



TAMIL NADU PUBLIC SERVICE COMMISSION

Advertisement No.613
Notification No.10/2022

DATED:04.04.2022

Applications are invited from eligible candidates only through online mode upto **03.05.2022** for direct recruitment to the posts of included in the Combined Engineering Services Examination.

WARNING

- All recruitments by the Tamil Nadu Public Service Commission are purely merit based.
- The Tamil Nadu Public Service Commission hereby cautions the applicants 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 applicant on account of indulging in any sort of dealings with such unscrupulous elements.
- Applicants are solely responsible for their claims in the online application. They cannot blame service providers like internet cafes/browsing centres/Common Service centres for the mistakes made while applying online for recruitment. Applicants are advised to check the filled in online application along with required documents (see Annexure V) before finally submitting the same.
- **In respect of recruitment to this post, the applicants shall mandatorily upload the certificates / documents (in support of all the claims made / details furnished in the online application) at the time of submission of online application itself. It shall be ensured by the applicants that the online application shall not be submitted without uploading the required certificates.**

ONE TIME REGISTRATION:

It is mandatory for applicants to register their basic particulars through one - time online registration system on payment of Rs. 150/- (Rupees One hundred and fifty only) towards registration fee and then they should apply online for this recruitment. [The one-time registration will be valid for five years from the date of registration. Thereafter, the registration should be renewed by paying the prescribed fee.] **One Time Registration will not be considered as an application for any post.** For further details refer para 2 of the "Commission's Instructions to Applicants".

DETAILS OF VACANCIES:

Name of the post	Name of the service	No. of vacancies	Scale of pay
Automobile Engineer in the Motor Vehicle Maintenance Department (Post Code – 1788)	Tamil Nadu General Service (Service Code No.035)	4	Rs.56100 - 205700 (Level 22) (Revised Scale)
Junior Electrical Inspector (Post Code No.1666)	Tamil Nadu Electrical Inspectorate Service (Service Code No.011)	8	Rs.37700-138500 (Level 20) (Revised Scale)
Assistant Engineer (Agricultural Engineering) (Post Code - 1667)	Tamil Nadu Agricultural Engineering Service (Service Code No.011)	66	
Assistant Engineer (Highways Department) (Post Code – 1661)	Tamil Nadu Highways Engineering Service (Service Code No.011)	33	
Assistant Director of Industrial Safety and Health (Post Code 1664)	Tamil Nadu Factory Service (Service Code No.011)	18	
Assistant Engineer (Civil) (Water Resources Department, PWD) (Post Code 1656)	Tamil Nadu Engineering Service (Service Code No.011)	1*c/f BC(G) (DAP) (HH)	
Assistant Engineer (Civil) (PWD) (Post Code 3656)		307+1*c/f BC(G) (DAP) (HH)	
General Foreman (Post Code. 2026)	Tamil Nadu Motor Vehicles Maintenance Subordinate Service (Service Code No. 051)	7	
#Technical Assistant (Post Code – 2027)		11	
Assistant Engineer (Rural Development and Panchayat Raj Department) (Post Code 1660)	Tamil Nadu Panchayat Development Service (Service Code No.011)	93	

Note:- #Technical Assistant is Feeder Category to the post of General Foreman.

*** c/f –Carried Forward Vacancies**

Tamil Nadu Government Act No.14 of 2022 posts included in various Boards

Name of the post	Name of the service	No. of vacancies	Scale of pay
Assistant Engineer (Tamil Nadu Urban Habitat Development Board) (Post Code. 3230)	Tamil Nadu Slum Clearance Board Service (Service Code No. 111)	64**	Rs.37700-138500 (Level 20) (Revised Scale)
Assistant Engineer (Chennai Metropolitan Development Authority) (Post Code. 3232)	Madras Metropolitan Development Authority Engineering Service (Service Code No.113)	13	

****Vacancies shown here are the vacancies after deducting 3% of vacancies for the reservation for meritorious sports persons as per G.O.(Ms) No.6, Youth Welfare and Sports Development (S1) Department, Dated 20.02.2019.**

Unless and otherwise specified, the number of vacancies notified is approximate and is liable to modification as indicated in para. 11-A of 'Instructions to Applicants'.

1. DISTRIBUTION OF VACANCIES

The rule of reservation of appointments is applicable to this recruitment.

POST OF AUTOMOBILE ENGINEER

Current Vacancies: 04

GT(W)	1
BC (OBCM)(G)	1
MBC/DC (W)	1
SC (G)	1
TOTAL	4

POST OF JUNIOR ELECTRICAL INSPECTOR

Current Vacancies: 8

GT(W)	1
BC(OBCM)(G)(PSTM)	1
BC (OBCM)(W)	1
BC(M)(G)	1
MBC/DC (G)	1
MBC/DC (G)(PSTM)	1
SC (G)	1
SC(W)	1
TOTAL	8

POST OF ASSISTANT ENGINEER (Agricultural Engineering)

Current vacancies:66

GT(G)	10
GT (G) (PSTM)	3
GT (G) LD/LC/DF/AC	1
GT (W)	5
GT (W) (PSTM)	1
BC (OBCM)(G)	9
BC (OBCM)(G) (PSTM)	2
BC(OBCM)(G) HI/HH	1
BC (OBCM)(W)	3
BC (OBCM)(W) (PSTM)	2
BC(M)(G)	1
BC(M)(W)	1
MBC/DC (G)	5
MBC/DC (G) (PSTM)	3
MBC/DC (G) LV	1
MBC/DC (W)	3
MBC/DC (W) (PSTM)	1
SC (G)	6
SC (G)(PSTM)	1
SC (W)	4
SC(A) (G)	1
SC(A) (G)(PSTM)	1
ST (W) (PSTM)	1
TOTAL	66

POST OF ASSISTANT ENGINEER IN HIGHWAYS DEPARTMENT
Current Vacancies: 33

GT(G)	5
GT (G) (PSTM)	2
GT (W)	2
GT (W) HH	1
BC (OBCM)(G)	5
BC (OBCM)(G) (PSTM)	1
BC (OBCM)(W)	2
BC(M)(G)(PSTM)	1
MBC/DC (G)	3
MBC/DC (G) (PSTM)	1
MBC/DC (W)	2
SC (G)	3
SC (G)(PSTM)	1
SC (W)	2
SC(A) (W)	1
ST (G) (PSTM)	1
TOTAL	33

POST OF ASSISTANT DIRECTOR OF INDUSTRIAL SAFETY AND HEALTH
Current vacancies: 18

GT(G)	3
GT (G) (PSTM)	1
GT (W)	2
BC (OBCM)(G)	1
BC (OBCM)(G) (PSTM)	1
BC(OBCM)(G) HH	1
BC (OBCM)(W) (PSTM)	1
BC(M)(G) (PSTM)	1
MBC/DC (G)	2
MBC/DC (G) PSTM	1
MBC/DC (W)	1
SC (G)	2
SC(A) (W)(PSTM)	1
TOTAL	18

Assistant Engineer (Civil) (Water Resources Department), PWD :

* **Carried forward vacancies** BC(DAP)(G)(HH)-1

Assistant Engineer (Civil) PWD :

* **Carried forward Vacancies**

BC (DAP)(G)(HH)-1

Current vacancies: 307

GT(G)	50
GT (G) (PSTM)	14
GT (G) HH	2
GT (W)	21
GT (W) (PSTM)	6
GT(W) LD (OA,OL)/DF/AC	1
BC (OBCM)(G)	45
BC (OBCM)(G) (PSTM)	11
BC(OBCM)(G) LD(OA,OL)/DF/AC	1
BC (OBCM)(W)	18
BC (OBCM)(W) (PSTM)	5
BC (OBCM)(W) LD(OA,OL).DF/AC	1
BC(M)(G)	4
BC(M)(G)(PSTM)	2
BC(M)(G) LD(OA,OL).DF/AC	1
BC(M)(W)	3
BC(M)(W)(PSTM)	1
MBC/DC (G)	35
MBC/DC (G) (PSTM)	8
MBC/DC (G) HH	1
MBC/DC (W)	12
MBC/DC (W) (PSTM)	5
MBC/DC (W) HH	1
SC (G)	24
SC (G)(PSTM)	7
SC (G) LD(OA,OL).DF/AC	1
SC (G) HH	1
SC (W)	9
SC (W) (PSTM)	4
SC (W) HH	1

SC(A) (G)	4
SC(A) (G)(PSTM)	1
SC(A) (G) LD(OA,OL),DF/AC	1
SC(A) (W)	3
ST (G)	2
ST (W)(PSTM)	1
TOTAL	307

POST OF GENERAL FOREMAN
Current Vacancies: 7

GT(G)	1
GT (G) (PSTM)	1
BC (OBCM)(G)	1
BC (OBCM)(G)(PSTM)	1
BC (W)	1
MBC/DC (G)	1
SC (W)	1
TOTAL	7

POST OF TECHNICAL ASSISTANT
Current Vacancies:11

GT(G)	1
GT (G) HH	1
GT(W)	1
BC (OBCM)(G)	2
BC (OBCM)(W)	1
BC(M)(G)	1
MBC/DC (G)(PSTM)	1
MBC/DC (W)	1
SC (G)	1
SC(G) (PSTM)	1
TOTAL	11

POST OF ASSISTANT ENGINEER IN RURAL DEVELOPMENT AND PANCHAYAT RAJ DEPARTMENT Current vacancies:93

GT(G)	14
GT (G) (PSTM)	4
GT (G) HH	1
GT (G) LD (OA,OL)/AC	1
GT (W)	7
GT (W) (PSTM)	2
BC (OBCM)(G)	13
BC (OBCM)(G) (PSTM)	5
BC (OBCM)(W)	5
BC (OBCM)(W) (PSTM)	2
BC (OBCM)(W) LD(OA,OL)/AC	1
BC(M)(G)	1
BC(M)(G)(PSTM)	1
BC(M)(W)	1
MBC/DC (G)	10
MBC/DC (G) (PSTM)	2
MBC/DC (W)	5
MBC/DC (W) (PSTM)	1
SC (G)	8
SC (G)(PSTM)	1
SC (W)	3
SC (W) (PSTM)	1
SC (W) HH	1
SC(A) (G)	1
SC(A) (G)(PSTM)	1
ST (W)(PSTM)	1
TOTAL	93

POST OF ASSISTANT ENGINEER (CIVIL) Tamil Nadu Urban Habitat Development Board Current vacancies:64

GT(G)	10
GT (G) (PSTM)	3
GT(G)	1
LD(OA,OL)/LC/DF/AC	
GT (W)	5
GT (W) (PSTM)	1
BC (OBCM)(G)	10
BC (OBCM)(G) (PSTM)	2
BC (OBCM)(W)	4
BC (OBCM)(W) (PSTM)	2
BC(M)(G)	1
BC(M)(W)	1
MBC/DC (G)	5
MBC/DC (G) (PSTM)	3
MBC/DC (G) HH	1
MBC/DC (W)	2
MBC/DC (W) (PSTM)	1
SC (G)	5
SC (G)(PSTM)	1
SC (W)	3
SC(A) (G)	1
SC(A) (G) (PSTM)	1
ST(W) (PSTM)	1
TOTAL	64

POST OF ASSISTANT ENGINEER (CIVIL) in Chennai Metropolitan Development Authority

Current vacancies: 13

GT(G)	2
GT (G) HH	1
GT (W)	2
BC (OBCM)(G)	2
BC (OBCM)(W)	2
MBC/DC (G)	1
MBC/DC (W)	1
SC (G)(PSTM)	1
SC(W)	1
TOTAL	13

Abbreviations:-

GT- General Turn; BC(OBCM) - Backward Classes (Other than Backward Classes Muslims); BC(M) - Backward Classes Muslims; MBC/DC - Most Backward Classes / De-notified Community; SC - Scheduled Castes; SC(A) - Scheduled Castes (Arunthathiyars); ST- Scheduled Tribes;

G- General; W-Women; PSTM-Person Studied in Tamil Medium, LV- Low Vision; HI - Hearing Impaired; HH - Hard of Hearing; LD- Locomotor Disability; OA- One Arm; OL- One Leg; BL - Both Legs; LC- Leprosy Cured; DF-Dwarfism; AC- Acid Attack Victims.

3. IMPORTANT DATES AND TIME:

Date of notification	04.04.2022
Last date for submission of online application	03.05.2022
Dates of written examination	
Paper-I : Subject paper (Degree standard)	26.06.2022 09.30A.M. to 12.30 P.M.
Paper-II : <u>Part-A</u> Tamil Eligibility Test (SSLC Standard) <u>Part-B</u> General Studies (Degree Standard)	26.06.2022 02.00P.M. to 05.00 P.M.

Note

Refer **Annexure-VI** of this notification regarding tentative timeline for the recruitment process.

4. QUALIFICATIONS:

(A) AGE LIMIT (as on 01.07.2022):

Sl. No.	Name of the Post	Maximum Age Limit	
		"Others" [i.e., Applicants not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCMs) and BCMs]	Scheduled Castes / Scheduled Castes (Arunthathiyars), Scheduled Tribes, Most Backward Classes / Denotified Backward Classes (OBCMs), Backward Classes (Muslims) and Destitute Widows of all categories.
1.	Assistant Engineer (Agricultural Engineering), Junior Electrical Inspector, Assistant Engineer (Highways Department), Assistant Director of Industrial Safety and Health, Assistant Engineer (Civil) (WRD), Assistant Engineer (Civil) (PWD), Assistant Engineer (Rural Development and Panchayat Raj Department).	32* years	No Maximum age limit

2.	Assistant Engineer in Tamil Nadu Urban Habitat Development Board	32* years	
3.	Automobile Engineer, General Foreman and Technical Assistant in the Motor Vehicle Maintenance Department	37**years	
4.	Assistant Engineer (Civil) in Chennai Metropolitan Development Authority	32* years	

Note:

(i) As per G.O (Ms) No.91, Human Resources Management (S) Department, dated 13.09.2021, the Maximum Age Limit prescribed for appointment by direct recruitment is enhanced by 2 years.

[*Maximum Age Limit has been increased from 30 to 32 years.

**** Maximum Age Limit has been increased from 35 to 37 years].**

Explanation: No maximum age limit shall mean that the applicants should not have completed 60 years of age either on the date of notification or at the time of selection /appointment to the post.

(ii) "Others" [i.e., Applicants not belonging to SCs, SC(A)s, STs, MBC/DCs, BC(OBCM)s, BCMs] who have put in five years and more of service in the State/Central Government are not eligible even if they are within the age limit. (For further details refer to [para 3\(F\) of "Instructions to Applicants", Section 3\(r\) of Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016](#)).

AGE CONCESSION:**(i) For Persons with Benchmark Disability (Others):**

Persons with Benchmark Disability are eligible for age concession upto 10 years over and above the maximum age limit prescribed.

[\(Section 64 of the Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016\)](#)

(ii) For Ex-servicemen (Others):

a) The maximum age limit for Ex-servicemen is 50 years.

[\(Section 63 of the Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016 and as per G.O \(Ms\) No.91, Human Resources Management \(S\) Department, dated 13.09.2021\).](#)

b) The above mentioned age concession **will not apply** to the Ex-servicemen applicants who have already been recruited to any class or service or category.

(Section 3(j) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)

(B) EDUCATIONAL QUALIFICATION (as on 04.04.2022)

Applicants should possess the following or its equivalent qualification awarded by any University or Institution recognized by the University Grants Commission/AICTE as the case may be.

Name of the post	Educational Qualification
Automobile Engineer in the Motor Vehicles Maintenance Department	<p>(a) Must possess a degree in Automobile (or) Mechanical Engineering (or) be a holder of the Post Diploma in Automobile Engineering awarded by the State Board of Technical Education and Training, Tamil Nadu; (or) be a Licentiate in Automobile Engineering or Mechanical Engineering. (AND)</p> <p>(b) Must possess experience in the administration of an office and the management of workshops connected with the maintenance and upkeep of Motor Vehicles for a period of not less than five years.</p> <p>Explanation: A workshop shall mean any workshop under the control of the Government / Public / Private Organisation and Registered under the Factories Act 1948(Central Act LXIII of 1948)</p>
Junior Electrical Inspector	<p>Must possess a Degree in Electrical Engineering. Provided that other things being equal, preference shall be given to those who have undergone Apprenticeship Training under the Government of India Scheme or the State Government Apprenticeship Scheme for a period of one year.</p>
Assistant Engineer (Agricultural Engineering)	<p>i) B.E. (Agriculture) or B. Tech (Agricultural Engineering) or B.Sc., (Agricultural Engineering) (or)</p> <p>ii) B.E. (Mechanical) (or) B.E. (Civil) (or) B.Tech (Automobile Engineering) or B.E. (Production Engineering) or B.E.(Industrial Engineering) (or) B.E (Civil and Structural Engineering) or B.E (Mechanical and Production Engineering). <u>Provided that candidates possessing the qualification in item (ii) shall be considered only if no candidate with qualification item (i) is available.</u></p>
Assistant Engineer (Highways Department)	<p>Must possess degree in Civil Engineering (or)</p> <p>A pass in Sections A and B of the A.M.I.E (India) Examinations under Civil Engineering branch (renamed as Institution of Examinations) Note:-Provided that other things being equal, preference shall be given to a person who has undergone one year of apprenticeship training under the Government of India Scheme or one year of training under the State Government Apprenticeship Scheme.</p>
Assistant Director of Industrial Safety and Health	<p>A Degree in Mechanical Engineering or Production Engineering or Industrial Engineering or Electrical Engineering or Chemical Engineering or Textile Technology.</p>
Assistant Engineer (Civil) (Water Resources Department, PWD) Assistant Engineer (Civil) (PWD)	<p>(1) Must possess a B.E degree in Civil Engineering or Civil and Structural Engineering. (or)</p> <p>(2) Must have passed in Sections A and B of the Institution Examinations under Civil Engineering branch</p>

<p>General Foreman and Technical Assistant in Motor Vehicles Maintenance Department</p>	<p>Must possess a degree in Mechanical Engineering (or) Automobile Engineering (or) Automobile Technology (or) A Post Diploma in Automobile Engineering of the State Board of Technical Education and Training, Tamil Nadu or of any recognized Institution or Board with experience for a period of not less than two years in a supervisory capacity in the Automobile Workshop. Explanation: (i) An Automobile Workshop shall mean an Automobile Workshop satisfying the definition of "factory" in section 2 (m) of the Factories Act 1948. (ii) Factory shall mean "factory" as defined in section 2 (m) of the Factories Act 1948 Note: Every person appointed to the post should obtain a driving license to drive heavy transport vehicles within the period of probation Note: Technical Assistant is the Feeder Category for the post of General Foreman.</p>
<p>Assistant Engineer (Rural Development and Panchayat Raj Department)</p>	<p>Must possess a B.E degree in Civil Engineering (or) Must have passed Sections A and B of the Institution of Engineers (India) under Civil Engineering Branch, and he should furnish evidence of having undergone practical training in surveying for a period of not less than one year. Note:-Provided that other things being equal preference shall be given for appointment to a person who has undergone one year of apprenticeship training under the Government of India Scheme or the State Government Apprenticeship Scheme.</p>
<p>Assistant Engineer (Civil) (Tamil Nadu Urban Habitat Development Board)</p>	<p>Must possess a degree in Engineering (Civil) OR Must have passed Sections A and B of the A.M.I.E (India) Examination with the following:- i) A Pass in H.Sc. Examination ii) Must have passed 'Geology' under Section B as an optional or additional subject.</p>
<p>Assistant Engineer (Civil) (Chennai Metropolitan Development Authority)</p>	<p>Must possess B.E degree (Civil or Highways) and must have experience for period of not less than five years of service in Category-3* or in a capacity equivalent to that of a Junior Engineer. *Note:- Category-3 implies the post of Junior Engineer in Chennai Metropolitan Development Authority Engineering Service Regulations.(Experience Certificate produced from Government organization or from private).</p>

Note:

- (i) The educational qualifications prescribed for these posts should have been obtained by passing the required qualification in the following order of studies viz. **10th + HSC/Diploma or its equivalent + U.G. Degree + P.G. Degree** as required under Section 25 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016. The results of examination should have been declared on or before the date of Notification. [Section 20 (4) (iv) of the Tamil Nadu Government Servants (Conditions of Service) Act 2016]
- (ii) Applicants claiming equivalence of qualification to the prescribed qualification should upload and submit evidence for equivalence of qualification in the form of Government Order issued on or before the date of this notification and **submit along with online application**, failing which, their application **will be summarily rejected after due process**. The Government Orders regarding equivalence of qualification issued after the date of this notification will not be accepted.
[Refer Para 9 of the "Instructions to Applicants" and "Disclaimer"]
- (iii) The qualifications considered equivalent are indicated in Annexure-III to this notification

(C) CERTIFICATE OF PHYSICAL FITNESS:

Applicants selected for appointment to the said post will be required to produce a certificate of physical fitness in the form prescribed below. The model format is enclosed with **Annexure IV** of the notification. **The said Certificate should be submitted by the selected candidate to the Appointing Authority at the time of joining to the said post**

Sl. No	Name of the Post	Standard of Vision	Form of Certificate of Physical Fitness
1.	Automobile Engineer in the Motor Vehicles Maintenance Department	Standard-II	Form prescribed for Executive post
2.	Junior Electrical Inspector	Standard III or better	
3.	Assistant Engineer (Agricultural Engineering)	Standard-II	
4.	Assistant Engineer (Civil) (Highways Department)	Standard-II or better	
5.	Assistant Director of Industrial and Safety Health		
6.	Assistant Engineer (Civil) (Water Resources Department, PWD)	Standard III or better	
7.	Assistant Engineer (Civil) (PWD)		
8.	General Foreman and Technical Assistant	Standard III	
9.	Assistant Engineer (Rural Development and Panchayat Raj Department)	Standard II or better	

10.	Assistant Engineer (Civil) (Tamil Nadu Urban Habitat Development Board)	Standard III or better	
11.	Assistant Engineer (Civil) (Chennai Metropolitan Development Authority)	Standard II or better	

Colour blindness will be a disqualification. Applicants with defective vision should produce Eye Fitness Certificate from a qualified Eye Specialist working in Government Hospital.

(D) KNOWLEDGE IN TAMIL

Applicants should possess adequate knowledge in Tamil. (For further details refer para 14(I) of 'Instructions to Applicants').

5. FEES:

a)	<p><u>Registration Fee</u> For One Time Registration (G.O.(Ms).No.32, Personnel and Administrative Reforms (M) Department, dated 01.03.2017).</p> <p><u>Note</u> Applicants who have already registered in One Time online Registration system and are within the validity period of 5 years are exempted.</p>	Rs.150/-
b)	<p><u>Examination Fee</u> <u>Note</u> The Examination fee should be paid at the time of submitting the online application for this recruitment if they are not eligible for the concession noted below.</p>	Rs.200/-

Note:

- (i) Linking Aadhaar number with One Time Registration (OTR) is mandatory for applicants. [For further details refer para 2B of 'Instructions to Applicants'.]
- (ii) One Time Registration is valid for five years from the date of registration. After completion of five years, the applicant must renew the One Time Registration by paying the fee prescribed. The One Time Registration is different from the application for the examination. An applicant should make an online application separately for each and every examination for which he intends to appear. [Para 2C of 'Instructions to Applicants'.

EXAMINATION FEE CONCESSIONS:

	Category	Concession
(i)	Scheduled Castes / Scheduled Caste (Arunthathiyars)	Full Exemption
(ii)	Scheduled Tribes	Full Exemption
(iii)	Most Backward Classes / Denotified Communities	Three Free Chances
(iv)	Backward Classes (other than Muslim) / Backward Classes (Muslim)	Three Free Chances
(v)	Ex-Servicemen	Two Free Chances
(vi)	Persons with Benchmark Disability	Full Exemption
(vii)	Destitute Widow	Full Exemption

Note:

(i) The total number of free chances availed, will be calculated on the basis of claims made in previous applications.

(ii) The number of free chances availed by the applicant may be verified by the Commission at any stage of the selection process.

(iii) In case an applicant who makes a false claim for exemption from payment of application fee by suppressing information regarding his previous application(s) his candidature shall be rejected after due process and he shall be debarred for a period of one year from appearing for examinations and selections conducted by the Commission.

(iv) Applicants are directed to carefully choose the options 'Yes' or 'No' regarding availing the fee concession.

(v) Applicants 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 applicant dashboard.

(vi) An application (irrespective of the post applied for) claiming fee concession will operate to exclude one chance from the number of free chances allowed.

(vii) Applicants who have availed the maximum number of free chances permitted / applicants who do not wish to avail of the fee concession / applicants who are not eligible for fee concession, shall choose the option 'No' against the query regarding fee concession. Such applicants shall thereafter pay the requisite fee through the prescribed mode of payment.

(viii) Failure to pay the prescribed fee along with the online application, will result in the rejection of application after due process. (for further details regarding examination fee concessions refer to [Para 6 of 'Instructions to Applicants'](#))

6. MODE OF PAYMENT OF EXAMINATION FEE:

- Written Examination fee of Rs.200/- (Rupees Two hundred only), is payable by online through Net Banking / Credit card / Debit card on or before the date of submission of online application by choosing the option in the online application.

- Applicants are also to pay the service charges as applicable.
- Applicants can avail exemption from paying examination fee as per eligibility criteria.
- **Offline mode of payment 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.**
- Those who have registered in the One-Time Registration system and paid the registration fee of Rs.150/- and received the registration ID need not pay the Registration fee i.e., Rs.150/- and it is enough to pay the examination fee alone.
- Applicants who have made One-Time Registration must pay the prescribed examination fee for this recruitment unless fee exemption is claimed (One-Time Registration is only to avail exemption for Registration fee for a period of 5 years from the date of registration and it will not be considered as prescribed examination fee for this recruitment).

(For further details regarding the Examination fee, refer para. 2(V) of "Instructions to Applicants").

7. CONCESSIONS:

- (i) Concessions in the matter of age and/or examination fees allowed to SCs, SC(A)s, STs, MBC/DCs, BC(OBCM)s, BCMs, Destitute Widows, Persons with Benchmark Disability and Ex-servicemen are given in [paras. 3D, 5 and 6 of the 'Instructions to Applicants'](#).
- (ii) Persons claiming concessions referred to above and other claims made in the application have to **upload evidence along with online application** for such claims, otherwise their application will be rejected after due process.

Note:

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. ([Section 3\(j\) of the Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016](#)).

8. SCHEME OF EXAMINATION: OBJECTIVE TYPE (OMR METHOD) AND ORAL TEST:

Subject	Duration	Maximum marks	Minimum qualifying marks for selection		
			SCs, SC(A)s, MBC/DCs, BC(OBCM)s& BCMs	Others	
<p>Paper –I one of the following subjects in which the candidate has acquired his/her Degree qualification (Subject Paper) (200 questions) (Degree Standard)</p> <ul style="list-style-type: none"> i) Agricultural Engineering (Code No. 280) (ii) Automobile Engineering (Code No. 258) (iii) Civil Engineering (Code No.261) iv) Mechanical / Production / Manufacturing Engineering (Code No.256) (v) Electrical Engineering (Code No. 259) (vi) Chemical Engineering (Code No.260) (vii) Textile Technology (Code No.306) 	3 Hours	300	153	204	
<p>Paper-II (Objective Type) Part-A Tamil Eligibility Test (SSLC Std) (100 Questions / 150 Marks)</p>					<p>Note: <i>Minimum qualifying marks – 60 marks (40% of 150). Marks secured in Part-A of Paper-II will not be taken into account for ranking.</i></p>
<p>Part-B (General Studies) (100 questions) (150 marks)(Code No:003)</p> <p>General studies (Degree standard) – 75 questions and Aptitude and mental ability test (SSLC standard) - 25 questions</p>					150*
<p>iii. Interview and Records</p>		60			
Total		510			

***Note:**

- a) Answer sheets of Paper-I and Part B of Paper II of the candidates will not be evaluated, if the candidate does not secure minimum qualifying marks in Part-A of Paper-II.
- b) Only marks secured in Paper-I and Part-B of Paper-II will be considered for ranking.
- c) The question paper for Paper –I in the subjects Agricultural Engineering, Electrical Engineering, Automobile Engineering, Chemical Engineering and Textile Technology will be set in English only and the question paper in the subject Civil Engineering and Mechanical Engineering will be set both in English and Tamil. The questions in Part-B of Paper-II will be set both in Tamil and English. Candidates should choose and specify in the application, only the prescribed subject in which they have obtained the educational qualification for appearing to the examination.
- d) Refer to para.17 of "[Instructions to Applicants](#)" with regard to Instructions to be followed while appearing for competitive Examinations conducted by the Commission.
- e) The syllabus for written examination is available in [Annexure-II](#) to this Notification.

9. SELECTION PROCEDURE:

Selection will be made in two stages i.e., (i) Written Examination and (ii) Oral Test in the shape of an interview. The final selection will be made on the basis of the total marks obtained by the applicants at the written examination and oral test taken together subject to the rule of reservation of appointments. Applicants' appearance in the written examination and oral test is compulsory. The applicant who has not appeared for any of the subjects in the written examination or Oral Test will not be considered for selection, even if he/she secures the minimum qualifying marks for selection. (For further details refer to para 18(B) of the 'Instructions to Applicants')

Note :

1. First, the selection will be made for the carried forward vacancies. [Section 27 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016]
2. Secondly, the selection will be made for regular vacancies following the rule of reservation of appointments.

10. CENTRES FOR EXAMINATION:

The examination will be held at the following centres.

Name of the Centre	Centre Code	Name of the Centre	Centre Code
Chennai	0101	Pudukkottai	1501
Coimbatore	0201	Ramanathapuram	1601
Chidambaram	0303	Salem	1701
Kancheepuram	0701	Karaikudi	1805
Nagarcoil	0801	Thanjavur	1901
Madurai	1001	Tiruchirapalli	2501
Udagamandalam	1301	Tirunelveli	2601
Vellore	2701		

Note:

- (i) Applicants should choose any two of the above centres for writing the examination. Applicants will be allotted a venue in one of these two centres. However, applicants with benchmark disability (differently –abled applicants), shall be permitted to choose only one district centre. (for further details refer para 2 (R) of Instructions to Applicants)
- (ii) Request for change of examination centre will not be permitted (For further details refer Para 17(A)(ii) of “Instructions to Applicants”)
- (iii) The Commission reserves the right to increase or decrease the number of examination centres and to re-allot the applicants accordingly.
- (iv) Applicants should appear for the written examinations / certificate verification / oral test at their own expenses.

11. (A) EMPLOYMENT DETAILS

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, whether in regular service or in temporary 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. Candidates should produce No Objection Certificate when called for. [For further details refer para. 14 (P) of “Instructions to Applicants”]

(B) DECLARATION REGARDING CRIMINAL CASES (OR) DISCIPLINARY CASES:

- (A) Candidates who have declared pending criminal or disciplinary cases in their online application, must upload / produce the copy of First Information Report (FIR) or memorandum of charges / show cause notice, as the case may be. Failure to **upload / produce such papers along with online application**, shall result in rejection of candidature after due process.
- (B) 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, **along with online application**. Failure to upload / produce such papers, shall result in rejection of candidature after due process.
- (C) In case of any criminal case is filed / disciplinary action is taken against or conviction / punishment is imposed on a candidate after submission of the on-line application at any stage of the recruitment process before the completion of entire selection process such candidates should report this fact to the Commission in the next immediate stage. Failure to comply with these instructions shall result in rejection of candidature after due process and debarment for a period of one year.

[Para. 14 (S) of “Instructions to Applicants”]

- (D) Any violation of instruction therein will result in rejection of application and forfeiture of his/her candidature after due process.

12. GENERAL INFORMATION:

(A) The rule of reservation of appointments is applicable to this recruitment separately for each post.

(B) Person Studied in Tamil Medium

(i) As per Section 2(d) of the Tamil Nadu Appointment on preferential basis in the services under the State of Persons Studied in Tamil Medium Act, 2010, as amended by Act 35 of 2020, **Person studied in Tamil medium means a person who has studied through Tamil medium of instruction upto the educational qualification prescribed for direct recruitment in the rules or regulations or orders applicable to any appointment in the services under the State.**

(ii) Candidates claiming to be Persons studied in Tamil Medium (PSTM) must **upload the document at the time of submission of online application** 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/she had studied **the entire duration of the respective course(s) through Tamil Medium of instruction.**

(iii) Candidates must upload documents **at the time of submission of online application** as evidence of having studied in the Tamil medium, all educational qualification upto the educational qualification prescribed

Example:

If the prescribed educational qualification is Post Diploma, then the candidate should have studied the First Standard to SSLC , HSC / Diploma/ Degree and Post diploma as the case may be, through Tamil medium of instruction

If the prescribed educational qualification is Degree, then the candidate should have studied from the First Standard to SSLC, Higher Secondary Course and Degree through Tamil Medium of instruction.

(Refer para 14 (R) of Instructions to Applicants).

(iv) If no such document as evidence for 'PSTM' is available, a certificate from the Principal / Head Master / District Educational Officer / Chief Educational Officer / District Adi Dravidar Welfare Officer / Controller of Examinations / Head / Director of Educational Institution / Director / Joint Director of Technical Education / Registrar of Universities, as the case may be, in the prescribed format must be uploaded **at the time of submission of online application**, for each and every educational qualification up to the educational qualification prescribed.

(v) Failure to upload such documents **at the time of submission of online application** as evidence for 'Persons Studied in Tamil Medium' for all

educational qualification up to the educational qualification prescribed, shall result in the rejection of candidature after due process.

- (vi) Documents uploaded **at the time of submission of online application** 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.

(For further details refer to para. 14 (R) of the "Instructions to Applicants")

- (C) The selection for appointment to the said posts is purely provisional subject to the final orders in the writ petitions, if any, pending on the files of the Hon'ble Madras High Court and its Madurai Bench.
- (D) **As per Sections 26 and 27 (c) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016**, reservation of appointment to "Destitute Widows" and "Ex-servicemen" will not apply to this recruitment.
- (E) **PERSONS WITH BENCHMARK DISABILITY :**
The 4% reservation for DAP will be applicable as per G.O. (Ms.) No. 20, Welfare of Differently Abled Persons (DAP.3.2) Department, dated 20.06.2018, and G.O (Ms.) No.08, Welfare of the Differently Abled Persons (DAP 3.2) Department dated 15.07.2020, G.O (Ms.) No.06, Welfare of the Differently Abled Persons (DAP 3.2) Department dated 21.10.2019 the following post has been identified with suitable differently Abled Categories as detailed below:

Sl. No.	Name of the Post	Name of the Service	Categories of Disabilities is to be accommodated for the post
1	Assistant Engineer (Agricultural Engineering)	Tamil Nadu Agricultural Engineering Service	LV,HI,HH,LD,LC, DF,AC
2	Assistant Engineer (Civil)	Tamil Nadu Highways Engineering Service	HH
3	Automobile Engineer	Tamil Nadu Motor Vehicle Maintenance Department	LD(OL), HH
4	General Foreman	Tamil Nadu Motor Vehicle Maintenance Department	LD (OA,OL), HH
5.	Technical Assistant	Tamil Nadu Motor Vehicle Maintenance Department	LD (OL), HH
6	Junior Electrical Inspector	Tamil Nadu Electrical Inspectorate Service	DAP not applicable to this post.
7.	Assistant Director of Industrial and Safety Health	Tamil Nadu Factory Service	LV,HH,LD (OA,OL,BL)
8.	Assistant Engineer (Civil) PWD	Tamil Nadu Engineering Service	LD(OA,OL),HH,DF,AC
9.	Assistant Engineer (Rural Development and Panchayat Raj Department)	Tamil Nadu Panchayat Development Service	LD(OA,OL),HH,AC
10.	Assistant Engineer	Tamil Nadu Slum Clearance Board Service	LD (OA,OL),HH,LC,DF,AC
11.	Assistant Engineer	Chennai Metropolitan Development Authority Engineering Service	LD (OA,OL),HH,LC,DF,AC

- (F) Persons with Benchmark Disability should upload a copy of Disability Certificate in the format prescribed in the Rights of Persons with Disabilities Rules, 2017

[Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of Social Justice and Empowerment, Government of India] and issued by the competent authority defined in GO Ms. No. 28, Welfare of Differently Abled Persons (DAP 3.1), dated 27.07.2018 **while submitting the online application.**

[For further details refer Para. 14 (M) of "Instructions to Applicants"]

- (G) If no qualified and suitable women applicants are available for selection against the vacancies reserved for them, those vacancies will be filled by male applicants belonging to the respective communal categories. (Section 26(5) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).
- (H) Wherever vacancies are reserved for Arunthathiyars on preferential basis, even after filling the vacancies reserved for SC (Arunthathiyars) on preferential basis, if more number of qualified Arunthathiyars are available, they shall be entitled to compete with the Scheduled Castes other than Arunthathiyars in the inter-merit among them and if any posts reserved for Arunthathiyars remain unfilled for want of adequate number of qualified applicants, it shall be filled by Scheduled Castes other than Arunthathiyars. (Section 27 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).
- (I) **Evidence for all the claims made in the online application should be uploaded at the time of submission of online application. Any subsequent claim made after submission of online application will not be entertained. Failure to upload the documents at the time of submission of online application will entail rejection of application after due process.**
- (J) Suppression of following material information in the online application regarding (i) free chances availed (ii) Employment in the Service of the Indian Union or a State in India or in the employment of Local Bodies or University or Quasi Government Organization or Public Sector units constituted under the authority of the Government of India or of a State in India in regular service or temporary service (iii) Wilful suppression of criminal cases / disciplinary action pending / punishments if any, against the applicant (iv) violation of undertaking given by the applicant in the online application etc., may invite suitable penal action including debarment for a specific period as decided by the Commission for various recruitments/ selections conducted by the Commission, besides rejection of application after due process.
- (K) Correct and true information regarding arrest, convictions, criminal or any disciplinary proceedings initiated / pending or finalised, debarment / disqualification by any recruiting agency if any, should also be furnished to the Commission **at the time of online application**. The details thereof, i.e. originals of the judgement / order / G.O. dropping further action in the departmental proceedings or any document that may prove the suitability of such applicants for appointment in such cases must be produced at the stage / time of certificate verification without fail. All such events that occur after the submission of online application and till the date of his / her selection and appointment shall be reported to the Commission forthwith. Failure to report on the part of the applicant will be considered as suppression of material information and will attract suitable penal action. [For further details refer para.12 of the Instructions to applicants]

(L) Incomplete applications and applications containing wrong claims or incorrect particulars relating to category of reservation / eligibility / age / gender / communal category / educational qualification / medium of instruction / physical qualification / other basic qualifications and other basic eligibility criteria will be summarily rejected after due process.

(M) One Time Registration is not an application for any post / recruitment. Though the details/particulars have already been furnished by the applicants under One Time Registration system, **the claims made in the online application for this recruitment alone will be taken into consideration.** The Commission will not be responsible for any consequences arising out of furnishing of incorrect and incomplete details in the application or omission to provide the required details in the application for this recruitment.

(N) Determination of Community for Transgender:

(i) The Transgender candidates, who do not possess any community certificate may choose to be considered under Most Backward Classes as per G.O.(Ms) No.28, Backward Classes, Most Backward Class and Minorities Welfare Department, dated 06.04.2015 or under 'others'.

(ii) The 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.

(iii) The Transgender candidates who belong to the 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 future. [G.O.\(Ms.\) No.90, Social Welfare and Nutritious Meal Programme \[SW8\(2\)\] Department, dated 22.12.2017 \[Refer Para. 14 \(F\) \(vi - xi\) of "Instructions to Applicants"\]](#)

(O) Reservation in Employment for Transgender:-

(i) The Transgender candidates who identify themselves as 'Female' shall be considered against both 30% reservation for women as well as 70% reservation for the General category (both Men & Women).

(ii) The Transgender candidates, who identify themselves as 'Male' or 'Transgender', shall be considered against the 70 % reservation for General category (both Men & Women).

(iii) The above concessions shall be granted subject to production of certificate identifying them as Transgender or Transgender (Male) or Transgender (Female), as the case may be, issued by the Tamil Nadu Transgender Welfare Board (TNTGWB)."

13. OTHER IMPORTANT INSTRUCTIONS:

- a) **Applicants should ensure their eligibility for the examination.** Before applying for / appearing for the examination, the applicants should ensure their eligibility for such examination and that they fulfil all the conditions in regard to age, educational qualifications, number of chances for fee concession, etc., as prescribed by the Commission's notification. 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 / oral test / counselling or inclusion of name in the selection list will not confer on the candidates any right to appointment. The candidature is therefore, provisional at all stages and 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.

[Refer Para. 11 (B) (C) and (D) of "Instructions to Applicants"]

- b) The memorandum of admission (hall ticket) for eligible applicants will be made available in the Commission's website **www.tnpscexams.in** / **www.tnpsc.gov.in** for downloading by applicants. The memorandum of admission will **not** be sent by post. The applicants must comply with each and every instruction given in the memorandum of admission. [Refer in Note (g) under Para 2(V) of "Instructions to applicants"]
- c) Applicants 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 am and 5.45 pm. Queries relating to One Time Registration/ online application may be sent to helpdesk@tnpscexams.in. Other queries may be sent to grievance.tnpsc@tn.gov.in [Refer in Note (h),(i),(j) under Para 2(V) of "Instructions to applicants"]
- d) **COMMUNICATION TO APPLICANTS:** Individual communication regarding the date and time of certificate verification, oral test and counselling (as applicable) will not be sent to the applicants by post. The details will be made available on the Commission's website. Applicants will be informed of the above fact only through SMS and e-mail and they should watch the Commission's website in this regard. Commission is not responsible for non-delivery of SMS/e-mail due to any reasons.
- e) ***During the process of recruitment from Notification till completion of selection process, no information under Right to Information Act, CM cell petitions, GRCC would be furnished.***
- f) **MOBILE PHONES AND OTHER ARTICLES BANNED :**
- i) Except the permitted writing material (Black ball point pen), applicants are not allowed to bring cellular phones, electronic or any other type of calculators, watches and rings with inbuilt memory notes, recording devices either as a separate piece or part of something used by the applicant such as watch or ring etc., or any other electronic devices and 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, rough sheets, hand bags etc., into the examination hall / room.

- ii) If they are found to be in possession of any such things or instruments, they will not be allowed to write the examination further, besides invalidation of answer paper and / or debarment. If it is considered necessary, they will be subjected to thorough physical search including frisking on the spot.
 - iii) Applicants 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. [\(For further details refer Para 17-E to "Instructions to Applicants"\)](#).
- g) Unless specific instruction is given, applicants are not required to submit along with their application any certificates (in support of their claims regarding age, educational qualifications, physical qualification, community, physical disability etc.,) which should be submitted when called for by the Commission. Applicants applying for the examination should ensure that they fulfil all the eligibility conditions for admission to the examination. Their admission at all the stages of examination for which they are admitted by the Commission will be purely provisional, subject to their satisfying the prescribed eligibility conditions. **If, on verification at any time before or after the written examination / certificate verification / oral test, it is found that they do not fulfil any of the eligibility conditions, their candidature for the recruitment will be summarily rejected after due process.**
- h) If any of their claims is found to be incorrect, it will lead to rejection of their candidature after due process and suitable penal action including debarment.
- i) **UNFAIR MEANS STRICTLY PROHIBITED:** No applicant shall copy from the papers of any other applicant or permit his / her papers to be copied or give or attempt to give or obtain or attempt to obtain irregular assistance of any description.
- j) **CONDUCT IN THE EXAMINATION HALL:** No applicant should misbehave in any manner or create a disorderly scene in the examination hall or harass the staff employed by the Commission for the conduct of the examination. Any such misconduct will be viewed seriously and penalised.
- k) For violation of "Instructions to Applicants" in any manner, suitable penalty will be imposed as per [Para 17-E to "Instructions to Applicants"](#) or as deemed fit by the Commission.
- (l) Tentative answer keys will be hosted in the Commission's website within 6 working days from the date of conduct of objective type examination. Candidates can challenge the tentative answer keys of the objective type examination through the 'Answer Key Challenge' window available in the Commission's website [Results → 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.

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.

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.

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

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.

After conclusion of the entire selection process, complete particulars of all candidates who had applied for recruitment to the post shall be made available on the Commission's website. [Refer Para 17(D) (v) to (xii) of "Instructions to Applicants"]

14. HOW TO APPLY:

- 1) Applicants should apply only through online mode in the Commission's websites www.tnpsc.gov.in or www.tnpscexams.in
- 2) "One Time Registration" using Aadhaar is mandatory before applying for any post. Applicant 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. All the applications should be submitted using the One Time Registration ID and password registered by the applicant.
- 3) To apply under One Time Registration system, applicants should have a scanned image of their photograph, certificates specified, if any, and signature in CD/DVD/Pen Drive to upload the same, as per the specifications given in the guidelines for scanning and uploading of photograph and signature.
- 4) No applicant is permitted to create more than one registration ID under One Time Registration system.
- 5) Applicants should enter the Unique ID and password to view the already available information and update them. They shall not share the ID with any other person or agency.
- 6) One Time Registration is not an application for any post. It is just a collection of information from the applicants and provides a separate dashboard to each applicant to facilitate maintenance of their own profile. Applicants who wish to

apply for this recruitment shall click "[Apply](#)" against the recruitment notified in the Commission's website using the same USER ID and PASSWORD given for ONE TIME REGISTRATION.

- 7) Applicants should select the name of the post for which the applicant wishes to apply.
- 8) Online applications uploaded without the photograph, details of specified documents in **Annexure V** and signature will be rejected after due process.
- 9) The applicants shall be permitted to edit the details in the online application till the last date stipulated for submission of online application. After the last date for submission of online applications, no modification shall be permitted in respect of the application data i.e., the details furnished by the candidates in the online application.
- 10) **PRINT OPTION:**
 - a) After submitting the application, applicants can save / print their application in PDF format.
 - b) On entering user ID and password, applicants can download their application and print, if required.
 - c) **Applicants need not send the printout of the online application or any other supporting documents to the Commission.**

For further details refer para 2 of "Instructions to Applicants"

15. UPLOAD OF DOCUMENTS:

(a) In respect of recruitment to this post, the candidates shall mandatorily upload the certificates / documents (in support of all the claims made / details furnished in the online application) at the time of submission of online application itself. It shall be ensured that the online application shall not be submitted by the candidates without mandatorily uploading the required certificates.

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

Refer Annexure V for the list of documents to be uploaded by the Applicants"

16. LAST DATE FOR SUBMISSION OF APPLICATION:

Online application can be **submitted / edited upto 03.05.2022 till 11.59 p.m.**, after which the link will be disabled and the uploaded documents can be **re-uploaded upto 14.06.2022 till 11.59 P.M.**

(For detailed information, applicants may refer to the "[Instructions to Applicants](#)" at the Commission's website www.tnpsc.gov.in).

DISCLAIMER

“The Government orders relating to Equivalence of qualification are available in the **Annexure III** of the Notification. However, if the applicant 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, applicants should furnish the details of the same while applying and should **upload** a copy of the Government orders, **along with online application**, failing which their application 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”.**

Secretary

ANNEXURE-I

1	Name and Address of the Firm/Workshop/ Company / Government Department / Public Sector under taking	:	
2	Whether the said Firm / Workshop/ Company registered under the Factories Act 1948(Central Act LXIII of 1948)	:	
3	Registration Number of Firm / Workshop / Company (Under Factories Act, 1948)	:	
4	Nature of work of the organisation (Production/Service)	:	
5	Name of the Employee and Date of Birth	:	
6	Qualification possessed by the Employee on the Date of Joining Service	:	
7	Designation and period of Experience of the Employee	:	
8	Nature of the Work/Duty performed by the Employee (To be mentioned in Brief)	:	
9	Whether the employee possesses experience as laid in para 4(B) of the notification		
	a) Period of Experience		From..... To.....
9	Whether Attendance Register / Attendance Rolls / Pay Register and other records /available for this Employee	:	Yes / No

@ strike out which is not applicable.

Note:-

Firms / Research Institution which issues the certificate is cautioned that issuing of any certificate containing false details will lead to legal / penal action on them.

CERTIFICATE

This is to certify that Thiru/Tmt/Selvi possesses the said experience as stated above is true as per the information given by the Employee.

Signature of the Applicant

Signature

Office Seal:

Name & Designation of the
Head of Institution / Firm

Place

Date:

ANNEXURE-II**Paper –I [SYLLABUS FOR WRITTEN EXAMINATION]****AGRICULTURAL ENGINEERING****CODE NO: 280****UNIT-I: SURVEYING AND HYDROLOGY**

Surveying – Instruments - Methods of surveying – Computation of area – Triangulation, intersection, traversing, cross staff survey – Plane table survey – Earth work computation -Simpson’s trapezoidal rule - Levelling - Definition - Types of benchmarks - Different types of levels – Reduction of leveling data by rise and fall method and height of collimation method -Contouring – Profile surveying - Cross section survey - Use of Minor instruments - Hydrology – Measurement of rainfall, evaporation and infiltration – Estimation of runoff – Factors affecting runoff – Computation of volume of runoff and peak flow – Unit hydrograph - Occurrence of ground water, hydraulics of wells, types of wells and their construction - Well drilling – Techniques for different formations - Well logging - Types of well screen - Design of well screens - Well development - Yield testing.

UNIT-II: SOIL EROSION AND CONSERVATION

Soil erosion – Types – Factors affecting erosion by water and wind - Stages of water erosion -Biological control measures - Biological control measures and their suitability - Contour farming, strip cropping, mixed cropping, intercropping and mulching - Mechanical control measures and their suitability – Design and construction of contour bunds, graded bunds, terraces, contour stone walls, contour trenches, staggered trenches and diversion drain - Gully control structures and check dams - Wind erosion – Types and control - Dry farming techniques for improving crop production - Estimation of soil erosion - Universal Soil Loss Equation.

UNIT-III: WATERSHED DEVELOPMENT AND MANAGEMENT

Watershed – Concept, types and delineation - Land capability classification - Participatory rural appraisal technique – Watershed development plan – Estimation of cost and benefits -Gully and ravine reclamation – In-situ & Ex-situ water harvesting, micro catchments – Ground water recharge - Farm pond and percolation pond – Selection of suitable soil and water conservation practices – Afforestation – Holistic planning - Watershed based rural development – Use of aerial photography and remote sensing in watershed management - Applications of GIS in planning and development of watersheds including forest cover and water resources.

UNIT-IV: IRRIGATION AND DRAINAGE

Irrigation - Sources – Soil- water- Plant relationship - Water requirement of crops– Measurement of irrigation water - Weirs and flumes - Methods of irrigation - Surface, sprinkler and drip irrigation - Drip irrigation – Components – Wetting pattern - Filters and Fertigation tanks - Design of laterals - Submain - Main lines -Pump capacity - Operation and

maintenance- Sprinkler irrigation - Components - Sprinkler performance - Hydraulic design of sprinkler systems - Duty and delta relationship - Irrigation scheduling - Irrigation efficiencies and their estimation - Pumps - Types, selection and installation - Drainage - Causes of water logging and salt problem - Methods of drainage - Design of surface, sub-surface and vertical drainage systems - Improvement and utilization of poor quality water - Reclamation of saline and alkali soils.

UNIT-V: FARM AND IRRIGATION STRUCTURES

Design and construction of farm structures - Site selection - Materials of construction - Quality- types of masonry - Foundation, basement and superstructure - Types of roofs - building plan and estimation, requirements of farm house, threshing floor, drying floor, poultry house, dairy farm, rat proof godown and farm roads - Design features earthen dams and gravity dams - Water conveyance structures - Earthen channels and lined channels - Advantages of lining - materials of lining - Design of channel cross section - Crossing control structures - Drop spillway, chute spillway, pipe inlet spill way - Road crossing structures - Culvert, inverted siphon aqueduct - Their uses - Underground pipe line system - Components and their functions - Structures for plant environment- Green houses, polyhouses and shadenets - Construction and utilization - Soil less culture.

UNIT-VI: FARM POWER

Agricultural mechanization - Scope and sources of farm power - Animate and electromechanical - Thermodynamics - Construction and working of internal combustion engines - Fuel, ignition, lubrication, cooling, air intake, exhaust, governing and electrical systems of IC engines - Different types of tractors and power tillers - Power transmission, ground drive, power takeoff, steering, brake, implement control and hydraulic systems - Bulldozer - Features, traction, suspension, steering, operations using bulldozer - Weight transfer, theory of traction - Tractive efficiency - Mechanics and stability - Care and maintenance of tractors.

UNIT- VII: FARM MACHINERY

Farm machinery - Primary tillage implements - Mould board plough, disc plough and chisel plough - Secondary tillage implements - Cultivators, harrows and rotary tillers - Land shaping machinery - Leveller, ridger and bund former - Sowing and transplanting - Seed drills, planters and rice transplanters - Interculture implements - Plant protection equipment - Sprayers and dusters - Harvesting, threshing and combining equipment - Machinery for earth moving and land development - Machinery for horticulture, agro-forestry and forages - Haulage of agricultural and forest produces - Management of farm machinery - Cost estimation for farm operations.

UNIT-VIII: UNIT OPERATIONS IN FOOD AND AGRICULTURAL PROCESSING

Heat transfer principles – Conduction, convection and radiation - Types of heat exchangers - Unit operations – Evaporators - Types - Mechanical separation – Filtration – Sedimentation – Settling – Centrifugal separation – Cyclone separation- Size reduction – Mixing – Blending – emulsification - Food processing operations- Pasteurization – Sterilization – Canning - Retort processing - Extrusion processing of foods - Methods of drying of foods – Preservation of food by irradiation - Microwave and dielectric heating - Fats and oil processing – Extraction methods and equipments - Food packaging – Materials and characteristics – Suitability - Processing of milk and milk products, packaging of milk - Principles of refrigeration and applications in food industries – Cold storage of fruits and vegetables - Design aspects.

UNIT- IX: PROCESS ENGINEERING OF AGRICULTURAL AND HORTICULTURAL CROPS

Engineering properties of food materials – Moisture content – Methods of determination – Psychrometry - Drying – Thin layer and deep bed drying – Types of heat sources and types of dryers - Cleaning and grading – Principles – Separators – Efficiency – Performance index - Shelling and decortication – Seed processing and layout of seed processing units - Rice processing – Parboiling and dehusking of paddy – Machines used - Milling of wheat, corn and pulses – Material handling equipments - Conveyors and elevators - Storage – Conditions for safe storage – Bag and bulk storage – Silo storage - Design aspects - Modified atmosphere storage – Storage structures - Equipments used for processing of horticultural crops – Preservation of fresh fruits and vegetables – Drying and dehydration – Processing of coffee, tea, rubber, cashew nut, coconut, oil palm, aromatic plants, flowers and spices.

UNIT-X: RENEWABLE AND BIOENERGY

Solar energy – Solar collectors – Air heaters – Water heaters – Solar photovoltaic systems and applications - Wind energy - Suitable sites – Types of wind mills – Wind mill components – Applications – Performance of wind mills - Biomass resources – Agro residues – Characteristics - Conversion technologies – Biochemical conversion – Biogas plant – Types and selection, construction, operation and maintenance - Slurry handling - Thermochemical conversion – Stoves – Types - Improved stoves – Pyrolysis – Charcoal production – Gasification – Briquetting – Cogeneration - Energy plantation and environmental impact – Global warming – Clean development mechanism (CDM) and role of afforestation - Biofuels – Biodiesel feedstock, production and by-product utilization – Ethanol – Production and utilization – Emission - Standards and control.

Paper –I AUTOMOBILE ENGINEERING**(Code No: 258)****UNIT - I: ENGINES**

Petrol engine – principle and construction – diesel engine- principle and construction – four stroke and two stroke. Carburettors – types, working principle, different circuits – compensation circuits. 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 superchargers.

UNIT – II: AUTOMOTIVE CHASSIS

Types of chassis layout – various types of frames – front axles – types, stub axle, front wheel geometry – Ackermann & Davis steering mechanism – steering gear boxes. Power Assisted steering. Hutch kiss and torque tube drive. Propeller shaft- final drive – types. Differential – principle and construction details- non slip differential – differential lock. Rear axle - types – full floating – $\frac{3}{4}$ quarter & semi. Wheels and rims – types and construction. Tyres – types and construction details.

UNIT – III: SUSPENSION AND BRAKING SYSTEM

Suspension system – requirements – types - construction details of Single leaf and multi leaf coil and torsion bar springs. Rubber, pneumatic and hydroelastic suspension. Independent suspension – shock absorbers. Braking system – need, stopping distance, classification of brakes. Drum brake and disc brake theory. Mechanical, hydraulic, pneumatic, electric and power assisted braking system. Retarders.

UNIT – IV: AUTOMOTIVE TRANSMISSION

Clutches – coils spring, diaphragm clutches – centrifugal and semi centrifugal clutches – multiplate clutches. Gear box – sliding mesh, constant mesh and synchromesh – construction and operation. Automatic transmission – fluid coupling, torque converter, epicycle gear box, hydrostatic transmission, electric drive.

UNIT – V: AUTOMOTIVE ELECTRICAL AND ELECTRONICS

Battery – types, lead acid battery, battery charging, rating, and testing. Ignition system – coil, magneto and electronic ignition system – principle and operation. Spark plug – Automobile Air conditioning, power windows and central locking system – starting system – types of drives - bendix drive, solenoid drive system – charging system – generator system – types – alternator, principle and operation of cut-out and regulators. Sensors – electronic suspension – electronic steering systems. Navigation system – ABS – AIRBAG restraint system.

UNIT – VI: VEHICLE BODY ENGINEERING

Classification of cars, buses, HCVs and LCVs – visibility – forward and rearward visibility – safety – design – safety equipments. Aerodynamics of vehicles – different types of drags – optimization techniques - wind tunnel testing for drag force and pressure distribution. Construction of cars – panels . Construction of buses –conventional and integral construction. Driver’s seat – compactness of driver’s cab – segmental design – modern painting processes for cars. Body trim items. Body mechanism – window winding – door lock.

UNIT – VII: VEHICLE DYNAMICS

Concept of vibration – free, forced, undamped and damped vibration. Response analysis of single DOF, Two DOF and multi DOF. Vibration absorbers. Tyres – tyre forces and moments – longitudinal and lateral force at various slip angles. Tractive and cornering properties of tyres. Human response to vibration. Design and analysis of passive, semi active and active suspension using quarter car, half car and full car models. Steady state handling characteristics – directional control of vehicle. Stability of vehicle.

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 modeling – active suspension control.

UNIT – IX : AUTOMOTIVE POLLUTION AND CONTROL

Pollutants – sources, formation and effects on environment and human beings. Emission standards. HC,CO and NO formation in SI engines. Smoke emission and NOx emissions and its types from diesel engine. Particulate emissions. Control techniques – EGR, SCR, Secondary air induction, particulate trap and catalytic converters. Test procedures CVS1, CVS3 – Test cycles. NDIR analyser – flame ionization detectors – chemiluminescent analyser – dilution tunnels – gas chromatograph – smoke meters.

UNIT – X : SERVICING & MAINTENANCE, MOTOR VEHICLE ACT

Automobile law – motor vehicle act – registration, driving licence, insurance, pollution and control, regulation. Trouble shooting and servicing of clutch, gear box, brakes, suspension and steering system. Trouble shooting and servicing of engine, engine cooling system and lubrication system – tools and equipments required for repairs – service station – organization and management of service stations.

UNIT - I : BUILDING MATERIALS AND CONSTRUCTION PRACTICES

Properties of engineering materials-brick, stones, aggregates, cement (types and grades), concrete (mix design), Concrete admixtures, Self compacting Concrete, steel and new materials. - Construction of stone masonry, brick masonry and R.C.C. and block masonry – construction equipments - Building bye - laws and Development regulations practiced in Tamil Nadu - Provisions for fire safety, lighting and ventilation- Acoustics.

UNIT - II : ENGINEERING SURVEY

Survey - computation of areas - Chain Survey - Compass surveying - Plane table survey - levelling - fly levelling - L.S. and C.S. - Contour volumes - Theodolite survey - Traversing - Heights and Distances - Geodetic Observations- Tachometry and Triangulation - Use of EDM, GPS and Remote sensing techniques.

UNIT- III : STRENGTH OF MATERIALS

Stresses and strains -Thermal stresses- elastic constants - Beams and bending - 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.

UNIT - V : GEOTECHNICAL ENGINEERING

Formation of soils - types of soils - classification of soils for engineering practice - Field identification of soils - Physical properties of soils - Three phase diagram - permeability characteristics of soils - stress distribution in soils - Theory of consolidation, shear strength parameters of soils - Compaction of soils. Soil exploration - Soil sampling techniques - Borelog profile - shallow foundations - Terzhagi's bearing capacity theory - Pile foundation - Group action of piles - settlement of foundations.

UNIT - VI : ENVIRONMENTAL ENGINEERING AND POLLUTION CONTROL

Sources of water - Ground water Hydraulics - Characteristics of water - Water analysis - water treatment - water borne diseases. Sewerage system - Design of sewerage systems - sewer appurtenances - Pumping of sewage - sewage treatment and disposal - Industrial waste treatment - solid waste management - Air, water 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 - prestressing - 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.

UNIT - VIII : HYDRAULICS AND WATER RESOURCES ENGINEERING

Hydrostatics-applications of Bernoulli equation - flow measurement in channels, 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 of crops - Irrigation methods -Design of alluvial canal and design of headworks. Waterlogging and land reclamation - Cross drainage works.

UNIT - IX : URBAN AND TRANSPORTATION ENGINEERING

Urbanisation trend and impact - Slum clearance and slum improvement programmes - Different modes of transport and their characteristics. Geometric design of highways. -Design and Construction of bituminous and concrete roads - Maintenance of roads. Railways-Components of permanent way - Signalling, Interlocking and train control. 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 ESTIMATING

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 - Building valuation - law relating to contracts and arbitration.

PAPER –I**MECHANICAL/PRODUCTION/MANUFACTURING ENGINEERING****CODE NO: 256****UNIT – I : MECHANICS, KINETICS AND DYNAMICS**

Statics of Particles, Equilibrium of Rigid bodies, Properties of Surfaces and Solids, Dynamics of Particles, Friction and Elements of Rigid Body Dynamics, Basics of Mechanisms, Kinematics of mechanisms, gyroscope, Gears and Gear Trains, Friction in Machine Elements, Force Analysis, Balancing, Single Degree Free Vibration, Forced Vibration, mechanisms for Control and Vibration.

UNIT – II : STRENGTH OF MATERIALS AND DESIGN

Stress, Strain and Deformation of Solids, Transverse Loading on Beams and 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 of Fasteners and Welded 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.

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, viscous flow of incompressible fluids, boundary layer, elementary turbulent flow, flow through pipes, head losses in pipes, bends etc. Turbomachinery: Pelton wheel, Francis and Kaplan turbines - impulse and reaction principles - velocity diagrams.

UNIT – IV : 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.

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.

Applications: 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 – VI : MATERIALS SCIENCE AND METALLURGY

Constitution of alloys and phase diagrams, steels, cast iron, TTT diagram, heat treatment of ferrous and non-ferrous metal, surface modification techniques, 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.

UNIT – VII : PRODUCTION TECHNOLOGY

Foundry Technology- types of pattern, moulding and casting methods, design of castings, defects, Hot and Cold working, metal forming processes- types and defects, metal joining processes, types and design of weldment, welding metallurgy, welding defects, Metal cutting, machine tools - center lathe, drilling, milling, grinding, gear cutting and broaching, unconventional machining processes, CNC machine tools, Part programming.

UNIT – VIII : METROLOGY AND QUALITY CONTROL

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 and Computerized Process Planning, Cellular Manufacturing, Flexible Manufacturing System and Automated Guided Vehicle System, 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 - objectives - basic procedure, work measurement - objectives - basic procedure, machine loading and scheduling, product sequencing, inventory control - E O Q - quantity discounts, ABC Analysis material handling systems, operations research, simplex method, Transportation model, Assignment model CPM and PERT. Management theory and practice, planning - nature and purpose of Planning, Decision making, Organising, staffing, Motivation, Leadership, controlling, control techniques.

Paper –I CHEMICAL ENGINEERING**CODE NO: 260****UNIT-I: CHEMICAL PROCESS CALCULATIONS AND CHEMICAL ENGINEERING THERMODYNAMICS**

Properties of gases liquids and solids, Humidity and saturation, Gas laws, Material and Energy balances- involving recycle, by pass and purge systems, Material and Energy balance with reactions. Thermodynamics functions - Chemical and Phase Equilibrium - Laws of Thermodynamics - Ideal and non-ideal gases and solutions – fugacity, partial molal properties.

UNIT- II: MECHANICAL OPERATIONS AND ENGINEERING MATERIALS

Size Reduction, law, particle size Analysis, Mixing and agitation, Filtration, Sedimentation and Settling, Materials of construction for chemical Industries, Metallic, Non-metallic and Polymeric materials, corrosion. Grinding, Law. Smart materials for Chemical Engineering applications.

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. Potential for energy resources, energy conversion, solar, thermal, photoelectric, ocean, geothermal, wind energy, bio-energy sources, battery and fuel Cells.

UNIT -IV: TRANSFER OPERATIONS

Momentum: Newtonian and Non-Newtonian fluids, Compressible and in-compressible fluids flow through packed bed, Fluidized bed and closed ducts, Fluid Machinery. Heat transfer: conduction, convection and radiation, Heat transfer with phase change, heat exchangers, Evaporation. Mass transfer: Diffusion, Theories of mass transfer, Inter phase mass transfer, Analogy. Distillation, Extraction, Absorption, Adsorption, Drying.

UNIT - V: CHEMICAL REACTION ENGINEERING

Chemical Kinetics, Rate equations, Interpretation of rate data, Design of reactors, order of reaction, Catalysis, Thermal characteristics of reactors. Isothermal and adiabatic fixed bed reactors, non-isothermal and non-adiabatic fixed bed reactors. Two-phase fluidized bed model, slurry reactors, trickle bed reactor. Experimental determination and evaluation of reaction kinetics for heterogeneous systems.

UNIT - VI: INSTRUMENTATION AND PROCESS CONTROL

Principles of measurements and classification of process instruments, measurement of temperature, pressure, fluid flow, liquid weight and weight flow rate, viscosity, pH, concentration, electrical and thermal conductivity, humidity of gases. 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, tuning of controller settings, cascade control, feed forward control, Smith predictor controller, control of distillation towers and heat exchangers.

UNIT - VII: 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, 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 orthonormal vectors; Gram-Schmidt orthogonalization; Theorem for Eigenvalues and Eigenfunctions.

UNIT - VIII: SEPARATION OPERATIONS

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-IX: ENVIRONMENTAL ENGINEERING AND SAFETY 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. Industrial safety principles, site selection and plant layout, chemical hazards classification, Safety in operations and processes, hazardous identification techniques.

UNIT - X: DESIGN AND OPTIMIZATION

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.

Unit - I: Fibre Identification and Blend analysis

- i) Textile fibre Classification.
- ii) Fine, gross structure and properties of fibres
- iii) Microscopic, physical and chemical test methods for fibre identification; blend analysis
- iv) Morphology characterization – Density, XRD, Electron microscopy v) Thermal characterization methods - DSC, DMA / TMA, TGA

Unit - II: Physical Properties of Fibres

- i) Mechanical – Tensile, Elastic recovery, Time Effect, Bending, Twisting & Compression
- ii) Optical - Absorption and dichroism, Reflection and lustre.
- iii) Electrical and Thermal Properties - Dielectric property, Static Electricity, Structural changes in fibres on thermal treatment

Unit - III: Synthetic Fibre Spinning and Post Spinning Operations

- i) Requirements of fibre forming polymers
- ii) Spinning of Polymers - Melt Spinning, Wet spinning, Dry spinning
- iii) Post Spinning Operations – Drawing, Crimping, Heat setting, Tow-to-top conversion, Texturing methods

Unit - IV: Spinning:

- i) Principles of opening, cleaning and mixing/blending of fibrous materials ii) Draft and Drafting, Irregularity introduced by drafting
- iii) Roller arrangements in drafting systems;
- iv) Combing cycle, combing efficiency, lap preparation;
- v) Mechanism of roving bobbin building, roving twist;
- vi) Ring Cop formation, forces acting on yarn and traveller;
- vii) Single and folded yarn twist, production of core spun / compact spun yarn.
- viii) Alternate Spinning systems - rotor spinning, air jet spinning, friction spinning.
- ix) Principles of long staple spinning – Jute, Wool

Unit - V: Weaving:

- i) Warp winding - random and precision winding, winding parameters ii) Yarn clearers**
and Tensioners; yarn splicing
- iii) Types of warping - beam and sectional warping, pirn winding process;
- iv) Sizing Techniques, sizing of spun and filament yarns
- v) Primary, Secondary and Tertiary motions of loom, Loom timings. vi) Tappet, Dobby and Jacquard shedding;
- vii) Principles of Shuttleless Weft insertion systems.
- viii) Principles of Circular and Multiphase weaving
- ix) Basic woven fabric constructions and its derivatives

Unit - VI: Testing & Quality Control:

- i) Sample selection techniques using statistics.
- ii) Measurement of fibre length, strength, fineness, maturity iii) HVI and AFIS techniques
- iv) Determination of yarn count, twist and hairiness v) Tensile testing of fibres, yarns and fabrics
- vi) Evenness testing of slivers, rovings and yarns
- vii) fabric properties - air permeability, drape, crease recovery, tear / bursting strength & abrasion.

- viii) Objective Evaluation of fabric hand - FAST and KESF
- ix) Statistical analysis of experimental results – Mean, SD, CV%

Unit - VII: Chemical Processing:

- i) Preparatory processes for natural fibres, synthetics and common blends ii) Dyeing of fibres using various dye classes.
- iii) Batch-wise and continuous dyeing techniques
- iv) Styles of printing. Printing thickeners and auxiliaries. v) Printing of cotton with reactive dyes.
- vi) Printing of polyester with disperse dyes.
- vii) Mechanical and chemical finishing of cotton

Unit - VIII: Knitting & Garments:

- i) Knitting - Yarn quality requirements, principles of weft and warp knitting ii) Basic weft and warp knitted structures and its properties
- iii) Garments - Pattern making, Spreading, Cutting, Marker efficiency iv) Stitches and Seams
- v) Types of Sewing machine vi) Sewing thread attributes
- vii) Inspection and Merchandising

Unit - IX: Nonwovens & Technical Textiles:

- i) Nonwovens - Web formation
- ii) Bonding methods – mechanical, thermal and chemical. iii) Finishing and Application of nonwovens
- iv) Technical Textiles - Property requirements
- v) Industrial Textiles - Belts, Ropes, Tyre-cords, Coated abrasives vi) Automotive Textiles - Filter fabrics, Airbags, Carpets
- vii) Geotextiles – Applications in civil engineering
- viii) Agriculture Textiles – Crop covers, bird nets, soil mats and sacks ix) Packaging Textiles – Food packing and bags.

Unit - X: Textile Management & Environment Conservation:

- i) Industrial Engineering – Work study, method study, ii) Costing – Elements, Balance sheet, P & L Account
- iii) Tools – TQM, 5S, Kaizen, MIS. iv) Marketing Management
- v) Industrial relations and Labour laws
- vi) Energy conservation in textile production process, vii) Characteristics of Effluent
- viii) Effluent treatment.

PAPER-I ELECTRICAL ENGINEERING**CODE NO: 259****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.

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-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.

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 Matrix – System Modeling and Design – Sampled Data System – Stability of Sampled Data System.

UNIT –V: ELECTRICAL MACHINES

D.C. Machines – Construction, Excitation methods – Armature Reaction and Commutation – Characteristics and Performance Analysis – Generators and Motors – Starting and Speed Control – 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 and Speed Control – 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-BLDC 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 - ZBus and YBus 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 –AC and DC Distribution.

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 Combination circuits - Sequential logic circuits-latch–Flip- flops– Counters – Registers – Memories(ROM,PLA and FPGA).

UNIT – VIII: POWER ELECTRONICS AND DRIVES

Power Semiconductor devices – Ideal and practical attributes of switch - Power Diode-DIAc - SCRs- TRIAC-GTO - power MOSFET-IGBT- Static Characteristics and Principles of Operation- Single and Three Phase AC to DC Converters – Single and Three Phase AC to AC converters –DC to DC Converters (MOSFET and IGBT based) - Single and Three Phase Inverters (MOSFET and IGBT based) - Pulse Width Modulation – Sinusoidal Modulation with Uniform Sampling – Uninterrupted Power Supplies-Switched Mode Power Supplies – Speed Control of DC and AC Motor Drives– Applications of Variable Speed Drives

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 – 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.

UNIT –X: RENEWABLE ENERGY SOURCES AND STORAGE DEVICES

Renewable Energy – Sources and Features - Solar Radiation Spectrum - Radiation Measurement-Solar Photovoltaic Cell -Operating Principle- Microhydel - Operating principle- Wind Energy Source-Wind Patterns and Wind Data- Site Selection- Types of Wind Generators-Fuel Cells-Batteries-Super Capacitors.

PAPER -II
SYLLABUS FOR WRITTEN EXAMINATION
Part-A

கட்டாய தமிழ் மொழி தகுதித் தேர்விற்கான பாடத்திட்டம்

(கொள்குறி வினாவிற்கான தலைப்புகள்)

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 மரூஉவை 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.

PAPER-II Part –B General Studies (Degree Standard)**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.

ANNEXURE – III

Sl. No.	Degree considered as Equivalent to the Qualification prescribed in the Rule	G.O.
1	B.E. (Production Engineering) and B.E. (Industrial Engineering) awarded by the Universities in Tamil Nadu be treated as an equivalent qualification to the B.E. Degree in Mechanical Engineering.	G.O.No.183, Personnel and Administrative Reforms (R) Department, dated 06.06.1995.
2	B.E. (Civil and Transportation Engineering) awarded by Bharathiyar University is equivalent to B.E. (Civil Engineering).	G.O.(Ms).No.110, Public Works (B2) Department, dated 30.04.2008.
3	B.E. (Civil Engineering with Diversification in Construction Engineering and Management) awarded by Anna University, B.E. (Civil Engineering and Computer based construction) awarded by Anna University and Madurai Kamaraj University and B.E. (Civil Engineering with Diversification in Environmental Engineering) awarded by the Anna University are equivalent to B.E. (Civil Engineering).	G.O.(Ms).No.232, Public Works (B2) Department, dated 23.07.2008.
4	B.Sc., (Civil Engineering) awarded by Kurukshetra University is equivalent to B.E. (Civil Engineering).	G.O.Ms.No.260, Public Works (B2) Department, dated 16.11.09.
5	B.E Manufacturing Engineering awarded by Anna University is equivalent to that of B.E Mechanical Engineering.	G.O.(Ms) No.309, Higher Education (J2) Department, dated 17.12.2018.
6	B.E Manufacturing Engineering (Part-time) awarded by Anna University is equivalent to that of B.E Mechanical Engineering of the Anna University.	G.O.Ms.No.9 Energy (B2) Department, dated 28.01.2010.
7	(i) B.E. (Civil and Structural Engineering) is equivalent to B.E. (Civil Engineering) and (ii) B.E. (Mechanical and Production Engineering) is equivalent to B.E. (Mechanical Engineering).	G.O.(Ms) No.102, Agriculture (AA3) Department, dated 11.05.2010.

8	6 years integrated U.G. Level Engineering B.Tech. Degree programme in Civil Engineering / Mechanical Engineering (for Speech and Hearing Impaired Students) awarded by Kalasalingam University is equivalent to B.Tech. in similar programmes offered by Anna University.	G.O.(Ms) No.41, Higher Education (J2) Department, dated 03.03.2014.
9	(i) B.E. (Environmental Engineering) Degree of Avinashilingam Institute for Home Science and Higher Education for Women Deemed University is equivalent to B.E. (Civil Engineering) (ii) B.E. (Civil Engineering with Diversification in Building Technology) Degree of Anna University is equivalent to B.E. (Civil Engineering).	G.O.(Ms)No.178, Higher Education (J1) Department, dated 17.07.2015.
10	B.Tech (Mechanical) / B.Tech (Civil) (Part-Time) obtained from Vellore Institute of Technology, Vellore is equivalent to B.E. (Mechanical) / B.E. (Civil) (Regular)	G.O.(Ms) No.77, Higher Education (J2) Department, dated 03.03.2016.
11	பி.இ.(மின்னியல் மற்றும் மின்னணுவியல்) பட்டப்படிப்பினை பி.இ.(மின்னியல்) பட்டப்படிப்பிற்கு இணையானதாக கருதப்படுகிறது.	அரசாணை(நிலை)எண்.262,உயர்கல்வித்(ஜே2) துறை, நாள் 28.07.09
12	1. B.Tech, (Chemical and Electro Chemical Engineering)Degree awarded by Anna University is equivalent to Chemical Engineering 2. B.Tech.(Petrochemical Technology) Degree awarded by Bharathidasan University is equivalent to B.E (Chemical Engineering) 3. B.E (Electronics & Instrumentation Engineering) Degree awarded by Anna University is equivalent to B.E Electrical Engineering or Electronics and Communication Engineering	G.O.(Ms).No.178, Higher Education (J1) Department, dated 17-07-2015

13	<p>Government of India has recognized the following courses of Section A & B Examination as revised, conducted by the Institution of Engineers (India), Kolkata as equivalent to Degree in the Appropriate branch of Engineering of the Recognized Universities in India.</p> <ol style="list-style-type: none"> 1. Agricultural Engineering 2. Chemical Engineering 3. Civil Engineering 4. Electrical Engineering. 5. Mechanical Engineering 6. Production Engineering 7. Textile Engineering 	The Gazette of India, February 11, 2006(MAGHA 22, 1927) Part-I-Section1
14.	B.Tech Petrochemical Technology Degree awarded by Anna University(Tiruchirappalli) is equivalent to Degree in B.E. Chemical Engineering	G.O(Ms)No.284 Higher Education (J1) Department dated 03.10.2017
15.	Graduateship Examination of Indian Institution of Industrial Engineering, Navy Mumbai is equivalent to B.E. Industrial Engineering	G.O(Ms)No.86 Higher Education (J1) Department dated 27.04.2015
16.	B.E/B.Tech in 'Production Engineering' degree offered by Anna University is equivalent to B.E/B.Tech in 'Mechanical Engineering'	G.O(Ms)No.270, Higher Education (J1) Department dated 03.12.2019
17.	B.E/B.Tech in 'Manufacturing Engineering' degree offered by Anna University is equivalent to B.E/B.Tech in 'Mechanical Engineering' offered by Anna University	
18.	B.E/B.Tech in 'Mechanical (sandwich – 5 year Engineering' degree offered by Anna University is equivalent to B.E/B.Tech in 'Mechanical Engineering' offered by Anna University	
19.	B.E/B.Tech in 'Handlooms and Textile Technology' degree offered by Anna University is equivalent to B.E/B.Tech in 'Textile Technology offered by Anna University	

20.	B.E/B.Tech in Electrical and Electronics Engineering (sandwich) degree offered by Anna University is equivalent to B.E/B.Tech in 'Electrical and Electronics Engineering' offered by Anna University	
21.	B.E/B.Tech in Production Engineering (sandwich) degree offered by Anna University is equivalent to B.E/B.Tech in 'Production Engineering' offered by Anna University	
22.	B.E/B.Tech in Mechanical Engineering degree offered by Anna University is equivalent to B.E/B.Tech in 'Production Engineering' offered by Anna University	
23.	B.E/B.Tech in Manufacturing Engineering degree offered by Anna University is equivalent to B.E/B.Tech in 'Production Engineering' offered by Anna University	
24.	B.E Petrochemical Engineering awarded by Anna University is equivalent to B.E/B.Tech Chemical Engineering.	G.O(Ms)No.4, Higher Education (J1) Department dated 07.01.2022
25.	B.E., degree acquired through Distance Learning Mode by the candidates enrolled during academic seasons 2001-2005 in (i) JRN Rajasthan, Vidyapeeth, Udaipur (Rajasthan),(ii) IASE Sardarshahar, (Rajasthan), (iii) AAI, Allahabad, (Uttar Pradesh) validated by AICTE – UGC by conducting special examination as per the Supreme Court's Order(C) Nos.19807 – 19808/2012, Dated 03.11.2017 be validated and approved as equivalent to degrees of regular stream for the purpose of employment in Public Services	G.O(Ms)No.19, Higher Education (K1) Department dated 02.02.2022

ANNEXURE -IV

CERTIFICATE OF PHYSICAL FITNESS BY

A SINGLE MEDICAL OFFICER
THE CIVIL MEDICAL BOARD

Signature of Candidate _____

I/We do hereby certify that I/We have examined (full name) Thiru / Thirumathi / Selvan / Selvi _____ a Candidate _____ for employment under the Government as _____ in the _____ Office in the _____ Department and whose signature is given above and cannot discover that he/she has any disease, communicable or otherwise, constitutional affliction or bodily infirmity/except that his/her weight is in excess of/below the standard prescribed, or except

I/We do not consider this a disqualification of the employment he/she seeks.

His/Her age is according to his / her own statement _____ years and by appearance about ___ / ___ years.

I/We also certify that he/she has marks of Small Pox/ Vaccination.

Chest measurement in Inches	<u>On full Inspiration</u>
	<u>On full expiration</u>
	Difference expansion

Height in ft.

Weight in kg.

Cardio-Vascular System

Respiratory System

His/Her vision is normal

Hypermetropic/ Myopic/ Astigmatic/

[Here enter the degree of defect and the strength of correction glasses]

Hearing is normal / defective (much or slight)

Urine-Does chemical examination show

(i) Albumen (ii) Sugar State specific gravity:

Personal marks (at least two should be mentioned) For Identification

1.

2.

SIGNATURE:

RANK:

DESIGNATION:

PRESIDENT:

Member (I)

(II)

STATION:

DATE:

STATION:

DATE:

The candidate must make the statement required below prior to his / her Medical Examination and must sign the declaration appended thereto. His attention is specially directed to the warning contained in the note below:-

1. State your name in full:
2. State your age and birth place:
3. (a) Have you ever had small pox, intermittent or any other fever, enlargement or suppuration of glands spitting of blood, asthma, inflammation of lungs, heart disease, fainting attacks, rheumatism, appendicitis?
OR
(b) any other disease or accident requiring confinement to bed and medical or surgical treatment?
4. When, where your last vaccinated
5. Have you or any of your near relations been afflicted with consumption, serofula gout, asthma, fits, epilepsy or insanity?
6. Have you suffered from any form of nervousness due to over work or any other cause?
7. Furnish the following particulars concerning your family:

Father's age, if living and state of health	Father's age at death and cause of death	No. of brothers living, their ages, state of health	No. of brothers dead, their ages at and cause of death
(1)	(2)	(3)	(4)

Mother's age, if living and state of health	Mother's age at death and cause of death	No. of Sisters living, their ages and state of health	No. of Sisters dead, their ages at and cause of death
(1)	(2)	(3)	(4)

I declare all the above answers to be to the best of my belief, true and correct.

CANDIDATE'S SIGNATURE

Note: The candidate will be held responsible for the accuracy of the above statement by willfully suppressing any information he will incur the risk of losing the appointment and if appointed, of forfeiting all claim to superannuation allowance or gratuity.

ANNEXURE – V**List of Documents to be uploaded (Not less than 200KB in PDF)(single or multiple page in 200 KB in PDF)**

1.	SSLC Mark Sheet
2.	HSC Mark Sheet
3.	<p>Educational Qualification (Provisional Certificate / Degree Certificate / Consolidated Mark Sheet)</p> <p>a. Diploma Certificate</p> <p>b. Post Diploma Certificate</p> <p>c. U.G. Degree in Engineering</p> <p>d. P.G. Degree in Engineering</p> <p>e. Apprenticeship Training Certificate</p> <p>Note:</p> <p>If the issue date of provisional certificate / U.G. Degree / P.G. Degree Certificate / Diploma falls after the date of notification (i.e 04.04.2022) candidates should upload evidence for having acquired the prescribed qualification on or before the date of Notification, failing which their applications will be rejected.</p>
4.	G.O. for Equivalence of qualification to the prescribed qualification (if applicable)
5.	PSTM Certificate upto prescribed entire qualification (if applicable)
6.	Community Certificate
7.	Differently Abled Certificate obtained from the Medical Board /Differently Abled Book (if applicable)
8.	Experience Certificate (if applicable)
9.	Destitute Widow Certificate (if applicable)
10.	Ex-Servicemen Certificate (if applicable)
11.	Transgender ID Card with Gender (if applicable)
12.	Gazetted copy for name change (if applicable)
13.	No Objection Certificate (if applicable should be uploaded/produced when called for)
14.	Documents / Court Orders proving Acquittal / Conviction or FIR in case of pending cases for Criminal cases registered (if applicable)
15.	Other Documents (if any)

For further details refer para 2W of “Instructions to Applicants”

ANNEXURE – VI**TENTATIVE TIMELINE FOR THE RECRUITMENT PROCESS**

Sl. No.	Process	Timeline
1.	Last date upto which the application can be submitted / edited / payment of fees can be made	03.05.2022
2.	Last date upto which the applicants are permitted to re-upload the documents	14.06.2022
3.	Publication of Written Examination Results	August 2022
4.	Date of Oral Test	September 2022
5.	Counselling	September 2022

Secretary