.30 am, the candidates should present themselves at 09.00 am in the examination venue. In case of afternoon session, for an examination scheduled to commence at 02.00 pm, the candidates should present themselves at 01.30 pm. After that no candidate shall be permitted to enter the premises of the examination venue).

1.10. In case of examinations to be held in both forenoon and afternoon sessions, the reporting time for the afternoon session shall also be thirty minutes before the commencement of the examination and no one shall be allowed into the venue thereafter.

1.11. In case of extraordinary circumstances, like pandemic conditions, etc., the procedures / precautions prescribed (e.g., use of sanitizer and face mask, practicing social distancing) shall be adhered to.

1.12. Candidates must show the memorandum of admission (hall ticket) to the Invigilator / Chief Invigilator / inspection authorities / any authorized persons of the examination hall, on demand, for verification.

1.13. Candidates must ensure that the Room Invigilator signs in the memorandum of admission (hall ticket). The memorandum of admission should be preserved carefully and retained permanently. The memorandum of admission should be produced if shortlisted for the next stage of selection / whenever sought for by the Commission.

1.14. The memorandum of admission may also be photocopied, as a precaution, after the exam is over.

1.15. No duplicate memorandum of admission (hall ticket) will be issued later.

1.16. Candidates should maintain strict discipline not only in the examination room, but also inside the campus of the examination venue. Candidates found smoking / intoxicated, or found to have entered into a quarrel of any kind, or to have misbehaved with the Chief Invigilator or with the inspection authorities or with the invigilator or with any other candidate either in the examination hall or inside the campus of the examination venue, either before, during or after the examination, are liable to invalidation of answer sheet and debarment for any period the Commission may deem fit, as well as appropriate criminal action.

1.17. Water, tea, coffee, snacks, soft drinks, etc., will not be allowed inside the examination venue.

1.18. Candidates suffering from serious health issues, may, with the consent of the Chief Invigilator, deposit medication or other medical requirements on the room invigilator's table for use if needed.

1.19. The candidates shall compulsorily be seated in the examination room thirty minutes before the time scheduled for the commencement of the examination.

1.20. Candidate should appear for all the papers in the examination for his / her answers to be evaluated and in case the candidate absents himself / herself for any of the papers, the papers attended will not be evaluated.

2. Computer Based Test (CBT) Examination

2.1. The Registration for the examination shall start one hour before the time scheduled for the commencement of the examination. Further, the candidates should present themselves at the examination venue 30 minutes before the time scheduled for the commencement of examination and no one shall be allowed into the venue thereafter.

2.2. Each candidate will be assigned a Computer to take up the examination.

2.3. No computer knowledge is required to take up the Computer Based Test. Knowledge in Mouse operation would suffice to take up the Computer Based Test.

2.4. Candidates will be provided with a user name and password to login the system.

2.5. Use the keyboard only to key – in the Register Number, User id (registration id) and password.

2.6. Necessary instructions will be displayed on the screen. Kindly read all the instructions carefully and follow the instructions without fail.

2.7. In case of doubt in the questions and answers, English version is the final.

2.8. In Computer Based Test, questions with five options each will be displayed in the computer screen.

2.9. The Question and optional answers will be shuffled randomly and displayed to the candidate.

- 2.10. Candidates will be provided with a paper for doing rough work. After closure of the examination, rough sheet will be collected.
- 2.11. Candidate has to click the best answer to the question. Candidates can proceed to the next question by clicking next button or previous question by clicking previous button.
- 2.12. Candidate can use only the mouse to select the correct answers and proceed with answering the questions.
- 2.13. Candidates can recheck his / her answers and if he / she feels to correct the answers, it can be done at any time before the closure of examination. They can skip the questions also, if they desire so.
- 2.14. Candidate can submit their answers at any time during the examination.
- 2.15. If he / she wants to close the examination, he / she shall remain in the seat till the completion of the scheduled time of examination.
- 2.16. Once the entire answers are submitted, the candidates have no option to proceed further.
- 2.17. If the candidates fail to submit their answers, the system will automatically submit the answers to the server, at the closure of the examination.
- 2.18. The question and answers can be zoomed to the required level for the candidates with visual impairment.
- 2.19. Candidates have to sign the attendance sheet and affix thumb impression for verification of his / her identity.
- 2.20. All the activities of the candidates with the mouse will be recorded in the server and a log file will be created for future reference.
- 2.21. The Examination Hall will be under camera surveillance.
- 2.22. To acquaint with the operation of Mouse and the CBT, the candidates can take up the mock test available in the Commission's website (www.tnpsc.gov.in) and they can practice the usage of mouse in the mock test. Mock test is similar to the CBT to be held on the day of examination. In the Mock test, all the steps are given similar to the CBT. Candidates can practice the mock test as many times as he / she likes.
- 2.23. Answer sheet answered other than the subject opted by the candidate in the online application / specified in the Hall Ticket will be invalidated.
- 2.24. One question will be displayed on the screen at a time.
- 2.25. Time available for the candidate to complete the examination will be displayed through a countdown timer in the top right-hand corner of the screen. It will display the remaining time as Time Left. (For example: if duration of examination is 3 hours, at the beginning of exam, timer will show 180 minutes and for Differently Abled candidates with scribe / without scribe 240 minutes, which will reduce gradually with passage of time). When the timer reaches zero, the examination will end by itself and the examination will be submitted by the system automatically.
- 2.26. Question Number Box: 1. Question Number Box displayed on the right side of the screen will show the status of each question using one of the following symbols:

 1 You have not visited the question yet.

 2 You have not answered the question.

 3 You have answered the question.

 4 You have NOT answered the question, but have marked the question for review.

 5 You have answered the question and marked for review. This will be considered for evaluation.

The 'Marked for Review' status for a question simply indicates that you would like to look at that question again.

You can click on the ">" arrow which appears to the left of question number box to minimize the question number box. This will enable you to view the question on a bigger area of the screen. To view the question number box again, you can click on "<" arrow which appears on the right side of the screen.

You can click on  to navigate to the bottom and  to navigate to the top of the question area, without scrolling.

2.27. The summary of number of questions answered, not answered, not visited, marked for review and answered and marked for review will be displayed above the question number box.

2.28. The questions will appear on the screen in ascending order, which can be answered one by one.

2.29. To select your answer of a question, click on the button of one of the options.

2.30. Click on Save and Next button after answering every question to save your answer. Otherwise your answer will not be saved.

2.31. To deselect your chosen answer, click on the button of the chosen option again or click on the Clear Response button.

2.32. Instruction for enlarging images, to view the image provided in the question in a bigger size, click on the image and rotate the scrolling wheel on the mouse.

2.33. Any attempt of malpractice found, will render you liable to such penal action as the Commission may decide.

3. Other Instructions

3.1. Borrowing of any material, instruments from other candidates is strictly prohibited. Candidates shall use only their own pens and specifically permitted material.

3.2. Candidates shall not be allowed to exceed the time allotted for answering the paper, for any reason.

3.3. Tentative answer keys will be hosted in the Commission's website within fifteen working days from the date of conduct of objective type examination. Instructions available in the Para 17 D (iv) of Instructions to Applicants are not applicable to this recruitment. Candidates can challenge the tentative answer keys of the objective type examination through the 'Answer Key Challenge' window available in the Commission's website [Recruitment → Answer Keys]. Representations, if any, challenging the tentative answer keys shall be submitted only through online mode within seven days from the date of publication of tentative answer keys. Representations received by post or e-mail will receive no attention.

3.4. Detailed instructions, procedures to challenge the tentative answer keys have been made available in the Commission's website. Representations made online/offline after the closure of the window will also receive no attention.

3.5. The challenges submitted on time, through the online mode, shall be referred to a committee comprising of experts in each subject. The decision on the final answer key shall be made, based on the recommendations of the expert committee and paper evaluation shall commence thereafter.

3.6. The Commission shall not publish the final answer key until the completion of the entire selection process.

3.7. After conclusion of the entire selection process, relevant particulars of all candidates who had applied for recruitment to the post shall be made available on the Commission's website.

4. Special Instructions for Persons with Benchmark Disabilities, Usage of scribes

4.1. Candidates with benchmark disability, shall be permitted to utilize the services of a scribe upon making such request in the online application subject to the following conditions. Request for scribe made after the submission of application or on the date of examination will receive no attention.

4.1.1. Candidate with benchmark disability in the category of blindness, locomotor disability (both arm affected) and cerebral palsy the facility of scribe shall be given.

4.1.2. In case of other category of disability, the provision of scribe can be allowed on production of a certificate from the Chief Medical Officer / Civil Surgeon / Medical Superintendent of a Government Health care institution if so desired by that candidate. The format of the certificate is given below:

Certificate

This is certify that I have examined Mr/Ms/Mrs. _____

_____ (Name of the candidate with disability) a person

with _____ (Nature and percentage of disability as

mentioned in the certificate of disability), S/o/D/o

_____ A resident of

_____ (Village / District / State and to state that He/She has

physical limitation which hampers his / her writing capabilities owing to his / her disability.

Due to the above mentioned disability following concession may be given:-

1. Exemption from Tamil / Second Language.
2. Extra ____ hours for writing theory exam.
3. Allocation of a scribe.
4. Over looking spelling mistakes and grammatical errors.
5. Using calculator/assistive devices
6. _____ (Any other assistive devices or concessions).

*strike out the non applicable.

Signature

(Name of Government Hospital/ Civil Surgeon/ Medical Superintendent/ Signature of the notified Medical Authority of a Government Health Care Institution)

Name & Designation

Name of Government Hospital/ Health Care Centre/ The notified Medical Authority

Place:

Date:

Signature / Thumb impression of the Differently Abled Person

(Photo of the Differently Abled Person and Stamp to be fixed here)

Note:

Certificate should be given by a specialist of the relevant stream / disability (e.g. Visual Impairment–Ophthalmologist, Locomotor disability–Orthopedic Specialist / PMR etc.,)

4.1.3. The Commission will arrange for scribes and the fee amount to be paid to the scribes will be met by the Commission. Candidates availing of the services of the scribes need not pay any fee to them.

4.2. All candidates with benchmark disability, availing of the services of the scribes while appearing for the written examination will be seated in a separate room in the ground floor, in close vicinity to the Chief Invigilator's control room and under the close supervision of the Chief Invigilator.

4.3. Visually disabled / orthopedically disabled candidates who have been permitted to use scribe facility, who are unable to affix their signature, may affix their left hand thumb impression alone.

4.4. Candidates who are unable to use their left hand, must affix right hand thumb impression.

4.5. Candidates who are unable to use both hands, and who have been permitted to use scribe, may leave the signature and thumb impression columns blank.

4.6. Compensatory time of not less than 20 minutes per hour of examination will be allowed to candidates with benchmark disability, who have physical limitation to write including that of speed and who are utilizing the services of a scribe.

4.7. All candidates with disability who have physical limitation with regard to writing including that of speed and not availing the services of a scribe will be allowed additional time of a minimum of one hour for an examination of three hours duration which could further be increased on a case-to-case basis.

4.8. All persons with benchmark disability, who are unable to climb the staircase, will be allowed to write the examination in a room in the ground floor, in close vicinity to the Chief Invigilators control room.

5. Criminal Action: Criminal action will be initiated against the candidates for the following violations;

5.1. Misbehaviour and indiscipline in the examination hall. Candidates should maintain strict discipline not only in the examination room, but also inside the campus of the examination venue. Candidates found smoking / intoxicated, or found to have entered into a quarrel of any kind, or to have misbehaved with the Chief Invigilator or with the inspection authorities or with the invigilator or with any other candidate either in the examination hall or inside the campus of the examination venue, either before, during or after the examination, are liable to debarment for any period the Commission may deem fit, as well as appropriate criminal action.

5.2. Indulging in any type of malpractice, including impersonation and resorting to unfair means within the examination hall or outside will lead to debarment for any period deemed fit by the Commission, besides initiation of criminal action.

5.3. Debarment for such period as the Commission may deem fit will be imposed on candidates resorting to any kind of irregularity or malpractice within / outside the examination hall including:

- a. Consulting with / copying from another candidate in the examination hall.
- b. Copying from books or notes which are printed / typewritten / handwritten.
- c. Seeking the help / assistance of any official / hall supervisor in answering questions in examination hall.
- d. Possession of electronic devices such as cellular phones, pager, watches and rings with in-built memory notes, Bluetooth devices, communication chip, other electronic devices and non-electronic devices such as P&G design data book, books, notes, handbags, other non-permitted materials, etc.

5.4. Violation of any one or more of the instructions contained in the Commission's Instructions to Applicants / instructions printed on the memorandum of admission (hall ticket) shall also make the candidate liable to debarment, either permanently or for such period as the Commission deems fit, and/or rejection of candidature after due process and /or invalidation of answer sheet and/or any other penalty, as decided by the Commission.

5.5. Debarment: The period for which candidates shall be debarred from appearing for the examinations / participating in the recruitment processes conducted by the Commission, for the offences committed by the candidates are given below. Besides debarment, the candidate shall also be liable to rejection of candidature after due process, invalidation of answer papers, as the case may be. Criminal action may also be initiated against such candidates wherever indicated.

S. No	Nature of Offence	Period of Debarment
1	Attempts to influence the Chairman, Members of the Commission, Secretary, Controller of Examinations or any officer or staff of the Commission, personally / by letter / through relatives, friends, patrons, officials or other persons.	Three Years
2	Production of bogus community / destitute widow / differently abled / ex-serviceman / transgender / person studied in Tamil medium certificates, etc. Tampering or alteration in the documents or certificates.	Permanent, Initiation of criminal action
3	Suppression of material information, at any stage of the selection process, regarding: (i) Previous appearances or availing free chances. (ii) Regular / temporary employment in Government or Quasi-Government organizations, local bodies, public sector undertakings, statutory bodies, public corporations, Universities, etc., (iii) Criminal cases, arrests, convictions, disciplinary proceedings, etc. (iv) Debarment or disqualification by Union Public Service Commission / State Public Service Commissions / other agencies	One Year
4	Possession of electronic devices such as cellular phones, watches and rings with in-built memory notes, Bluetooth devices, communication chip, any other electronic devices inside the examination room and also seeking the help of / assistance of any official / invigilator / any outsider in answering question	Permanent
5	Possession of non-electronic devices such as P&G Design Data Book, books, notes, guides, handbags, other non-permitted materials, etc. inside the examination room.	Three Years
6	Consulting with other candidates, copying from other candidates, permitting others to copy from his / her answer paper, copying from books or notes which are printed / typewritten / hand written, etc.	Three Years

7	In addition to the offences listed herein, the involvement of candidates in any indiscipline or irregular practices within / outside the examination room.	Three Years
8	Candidates found smoking / intoxicated, or found to have entered into a quarrel of any kind, or to have misbehaved with the Chief Invigilator or with the inspection authorities or with the invigilator or with any other candidate either in the examination hall or inside the campus of the examination venue, either before, during or after the examination.	Three Years
9	Indulging in grave malpractices, including impersonation, amounting to subversion of the conduct of examination.	Permanent, Initiation of criminal action

Annexure V

Forms for Experience Certificates

1. Experience Certificate for the post of Automobile Engineer in the Motor Vehicle Maintenance Department (Post Code: 1788)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Whether the employee possesses experience in administration of an office and management of Automobile workshops connected with maintenance and upkeep of motor vehicles	Yes / No
8.	Period of Experience	From ____ (date) To ____ (date)
9.	Total Experience (YY/MM/DD)	__ years __ months __ days
10.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
11.	Name of the Organisation / Institution	
12.	Type of Organisation/ Institution [Firm/ Workshop/ Company/ Government Department/ Public Sector Undertaking]	
13.	Address of the Organisation / Institution	
14.	Phone No. and Email ID of the Organisation / Institution	
15.	Whether the said Organisation/ Institution registered under the Factories Act 1948 (Central Act LXIII of 1948)	
16.	Registration Number of Organisation/ Institution (Under Factories Act, 1948)	
17.	Whether the employee possesses valid driving licence LMV/HMV	Yes/No

This is to certify that Thiru/Tmt./Selvi possesses the said experience as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them

2. Experience Certificate for the post of Assistant General Manager (Projects) Investment, Tamil Nadu Industrial Development Corporation (Post Code: 3343)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___ years ___ months ___ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation/ Institution	
11.	Type of Organisation/ Institution	
12.	Address of the Organisation/ Institution	
13.	Phone No. and Email ID of the Organisation/ Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in evaluating financial models, business plans for infrastructure models as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
 Name & Designation of the
 Head of Organisation/ Institution /
 Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The competent authority who issues the certificate is cautioned that issuing of any certificate containing false details will lead to legal /penal action on them.

3. Experience Certificate for the post of Assistant General Manager (Finance) in the State Industries Promotion Corporation of Tamil Nadu Limited (Post Code :3373)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Whether the employee possesses experience in independent senior capacity	Yes / No
8.	Period of Experience in independent senior capacity	From ____ (date) To ____ (date)
9.	Total Experience (YY/MM/DD) in independent senior capacity	___ years ___ months ___ days
10.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
11.	Name of the Organisation / Institution	
12.	Type of Organisation / Institution [Reputed Industrial or Commercial concern/Financial Institution]	
13.	Address of the Organisation / Institution	
14.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses the experience in independent senior capacity as stated above in this Bank / Financial Institution / Reputed industrial / Commercial concern as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
 Name & Designation of the
 Head of Organisation / Institution /
 Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

4. Experience Certificate for the post of College Librarian, Higher Education Department (Post Code: 3004)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	__ years __ months __ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Whether Library Automation software is being used in the Library?	Yes / No
11.	Name of the Organisation/ Institution	
12.	Type of Organisation/ Institution (State Government / Central Government / Quasi Government / PSU / Private)	
13.	Address of the Organisation/ Institution	
14.	Phone No. and Email ID of the Organisation/ Institution	

This is to certify that Thiru/Tmt./Selvi possesses above said experience as a Librarian or Assistant Librarian or Library Assistant or Cataloger in the library, (the library automation software is being used in this library) as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
 Name & Designation of the
 Head of Organisation/ Institution /
 Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The competent authority who issues the certificate is cautioned that issuing of any certificate containing false details will lead to legal /penal action on them.

5. Experience Certificate for the post of College Librarian, Law Department (Post Code: 3003)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	__ years __ months __ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10	Whether Library Automation software is being used in the Library?	Yes / No
11.	Name of the Organisation/ Institution	
12.	Type of Organisation/ Institution (State Government / Central Government / Quasi Government / PSU / Private)	
13.	Address of the Organisation/ Institution	
14.	Phone No. and Email ID of the Organisation/ Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience as a Librarian or Assistant Librarian or Library Assistant or Cataloger in the library, (the library automation software is being used in this library) as on the date of notification (i.e., 30.08.2024)
The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
 Name & Designation of the
 Head of Organisation/ Institution /
 Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The competent authority who issues the certificate is cautioned that issuing of any certificate containing false details will lead to legal /penal action on them.

6. Experience Certificate for the post of Unit Head - Deputy General Manager Cadre in the Tamil Nadu Cement Corporation Limited (Post Code: 3389)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	a) Total Experience (YY/MM/DD)	__ years __ months __ days
	b) Experience in Senior position	__ years __ months __ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses the said total experience in one million ton capacity cement plant of which ____ years of experience in senior position as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

7. Experience Certificate for the post of Manager (Mechanical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3390)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

8. Experience Certificate for the post of Deputy Manager (Mechanical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3395)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___years ___months ___days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

9. Experience Certificate for the post of Deputy Manager (Safety) in the Tamil Nadu Cement Corporation Limited (Post Code: 3399)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Industrial Safety	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution [Factory / Industry / Government Department / Public Sector Undertaking]	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in the field of Industrial Safety as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

10. Experience Certificate for the post of Deputy Manager (Materials) In the Tamil Nadu Cement Corporation Limited (Post Code: 3400)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Materials inventory	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution [Factory / Industry / Government Department / Public Sector Undertaking]	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in the field of Materials inventory as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

11. Experience Certificate for the post of Assistant Manager (Materials) in the Tamil Nadu Cement Corporation Limited (Post Code: 3401)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Materials inventory	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___ years ___ months ___ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution [Factory / Industry / Government Department / Public Sector Undertaking]	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in the field of Materials inventory as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

12. Experience Certificate for the post of Assistant Manager (Technical - Mechanical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3402)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___ years ___ months ___ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

13. Experience Certificate for the post of Assistant Manager (Civil) in the Tamil Nadu Cement Corporation Limited (Post Code: 3403)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Civil Engineering	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in the field of Civil Engineering as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

14. Experience Certificate for the post of Manager (Electrical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3392)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___ years ___ months ___ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

15. Experience Certificate for the post of Deputy Manager (Electrical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3396)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	__ years __ months __ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
 Name & Designation of the
 Head of Organisation / Institution /
 Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

16. Experience Certificate for the post of Deputy Manager (Instrumental) in the Tamil Nadu Cement Corporation Limited (Post Code: 3397)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in one million ton capacity Cement Plant	From ____ (date) To ____ (date)
8.	Total Experience (YY/MM/DD)	___years ___months ___days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Address of the Organisation / Institution	
12.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in one million ton capacity Cement Plant as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

17. Experience Certificate for the post of Manager (Chemical) in the Tamil Nadu Cement Corporation Limited (Post Code: 3391)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in Modern Cement Plant	From ____ (date) To ____ (date)
8.	a) Total Experience (YY/MM/DD)	____ years ____ months ____ days
	b) Experience as Departmental Head	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in Modern Cement Plant of which ____ years as departmental head as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

18. Experience Certificate for the post of Assistant Manager (Marketing) in the Tamil Nadu Cement Corporation Limited (Post Code: 3405)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Marketing	From ____ (date) To ____ (date)
8.	a) Total Experience (YY/MM/DD)	____ years ____ months ____ days
	b) Experience of Junior Managerial position	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses the said experience in the field of Marketing with ____ years experience in junior managerial position as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

19. Experience Certificate for the post of Manager (Marketing) in the Tamil Nadu Cement Corporation Limited (Post Code: 3394)

1.	Name of the Employee	
2.	Father / Spouse Name	
3.	Date of Birth	
4.	Qualification possessed by the Employee on the date of joining service	
5.	Designation of the Employee	
6.	Nature of the Work / Duty performed by the Employee (To be mentioned in brief)	
7.	Period of Experience in the field of Marketing	From ____ (date) To ____ (date)
8.	a) Total Experience (YY/MM/DD)	____ years ____ months ____ days
	b) Experience in Middle Managerial Level	____ years ____ months ____ days
9.	Whether Attendance Register / Attendance Rolls / Pay Register and other records available for this Employee	Yes / No
10.	Name of the Organisation / Institution	
11.	Type of Organisation/ Institution	
12.	Address of the Organisation / Institution	
13.	Phone No. and Email ID of the Organisation / Institution	

This is to certify that Thiru/Tmt./Selvi possesses said experience in the field of Marketing with ____ years of service in middle managerial position as stated above, as on the date of notification (i.e., 30.08.2024). The above particulars furnished by me are correct.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Seal of Office / Officer:

Place
Date:

Signature
Name & Designation of the
Head of Organisation / Institution /
Competent Authority

Note:

1. A certificate in the format prescribed should be obtained from the Head of the Organisation/ Institution wherein the individual had served or the authority competent to issue such certificate.
2. The Competent authority who issues the certificate is cautioned that issuing of certificate which contains false or incorrect details will lead to legal / penal action against them.

20. Experience certificate for the 10 (a)(i) appointees working as Veterinary Assistant Surgeons in Tamil Nadu Animal Husbandry Service (Post Code: 1695)

This is to certify that Thiru./Tmt./Selvi..... Son/Daughter/Wife of Age..... Permanently residing at No..... Thiru./Tmt./Selvi..... joined as temporary Veterinary Assistant Surgeon under 10(a)(i) of the then TNSSS on and has been continuously working from(date) to as on date of the notification (i.e., 30.08.2024) and has completed ____ years of service. He / She has passed degree in the Year from the College / University.

Affix photograph of the employee with the signature of the Certifying Authority on the Photograph

Place
Date:

Signature, Name and Designation
of the Appointing /Competent / Certifying
Authority

Note : (Service Particulars)

Name : Dr.
Designation : Veterinary Assistant Surgeon (Temporary)
Total Service :
Leave on Loss of Pay : From To
Qualifying Service : Total Service – Leave on Loss of Pay