



TAMIL NADU PUBLIC SERVICE COMMISSION

NOTIFICATION NO. 05/2019

DATED: 22 .01.2019

Applications are invited through online mode up to 20.02.2019 for direct recruitment to the following posts in the Department of e-Governance.

Sl. No.	Name of the post	Name of the service	No. of vacancies	Scale of pay
1.	Assistant System Engineer (Code No Code No. 3021)	Tamil Nadu Information Technology Service (Code No106)	36	Rs.37700-119500 (Level 20) as per Tamil Nadu Revised Pay Rules 2017
2.	Assistant System Analyst (Code No 3022)		24	

The number of vacancies is only approximate and is liable for modification including reduction with reference to vacancy position at any time before finalisation of selection.

It is mandatory for the 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.**

2. DISTRIBUTION OF VACANCIES:

The category wise breakup details, in respect of the vacancies, **For the post of Assistant System Engineer** are as follows:-

(i) CURRENT VACANCIES: 36

GT(G)	GT(G) PSTM	GT (W)	GT(G) (DAP)	BC(OBCM) (G)	BC(OBCM) (G) (PSTM)	BC(OBCM) (W)	BC-M (G)	MBC/DC (G)	MBC/DC (G) (PSTM)	MBC/DC (W)	SC(G)	SC (G) PSTM	SC (W)	SC(A) (G)(PSTM)	SC(A) (W) (PSTM)	TOTAL
5	2	3	1	5	1	3	1	4	1	2	3	1	2	1	1	36

The category wise breakup details, in respect of the vacancies, **For the post of Assistant System Analyst** are as follows:-

(ii) CURRENT VACANCIES: 24

GT(G)	GT(G) PSTM	GT (W)	BC(OBCM) (G)	BC(OBCM) (G) (PSTM)	BC(OBCM) (W)	BC-M (G)	MBC/DC (G)	MBC/DC (G) PSTM)	MBC/DC (W)	SC(G)	SC (G) PSTM	SC (W)	SC(A) (W) (PSTM)	TOTAL
3	1	2	4	1	2	1	2	1	2	2	1	1	1	24

Abbreviations:-

GT- General Turn; BC(OBCM) - Backward Class (Other than Backward Class Muslims); BC-M - Backward Class Muslims; MBC/DC - Most Backward Class / De-notified Community; SC - Scheduled Caste; SC(A) - Scheduled Caste - Arunthathiar; ST - Scheduled Tribes; G - General; W - Women; PSTM- Persons Studied in Tamil Medium DAP - Differently Abled Persons.

Note:-

The vacancy distributed to Differently Abled Persons will be announced later after the receipt of orders from the Government regarding identification of suitable categories of Differently Abled Persons towards 4% reservation for the post of Assistant System Engineer.

3. IMPORTANT DATES AND TIME :

Date of notification	22.01.2019	
Last date for submission of application	20.02.2019	
Last date for payment of fee through bank(State Bank of India or Indian Bank)	22.02.2019	
Date of written examination		
Paper-I Subject-(Objective Type)	07.04.2019 F.N	10.00 A.M. to 01.00 P.M
Paper-II Subject (Engineering Aptitude) (Objective Type)	07.04.2019 A.N.	02.30 P.M. to 03.30 P.M
Paper-III Subject-(Descriptive Type)	07.04.2019 A.N.	03.30 P.M. to 05.30 P.M

4. QUALIFICATIONS :

(A) AGE LIMIT (as on 01.07.2019)

(FOR BOTH POSTS)

Sl.No.	Category of candidates	Minimum age (should have completed)	Maximum age (should not have completed)
1	Others	21 years	30 years
2	MBCs/DCs/BCs/BC(M)s and Destitute Widows of all castes.	21 years	32 years
3	SCs/ SC(A)s/STs	21 years	35 years

NOTE :

- Differently Abled Persons are eligible for age concession upto 10 years over and above the maximum age limit prescribed above. (Section 64 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).
- Applicants not belonging to SC, SC(A), ST, MBC/DC, BC(OBCM), BC(M) who have put in five years and more of service on the date of notification in the State / Central Government are not eligible even if they are within the age limit. (Section 3 (r) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).
- Age concessions mentioned in paragraphs 5, 13 and 14 of the Commission's "Instructions to Applicants" (except that of differently abled persons) will not apply to this recruitment.

(B) EDUCATIONAL QUALIFICATION (as on 22.01.2019)

Applicants should possess the following or its equivalent qualification awarded by any University or Institution recognized by the University Grants Commission or Institution recognized by the Government:

Name of the post	Qualification
Assistant System Engineer	(1) B.E., or B. Tech., degree in any of the following subjects : (a) Computer Science and Engineering (b) Computer Engineering (c) Information Technology (d) Electronics and Communication Engineering (e) Electrical and Electronics Engineering.

	<p>(2) Must have an overall first class or equivalent Cumulative Grade Point Average (CGPA) in :</p> <ul style="list-style-type: none"> a) Secondary School Leaving Certificate (SSLC) (Class 10) b) Higher Secondary Certificate (HSC) (Class 12) or Senior Secondary Certificate (SSC) c) B.E./ B. Tech. degree <p>(3) a) Must have a minimum aggregate of first class in <i>Mathematics</i> and <i>Science</i> in Secondary School Leaving Certificate (SSLC).</p> <p>b) Must have a minimum aggregate of first class in <i>Mathematics, Physics</i> and <i>Chemistry</i> in Higher Secondary Certificate (HSC) or Senior Secondary Certificate (SSC)</p>
Assistant System Analyst	<p>(A) (1) B.E., or B. Tech., degree in any of the following subjects :</p> <ul style="list-style-type: none"> (a) Computer Science and Engineering (b) Computer Engineering (c) Information Technology (d) Electronics and Communication Engineering (e) Electrical and Electronics Engineering <p>(2) Must have an overall first class or equivalent Cumulative Grade Point Average (CGPA) in :</p> <ul style="list-style-type: none"> a) Secondary School Leaving Certificate (SSLC) (Class 10) b) Higher Secondary Certificate (HSC) (Class 12) or Senior Secondary Certificate (SSC) c) B.E., / B. Tech. degree <p>(3) a) Must have a minimum aggregate of first class in <i>Mathematics</i> and <i>Science</i> in Secondary School Leaving Certificate (SSLC).</p> <p>b) Must have a minimum aggregate of first class in <i>Mathematics, Physics</i> and <i>Chemistry</i> in Higher Secondary Certificate (HSC) or Senior Secondary Certificate (SSC)</p> <p style="text-align: center;">OR</p> <p>(B) (1) Post graduate degree in any of the following subjects :</p> <ul style="list-style-type: none"> (a) Computer Applications (MCA) (b) Computer Science (c) Information Technology

	<p>(2) Must have an overall first class or equivalent Cumulative Grade Point Average (CGPA) in :</p> <p>a) Secondary School Leaving Certificate (SSLC) (Class 10) b) Higher Secondary Certificate (HSC) (Class 12) or Senior Secondary Certificate (SSC) c) B.Sc/BCA. d) Post graduate degree.</p> <p>(3) a) Must have a minimum aggregate of first class in <i>Mathematics</i> and <i>Science</i> in Secondary School Leaving Certificate (SSLC)</p> <p>b) Must have a minimum aggregate of first class in <i>Mathematics, Physics</i> and <i>Chemistry</i> in Higher Secondary Certificate (HSC) or Senior Secondary Certificate (SSC)</p> <p>IMPORTANT NOTE :</p> <p>Candidates with master degree in Computer Applications should have a bachelor degree in Science or Mathematics or Computer Applications from any university recognised by the University Grants Commission (UGC).</p>
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Note

- (i) The qualification prescribed for the posts should have been obtained by passing the required qualification in the following order of studies: 10th + HSC or its equivalent + Bachelor's degree + PG degree as required under Section 25 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016.
(Results of the examination should have been declared on or before the date of notification).
- (ii) Applicants claiming equivalence of qualification should upload and submit evidence for equivalence of qualification, in the form of government order issued prior to the date of this notification, when called for, failing which, their application **will be summarily rejected**. The government orders regarding equivalence of qualification issued after the date of this notification will not be accepted.
(For further details regarding equivalence of qualification refer to [para.10](#) of the "[Instructions to Applicants](#)")

(C) CERTIFICATE OF PHYSICAL FITNESS

Applicants selected for appointment to the posts will be required to produce a certificate of physical fitness in the form prescribed below:

Sl. No.	Name of the post	Standard of vision	Form of certificate of physical fitness
1.	Assistant System Engineer	Standard-III	Form prescribed for executive post.
2.	Assistant System Analyst		

Colour blindness will be a disqualification. Applicants with defective vision should produce eye fitness certificate from a qualified eye specialist.

(D) KNOWLEDGE IN TAMIL

Applicants should possess adequate knowledge in Tamil. (For details refer to Section 21 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016 and [para. 11 of the Commission's 'Instructions to Applicants'](#))

5. FEES :

a)	<p><u>REGISTRATION FEE</u></p> <p>(G.O.(Ms).No.32, Personnel and Administrative Reforms (M) Department, dated 01.03.2017).</p> <p>Note</p> <p>i. Applicants who have already registered in One Time Registration system within the validity period of five years are exempted from payment of registration fee.</p> <p>ii. Those who have registered in 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.</p>	Rs.150/-
b)	<p><u>EXAMINATION FEE</u></p> <p>Note</p> <p>The examination fee should be paid at the time of submitting the online application for this recruitment if they are not eligible for the concessions noted below.</p>	Rs.200/-

NOTE :

- i) Applicants who have registered under One - Time Registration system must pay the prescribed examination fee for this recruitment. (One - Time Registration is only to avail exemption from payment of registration fee for a period of five years from the date of registration and it will not be considered as prescribed examination fee for this recruitment).
- ii) Applicants who had already registered under One Time Registration system by paying Rs.50/- before 01.03.2017 and having validity are exempted from paying the registration fee for this recruitment.

EXAMINATION FEE CONCESSIONS :

Applicants can avail exemption from payment of the examination fee as per the following eligibility criteria :

Category	Concession	Condition(s)
(i) Scheduled Castes/ Scheduled Caste (Arunthathiyars) and Scheduled Tribes	Full Exemption	--
(ii) Differently Abled Persons and Destitute Widow of all communities	Full Exemption	(i) For Differently Abled Persons, the disability should be not less than 40%. (ii) For DWs, the DW certificate should have been obtained from the RDO / Sub Collector / Assistant Collector.
(iii) Most Backward Classes / Denotified Communities/ Backward Classes (Other than Muslims) / Backward Class (Muslim)	Those who have not availed three free chances so far in the previous recruitments may avail exemption from payment of examination fee.	Should not have availed three free chances in the previous recruitments.
(iv) Ex-Servicemen	Those who have not availed two free chances so far in the previous recruitments may avail exemption from payment of examination fee.	(i) Should not have availed two free chances in the previous recruitments. (ii) Fee concession will not apply to those who have already been recruited to any class or service or category.

Note:

- (i) The three / two free chances referred to above are not for **EACH POST** but for **ANY THREE / TWO APPLICATIONS ONLY**. The claim for exemption from payment of examination fee made in any application which has been rejected / admitted or withdrawn will be counted as free chance availed.
- (ii) Failure to pay the prescribed fee along with the application in-time, will result in the rejection of application.

- (iii) The number of free chances availed by the applicant means, the total number of free chances hitherto availed by the applicant in his/her earlier applications submitted to the Commission for any post / recruitment.
- (iv) If the examination fee concession claimed in the application is found to exceed the admissible limits, as announced above, the application **will be rejected at any stage of selection**. The number of free chances availed by the applicants will be counted from all the previous applications submitted through One Time Registration and / or submitted directly without One Time Registration.

(For further details regarding examination fee concession, refer to [para. 12 of the "Instructions to Applicants"](#)).

6. MODE OF PAYMENT OF FEE :

- Examination fee of Rs.200/- (Rupees Two hundred only) is payable online through Net Banking / Credit card / Debit card or it can be paid offline at the State Bank of India / Indian Bank within two days from the date of submission of online application by choosing the option in the online application.
- Applicants have also to pay the service charges as applicable.
- 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.

7. CONCESSIONS :

- (i) Concessions with regard to examination fees allowed to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s, BCMs, Destitute Widows, Differently Aabled Persons and Ex-servicemen are given in [para. 12 of the 'Instructions to Applicants'](#).
- (ii) Persons claiming concessions referred to above and other claims made in the application have to produce evidence for such claims when called for, otherwise their application will be **rejected**.

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 Tamil Nadu Government Servants (Conditions of Service) Act, 2016).

8. SCHEME OF EXAMINATION: (OBJECTIVE (OMR/CBT) AND DESCRIPTIVE TYPE)

Subject	Duration	Maximum Marks	Minimum Qualifying Marks for selection	
			SCs, SC(A)s, STs, MBCs/ DCs, BC(OBCM)s and BCMs	Others
PAPER-I (Objective) (Subject code:349) [Degree Standard] (80 Questions - 1 Mark each + 60 Questions- 2 Marks each) i. Computer Science ii. Electronics and Communication iii. Electrical and Electronics iv. Information Technology	3 Hours	200	40%	50%
PAPER II (Objective) (Subject code:350) [Degree Standard] Engineering Aptitude (50 Questions- 1 Mark each) i. Quantity/ Numerical Ability ii. Data Interpretation iii. Logical Reasoning	1 Hour	50	40%	50%
PAPER-III (Descriptive) (Subject code:349) [Degree Standard] Part A:10 Questions - 5 Marks each Part B:10 Questions - 10 Marks each I. Computer Science II. Electronics and Communication III. Electrical and Electronics IV. Information Technology	2 Hours	150	40%	50%
Total Marks		400		

Note:

- (i) Question papers will be set only in English
- (ii) Candidates who have not appeared for any of the paper in the written examination will not be considered for selection.
- (iii) Paper-III will be evaluated, only if the candidate secures minimum qualifying marks in Paper-I & Paper-II separately.

- (iv) The consolidated marks secured in Paper-I, Paper-II & Paper-III will be taken to draw the merit list for Assistant System Analyst (ASA) and Assistant System Engineers (ASE).

9. EXAMINATION CENTRES:

Examination will be held at the following centres:-

Sl. No.	Name of the Centre	Centre Code	Sl. No.	Name of the Centre	Centre Code	Sl. No.	Name of the Centre	Centre Code
1.	Chennai	0100	4.	Tiruchirappalli	2500	7.	Thanjavur	1900
2.	Madurai	1000	5.	Tirunelveli	2600	8.	Vellore	2700
3.	Coimbatore	0200	6.	Salem	1700	9.	Villupuram	2800

Note:

- (i) Request for change of examination centre / venue will not be entertained (For further details refer to ["Instructions to Applicants"](#)).
- (ii) The Commission reserves the right to increase or decrease the number of examination centres and to re-allot the applicants accordingly.
- (iii) Applicants should appear for the written examination / certificate verification / counselling at their own expenses.

10. SELECTION PROCEDURE:

Selection will be made based on the results of written examination and other eligible criteria through the method of counselling and post option.

(For further details refer to **para. 23 (c) of the** ["Instructions to Applicants"](#))

11. NO OBJECTION CERTIFICATE / INFORMATION TO THE EMPLOYER:

No Objection Certificate obtained from appropriate authority shall be produced at the time of certificate verification. Failure to produce the same will lead to rejection of application.

For details refer to [para. 15 \(g\) of the 'Instructions to Applicants'](#). Any violation of this instruction will result in rejection of application and forfeiture of his / her candidature.

12. GENERAL INFORMATION:

- A. The rule of reservation of appointments is applicable to this recruitment separately for **each post**.
- B. In G.O.(Ms.) No.145, Personnel and Administrative Reforms (S) Department, dated 30.09.2010 and G.O.(Ms.) No.40, Personnel and Administrative Reforms (S)

Department dated 30.04.2014, the government have issued orders to fill 20% of all vacancies in direct recruitment on preferential basis with persons who have studied the prescribed qualification in Tamil Medium. The 20% reservation of vacancies on preferential allotment to Persons Studied in Tamil Medium (PSTM) will apply to this recruitment, if Tamil medium of studies for these qualifications are available. (Applicants claiming this reservation should have joined and studied the prescribed qualification in Tamil Medium and should have the certificate for the same. Having written the university examinations in Tamil language alone will not qualify the candidate to claim this reservation). If applicants who have studied the prescribed qualification in Tamil medium are not available for selection for appointment against the vacancies reserved for PSTM, such vacancies shall be filled by Non-PSTM applicants, but belonging to the respective communal category. The PSTM certificate shall be produced / uploaded by the applicants in the prescribed format / proforma available on the Commission's website at 'www.tnpsc.gov.in' which shall be obtained from the Head of the Institution and to be submitted when called for by the Commission.

(For further details refer to para. 27 (XIX) of the "Instructions to Applicants")

- C. The selection for appointment to the said post is purely provisional subject to the final orders in the writ petitions, if any, pending on the files of the Hon'ble High Court of Madras and its Madurai Bench.
- D. As per Sections 26 and 27(c) of 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. If the posts are identified as suitable for Differently Abled Persons of any category, reservation for persons with such category of disability, as ordered in G.O.Ms. No.21, Welfare of Differently Abled Persons (DAP 3.2) Department dated 30.05.2017, will be made applicable. Hence, the Differently Abled Persons with disability of not less than 40% may apply to this recruitment. Their applications will be accepted subject to the orders to be issued by the Government.
- F. The Differently Abled persons should submit / upload a copy of Differently Abled Certificate obtained from the competent authority specifying the nature of physical handicap and the degree of disability as instructed in para. 14(b) of the 'Instructions to Applicants', when called for by the Commission.
- G. Wherever vacancies are reserved for women, if no qualified and suitable women applicants are available for selection against the vacancies reserved for them, those vacancies will be filled by other eligible applicants belonging to the respective communal categories.
- 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-se-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.

- I. Any claim made after the submission of online application will not be entertained. Evidence for all the claims made in the online application should be uploaded / submitted in time when the same are called for. Failure to upload / submit the documents within the stipulated time limit will entail rejection of application.
- J. Correct and true information regarding arrest, convictions, criminal or any disciplinary proceedings initiated / pending or finalised, debarment / disqualification by any recruiting agency, participation in agitation or any political organisation, candidature in election for Parliament / State Legislature / Local Bodies etc, if any, should also be furnished to the Commission at the time of 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 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.
- K. In-complete applications and applications containing wrong claims or in-correct particulars relating to category of reservation / eligibility / age / communal category / educational qualification / medium of instruction / physical qualification / other basic qualifications and other basic eligibility criteria will be liable for rejection.
- L. 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 details / particulars furnished 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 in-correct and in-complete details in the application or omission to provide the required details in the application for this recruitment.

13. OTHER IMPORTANT INSTRUCTIONS:

- a) Applicants should ensure their eligibility for examination. Applicants applying for the examination should go through all the instructions carefully and ensure that they fulfil all the eligibility conditions for admission to the examination. Their admission to all stages of the examination will be purely provisional subject to satisfaction of the eligibility conditions. Mere issue of memo. of admission to the applicants will not imply that their candidature has been fully cleared by the Commission.
- b) Hall Tickets for eligible applicants will be made available on the Commission's website www.tnpsc.gov.in or www.tnpscexams.net or www.tnpscexams.in so as to

enable the applicants to download the same. **Hall Tickets will not be sent by post.** Hence, applicants should watch the Commission's website before the scheduled date of examination.

- c) **Grievance Redressal Cell for guidance of applicants:** In case of any guidance / information / clarification regarding applications, candidature, etc., applicants can contact the Commission's office in person or over Telephone No. 044-25332833 / 25332855 or the Commission's Toll-Free No. 1800 425 1002 on all working days between 10.00 a.m. and 05.45 p.m. or Commission's e-mail id contactnpsc@gmail.com.

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.

e) Mobile phones and other articles **banned** :

- i. Except the permitted writing material (i.e. 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 (For further details refer to the "Instructions to Applicants").
 - 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.
- f) 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 , it is found that they do not fulfil any of the eligibility conditions, their candidature for the examination will be liable for rejection / cancellation by the Commission. (For further details refer to the "Instructions to Applicants")

- g) If any of their claims is found to be incorrect, it will lead to rejection of their candidature and suitable penal action including debarment.
- h) **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. (For further details refer to the "Instructions to Applicants")
- i) **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. (For further details refer to the "Instructions to Applicants")
- j) For violation of "Instructions to Applicants" in any manner, suitable penalty will be imposed as per the "Instructions to Applicants" or as deemed fit by the Commission.

14. HOW TO APPLY:

- 1) Applicants should apply only through online mode in the Commission's websites www.tnpsc.gov.in / www.tnpscexams.net / www.tnpscexams.in
- 2) "*One Time Registration*" (OTR) and "*Applicant's Dashboard*" are 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) Applicants who have already registered under One Time Registration system on or before 29.09.2015 shall use their existing user ID and password to create the applicant's dashboard in the new One Time Registration system. 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.

- 6) One Time Registration is not an application for any post. It is just a collection of information from the applicants and giving a separate dashboard to each applicant to facilitate them to maintain 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 (s) and service to which they wish to apply.
 - 8) Online applications uploaded without the photograph, specified documents and signature will be rejected.
 - 9) All the particulars mentioned in the online application including name of the applicant, post applied, educational qualifications, communal category, date of birth, address, e-mail ID, examination centre etc. will be considered as final and no modifications will be allowed after the last date specified for applying online. Since certain fields are firm and fixed and cannot be edited, applicants are requested to fill the online application form with utmost care and caution as no correspondence regarding change of details will be entertained.
- 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. Application and all the required certificates will be verified only when the applicants come up for certificate verification.**

15. UPLOAD / SUBMISSION OF DOCUMENTS:

Applicants should upload / submit the required documents for proof in respect of all the claims made in the application with reference to this notification as and when called for. If the required certificates are not uploaded or submitted by the applicants, within the stipulated time, their applications will be rejected.

16. LAST DATE FOR SUBMISSION OF APPLICATION:

Online application can be submitted upto 20.02.2019 till 11.59 p.m., after which the link will be disabled.

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

17. WARNING

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

எச்சரிக்கை

- தேர்வாணையத்தின் தெரிவுகள் அனைத்தும் விண்ணப்பதாரர்களின் தர வரிசைப்படியே மேற்கொள்ளப்படுகின்றன.
- பொய்யான வாக்குறுதிகளை சொல்லி, தவறான வழியில் வேலை வாங்கி தருவதாக கூறும் இடைத்தரகர்களிடம் விண்ணப்பதாரர்கள் மிகவும் கவனமாக இருக்குமாறு எச்சரிக்கப்படுகிறார்கள்.
- இதுபோன்ற தவறான மற்றும் நேர்மையற்ற நபர்களால் விண்ணப்பதாரர்களுக்கு ஏற்படும் எந்தவொரு இழப்புக்கும் தேர்வாணையம் எந்தவிதத்திலும் பொறுப்பல்ல.

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

Secretary

DISCLAIMER

“Government orders relating to equivalence of qualification are available on the Tamil Nadu Public Service Commission’s website. However, if the candidate possesses an equivalent qualification other than the one mentioned in Annexure – I to this notification 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 produce a copy of the government orders when called for by the Tamil Nadu Public Service Commission, failing which their application will be **rejected**. Government orders regarding equivalence of qualification issued after the date of this notification will not be considered for this recruitment.”

Secretary

ANNEXURE-I

Sl. No.	Qualifications considered as equivalent to the qualifications prescribed in the rule	Government Order in which ordered as equivalent
1.	B.E (Electrical and Electronics Engineering) is equivalent to B.E. (Electrical Engineering)	G.O.(Ms) No. 262, Higher Education (J2) Department, dated 28.07.2009.
2.	B.E (Electronics and Communication Engineering) awarded by Anna University is equivalent to B.E (Electronics).	G.O.(Ms) No.190, Higher Education (J1) Department, dated 18.11.2014
3.	B.E (Electronics and Instrumentation Engineering) 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

ANNEXURE - II
POSTS OF ASSISTANT SYSTEM ENGINEER /
ASSISTANT SYSTEM ANALYST IN THE COMMISSIONERATE OF
E-GOVERNANCE

(DEGREE STANDARD)

(PAPER I: OBJECTIVE TYPE & PAPER III: DESCRIPTIVE TYPE)

SUBJECT CODE: 349

UNIT - I: BASIC ELECTRONICS (ECE & EEE)

Intrinsic and extrinsic semiconductors, Energy Band Diagrams, PN junction diode, Zener diode, Tunnel diode, Varactor diode, Photo diode, Schottky diode, LED, BJT, JFET, MOSFET, SCR, Diac, Triac, Power BJT, Power MOSFET, IGBT Heat sinks and junction temperature, LCD, Photo transistor, Opto Coupler, Solar cell, CCD, IC fabrication; BJT, JFET, MOSFET amplifiers : Biasing analysis, Small signal analysis and frequency response, BJT and MOSFET Multistage amplifiers : Differential, Darlington, cascode and cascade; Feedback amplifiers, Tuned amplifiers, RC and LC oscillators, Power amplifiers. Rectifiers and wave shaping circuits; Operational Amplifier characteristics and applications , CMRR, Slew rate, Waveform generators, Active filters, Timers, PLL, VCO, ADC, DAC, Regulators and Converters.

UNIT - II: DATA STRUCTURES AND ALGORITHMS

Data abstraction - Abstract Data Types (ADT) - Array ADT - Linear List ADT (Polynomials) - Array Based Implementations - Linked List Implementations - Doubly Linked List - Circular Link List - Applications of Lists - Stack ADT - Implementation of Stack - Applications of Stack - Queue ADT - Implementation of Queue - Applications of Queue - Double-Ended Queue - Evaluation of Expressions - Trees - Binary Trees - Implementation of Binary Trees - Tree Traversals - Operations - Threaded Binary Trees - Binary Search Trees - Priority Queues - Binary Heap - Applications of Priority Queues - Sorting Algorithms - Insertion Sort - Shell Sort - Heap Sort - Merge Sort - Bucket Sort - External Sorting - Searching - Linear Search - Binary Search - Hashing - Hash Functions - Separate Chaining - Open Addressing - Linear Probing - Quadratic Probing - Double Hashing - Rehashing - The Role of Algorithms in Computing - Growth of Functions - Recurrences - The Substitution Method - The Recurrence Tree Method - The Master Method - Analysis of Quick Sort, Merge Sort - Sorting in Linear Time - Lower Bounds for Sorting - Greedy Algorithms - Elements of Greedy Strategy - Huffman Code - Dijkstra's Shortest Path Algorithm - Dynamic Programming - Matrix Chain Multiplication - Elements of Dynamic programming - Longest Common Sequences - Warshall's and Floyds Algorithm - Backtracking - Graph Coloring Problem - Branch and Bound Strategy - Knapsack Problem.

UNIT - III: DIGITAL ELECTRONICS AND COMPUTER ORGANIZATION

Number Systems – Decimal, Binary, Octal, Hexadecimal, 1's and 2's complements, Codes – Binary, BCD, 84-2-1, 2421, Excess 3, Biquinary, Gray, Alphanumeric codes, Boolean theorems, Logic gates, Universal gates, Sum of products and product of sums, Minterms and Maxterms, Karnaugh map and Tabulation methods; Code-Converters, Half and Full Adders, Binary Parallel Adder – Carry look ahead Adder, BCD Adder, Magnitude Comparator, Decoder, Encoder, Priority Encoder, Mux/Demux, Case study: Digital transceiver / 8 bit Arithmetic and logic unit; Flip flops – SR, JK, T, D, Master/Slave FF, Triggering of FF, Analysis and design of clocked sequential circuits – Design - Moore/Mealy models, state minimization, state assignment, circuit implementation - Counters, Ripple Counters, Ring Counters, Shift registers, Universal Shift Register; HDL for sequential logic circuits; Model Development: Designing of rolling display/real time clock; Stable and Unstable states, output specifications, cycles and races, state reduction, race free assignments, Hazards, Essential Hazards, Pulse mode sequential circuits, Design of Hazard free circuits; Logic families- TTL, MOS, CMOS, BiCMOS - Comparison of Logic families - Implementation of combinational logic/sequential logic design using standard ICs, ROM, PLA and PAL.

Evolution of Computers, VLSI Era, System Design- Register Level, Processor Level, CPU Organization, Data Representation, Fixed – Point Numbers, Floating Point Numbers, Instruction Formats, Instruction Types. Addressing modes; Fixed Point Arithmetic, Addition, Subtraction, Multiplication and Division, Combinational and Sequential ALUs, Carry look ahead adder, Robertson algorithm, booth's algorithm, non-restoring division algorithm, Floating Point Arithmetic, Coprocessor, Pipeline Processing, Pipeline Design, Modified booth's Algorithm; Hardwired Control, Microprogrammed Control, Multiplier Control Unit, CPU Control Unit, Pipeline Control, Instruction Pipelines, Pipeline Performance, Superscalar Processing, Nano Programming; Random Access Memories, Serial - Access Memories, RAM Interfaces, Magnetic Surface Recording, Optical Memories, multilevel memories, Cache & Virtual Memory, Memory Allocation, Associative Memory; Communication methods, Buses, Bus Control, Bus Interfacing, Bus arbitration, IO and system control, IO interface circuits, Handshaking, DMA and interrupts, vectored interrupts, PCI interrupts, pipeline interrupts, IOP organization, operation systems, multiprocessors, fault tolerance, RISC and CISC processors, Superscalar and vector processor.

UNIT - IV: PROBABILITY AND QUEUEING THEORY

Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Random Variables - Discrete and Continuous random variables – Moments – Moment generating functions – Binomial, Poisson, Geometric, Uniform, Exponential, Gamma, Weibull and Normal distributions - Functions of a random variable; Joint distributions – Marginal and Conditional distributions – Covariance – Correlation and

Linear regression – Transformation of random variables – Central limit theorem (for independent and identically distributed random variables); Random Processes - Classification – Stationary process – Markov process – Poisson process – Discrete parameter Markov chain – Chapman Kolmogorov equations – Limiting distributions; Queuing theory and Processes - Markovian queues – Birth and Death processes – Single and multiple server queueing models – Little’s formula - Queues with finite waiting rooms – Finite source models, M/G/1 queue – Pollaczek Khinchin formula - M/D/1 and M/E /1 as special cases – Series queues – Open and closed Jackson networks.

UNIT- V: OPERATING SYSTEMS

Introduction to Operating Systems – Computer System Organization and Architecture – Operating System Structure, Operations – Process, Memory, Storage Management – Protection and Security – Distributed Systems – Computing Environments – Open-Source Operating Systems – OS Services –System Calls – Types – System Programs – OS Structure – Process Concept, Scheduling – Operations on Processes – Cooperating Processes – Inter-Process Communication – Examples – Multithreading Models – Thread Libraries – Threading Issues – OS Examples – Scheduling Basic – Scheduling Criteria – Scheduling Algorithms – Thread Scheduling – Multiple processor Scheduling – Operating System Examples – Algorithm Evaluation – The Critical-Section Problem – Peterson’s Solution – Synchronization Hardware – Semaphores – Classic Problems Of Synchronization – Synchronization Examples – Deadlocks – System Model – Deadlock Characterization – Methods for Handling Deadlocks – Deadlock Prevention – Deadlock Avoidance – Deadlock Detection – Recovery From Deadlock - Memory Management – Swapping – Contiguous Memory Allocation – Paging –Segmentation Example: The Intel Pentium - Virtual Memory: Background – Demand Paging – Copy On Write – Page Replacement – Allocation of Frames – Thrashing - File Concept – Access Methods – Directory Structure – File-System Mounting – Protection – Directory Implementation – Allocation Methods – Free-Space Management – Disk Scheduling – Disk Management – Swap-Space Management – Protection – Study of The Linux System - Study of Windows 7.

UNIT - VI: DATABASE MANAGEMENT SYSTEMS

INTRODUCTION TO DBMS - File Systems Organization - Sequential, Pointer, Indexed, Direct - Purpose of Database System- Database System Terminologies- Database characteristics- Data models – Types of data models – Components of DBMS- Relational Algebra. LOGICAL DATABASE DESIGN: Relational DBMS - Codd's Rule - Entity-Relationship model - Extended ER Normalization – Functional Dependencies, Anomaly-1NF to 5NF- Domain Key Normal Form – Denormalization. - SQL & QUERY OPTIMIZATION - SQL Standards - Data types - Database Objects-DDL-DML-DCL-TCL- Embedded SQL-Static Vs Dynamic SQL- QUERY OPTIMIZATION: Query Processing and Optimization - Heuristics and Cost Estimates in Query Optimization - TRANSACTION PROCESSING AND CONCURRENCY CONTROL - Introduction-Properties of Transaction- ACID Properties – System & Media Recovery –Concurrency – Locking Protocols –Log Based Recovery – Two Phase Commit Protocol – Recovery– Deadlocks & Managing

Deadlocks – Indexing & Hashing Techniques – Query Processing & Optimization – Sorting & Joins Serializability-Concurrency Control – Locking Mechanisms- Two Phase Commit Protocol-Dead lock -TRENDS IN DATABASE TECHNOLOGY - Overview of Physical Storage Media – Magnetic Disks – RAID – Tertiary storage – File Organization – Organization of Records in Files – Indexing and Hashing –Ordered Indices – B+ tree Index Files – B tree Index Files – Static Hashing – Dynamic Hashing - Introduction to Distributed Databases- Client server technology- Multidimensional and Parallel databases- Spatial and multimedia databases- Mobile and web databases- Data Warehouse-Mining- Data marts.XML Data Bases: XML-Related Technologies- XML Schema-XML Query Language-Storing XML in Databases–SQL –Data Constraints-Database Security – Database Tuning – Data Mining and Warehousing.

UNIT - VII: PROGRAMMING INC

Introduction to IT – Problem Solving – C Programming – Constants – Variables – Data Types – Expressions – Input/Output Operations – Decision Making and Branching Statements – Looping Statements – Arrays – Initialization – Declaration – One dimensional and Two dimensional arrays. String - String Operations – String Arrays. Simple programs – Sorting – Searching – matrix operations – Function – definition of function – Declaration of function – Pass by value – Pass by reference – Recursion – Pointers – Definition – Initialization – Pointers arithmetic – Pointers and arrays – structure data type – structure definition – Structure declaration – Structure within a structure – Union – Programs using structures and Unions – Storage classes, Pre-processor directives. Functions and Pointers in C: Storage classes – Recursion Preprocessor directives – Arrays – Strings – Arrays, Pointers and Strings. Pointers to functions – Dynamic Memory Allocation – Structures – Unions – Enumeration Types – Bit fields – Fields.

UNIT-VIII: OBJECT ORIENTED PROGRAMMING & OBJECT ORIENTED ANALYSIS AND DESIGN

Object Oriented Programming : Classes and methods – Constructors and Destructors – Class and Object – Scope – Overloading – Arrays – Type Casting – Pointer – Inheritance – Sub Classes – Implications of Inheritance – Exception Handling – Assertions – Garbage Collection – String Class – Inheritance – Multiple Inheritance – Polymorphism – Abstract Classes and Methods - Overloading and Overriding – C++ Programming features – Data Abstraction – Encapsulation – Class – Object – Constructors – static members – constant members – member functions – pointers – references – Role of this pointer – Storage classes – function as arguments – String Handling – Copy Constructor – Polymorphism – compile time and run time polymorphisms – function overloading – operators overloading – dynamic memory allocation – Nested classes – Inheritance – virtual functions. Abstract class – Exception handling – Standard libraries – Generic Programming – templates – class template – function template – STL containers – iterators – function adaptors – allocators – Parameterizing the class – File handing concepts – Java, API Packages – Pure Polymorphism – Operator instance of and Down

Casting – final Methods and Classes – Clone class – Multithreading – Files and Streams – Formatted Output – Object Concurrency – Serialization – Generic Collections – Generic Classes and Methods – Applets – Frameworks.

Elements of the Object Model - classes and object - Relationships among objects - Relationships among classes - Class Diagrams - Use cases - Use case Diagrams - Domain Models - Sequence Diagrams - State transition Diagrams - Object Diagrams - Interaction Diagrams.

UNIT - IX: MICRO PROCESSORS AND EMBEDDED SYSTEMS (ECE & EEE)

8085 Architecture, Pin configuration, Instruction set, Addressing modes, Interrupts, Timing diagrams Memory and I/O interfacing; 8086 Architecture, Instruction set, Addressing modes, Minimum and Maximum mode configuration, Assembler Directives, Assembly Language Programming, Interrupts; Programmable Peripheral Interface (8255), Keyboard display controller (8279), ADC0808 and DAC0808 Interface, Programmable Timer Controller (8254), Programmable interrupt controller (8259), Serial Communication Interface (8251), DMA Controller interfaces(8257); 8051 – Architecture, Special Function Registers (SFRs), Instruction set, Addressing modes, Assembly language programming, I/O Ports, Timers / counters, Interrupts and serial communication; Interfacing to: matrix display, (16x2) LCD, high power devices, optical motorshaft encoder, Stepper Motor, DC Motor speed Control using PWM, RTC and EEPROM interface using I2C protocol.

Embedded system design process – Formalism for system design– Design example: Model train controller- ARM Processor Fundamentals- Instruction Set and Programming using ARM Processor; CPU: Programming input and output – Supervisor mode, exception and traps – Coprocessor – Memory system mechanism – CPU performance – CPU power consumption- CPU buses – Memory devices – I/O devices – Component interfacing- System Level Performance Analysis- Parallelism; Program design – Model of programs – Assembly and Linking – Basic compilation techniques – Program Optimization- Analysis and optimization of execution time, power, energy, program size – Program validation and testing- Example: Software Modem; Multiple tasks and Multi processes – Processes – Context Switching – Operating Systems –Priority based Scheduling- RMS and EDF - Inter Process Communication mechanisms – Evaluating operating system performance – Power optimization strategies for processes; Multiprocessors- CPUs and Accelerators – Performance Analysis- Distributed Embedded Architecture – Networks for Embedded Systems: - I2C, CAN Bus, Ethernet, Myrinet – Network based design – Internet enabled systems. Design Example: Elevator Controller.

UNIT - X: WEB TECHNOLOGY

SCRIPTING LANGUAGES – Web page Designing using HTML, Scripting basics – Client side and server side scripting. Java Script – Object, names, literals, operators and expressions – statements and features – events – windows – documents – frames – data types – built-in functions – Browser object model – Verifying forms – HTMLS – CSS3 –

HTML5 canvas – Web site creation using tools – AJAX, JSON, JSF, AngularJS, Struts, Spring Hibernate, JSP Web Design Principles, Web Security, Web services XML, Web servers, PHP, ASP.NET – JDBC – JDBC Overview – JDBC Implementation – Connection class – Statements – Catching Database Results, handling database Queries. Networking – InetAddress class – URL class – TCP sockets – UDP sockets, Java Beans – RMI – APPLETs – Java applets – Life cycle of an applet – Adding Images to an applet – Adding sound to an applet. Passing parameters to an applet. Event Handling. Introducing AWT: Working with Windows Graphics and Text. Using AWT Controls, Layout Managers and Menus. Servlet – life cycle of a servlet. The Servlet API, Handling HTTP Request and Response, using Cookies, Session Tracking

UNIT - XI: CLOUD COMPUTING

Introduction to Cloud Computing - Definition of Cloud - Evolution of Cloud Computing - Underlying Principles of Parallel and Distributed Computing - Cloud Characteristics - Elasticity in Cloud - On-demand Provisioning - Service Oriented Architecture - REST and Systems of Systems - Web Services - Publish-Subscribe Model - Basics of Virtualization - Types of Virtualization - Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices - Virtualization Support and Disaster Recovery - Layered Cloud Architecture Design - NIST Cloud Computing Reference Architecture - Public, Private and Hybrid Clouds - IaaS - PaaS - SaaS - Architectural Design Challenges - Cloud Storage - Storage-as-a-Service - Advantages of Cloud Storage - Cloud Storage Providers - S3 - Inter Cloud Resource Management - Resource Provisioning and Resource Provisioning Methods - Global Exchange of Cloud Resources - Security Overview - Cloud Security Challenges - Software-as-a-Service Security - Security Governance - Virtual Machine Security - IAM - Security Standards - Hadoop - MapReduce - Virtual Box - Google App Engine - Programming Environment for Google App Engine - Open Stack - Federation in the Cloud – Four Levels of Federation - Federated Services and Applications - Future of Federation.

UNIT - XII: INFORMATION SECURITY

Classical Encryption Techniques – Block Ciphers and the Data Encryption Standard – Basic Concepts in Number Theory and finite Fields – Advanced Encryption Standard – Block Cipher Operation – Fermat’s and Euler’s Theory – CRT – Discrete Logarithms, Public Key Cryptography and RSA – Diffie – Hellman Key Exchange – Elliptic Curve Cryptography – Cryptographic Hash Functions – Message Authentication Code – Digital Signature – Certificates. Security in Operating Systems – Security in the Design of OS – Open Web Application Security – Wireless Network Security – Introduction to Mobile Security – Transport – Level Security – SSL – TLS – HTTPS – SSH – Electronic Mail & Security – PGP – IP Security – Legal & Ethical Issues.

UNIT - XIII: MACHINE LEARNING

Models of learning - Learning classifiers, functions, decision trees, neural networks, support vector machines, Bayesian networks, bag of words classifiers, N-gram models; Markov and Hidden Markov models, probabilistic relational models - nearest neighbor classifiers, locally weighted regression, ensemble classifiers - Dimensionality reduction, feature selection and visualization - Clustering, mixture models, k-means clustering, hierarchical clustering, distributional clustering - Reinforcement learning.

UNIT - XIV: COMPUTER NETWORKS

NETWORKING FUNDAMENTALS: Requirements – OSI and TCP/IP Layering and Protocols – Internet Architecture - Local, Metropolitan and Wide Area Networks – Packet, Circuit and Virtual Circuit Switching; LINK LAYER PROTOCOLS: Framing – Error Control – Flow Control – Automatic Repeat Request (ARQ) protocols - IEEE 802.2, PPP and HDLC; MEDIUM ACCESS PROTOCOLS: Shared media systems - Bus, Star and Ring topologies - TDMA, FDMA, CSMA, CSMA/CD, Ethernet, IEEE 802.3, IEEE 802.11 - Shared and Switched Ethernet – Bridging - Virtual LANs; NETWORK LAYER: Internet Protocol (IP) suite - Hierarchical network architectures - IPv4 and IPv6 addressing and CIDR – IPv4 and IPv6 headers - Routing protocols including distance-vector and link-state - Interior and Exterior Gateway Protocol concepts - Routing Algorithms – IETF protocols such as OSPF, RIP, BGP – Internetworking - ICMP, NAT, ARP and RARP; TRANSPORT LAYER: UDP header - TCP header, operation, flow control and congestion control; APPLICATION LAYER: Electronic Mail (SMTP, POP3, IMAP, MIME) – HTTP – Web services – DNS – FTP - Real-time Transport Protocol (RTP) and RTP Control Protocol (RTCP), Real Time Streaming Protocol (RTSP).

UNIT - XV: SOFTWARE ENGINEERING, SOFTWARE PROCESS AND PROJECT MANAGEMENT

SOFTWARE PROCESS AND PROJECT MANAGEMENT - Introduction to Software Engineering, Software Process, Perspective and Specialized Process Models – Software Project Management: Estimation – LOC and FP Based Estimation, COCOMO Model – Project Scheduling – Scheduling, Earned Value Analysis - Risk Management - REQUIREMENTS ANALYSIS AND SPECIFICATION - Software Requirements: Functional and Non-Functional, User requirements, System requirements, Software Requirements Document – Requirement Engineering Process: Feasibility Studies, Requirements elicitation and analysis, requirements validation, requirements management-Classical analysis: Structured system Analysis, Petri Nets-Data Dictionary -SOFTWARE DESIGN - Design process – Design Concepts-Design Model– Design Heuristic – Architectural Design – Architectural styles, Architectural Design, Architectural Mapping using Data Flow- User Interface Design: Interface analysis, Interface Design – Component level Design: Designing Class based components, traditional Components - TESTING AND IMPLEMENTATION - Software testing fundamentals-Internal and external views of Testing-white box testing - basis path testing-control structure testing-black box testing-Regression Testing – Unit Testing – Integration Testing – Validation Testing – System

Testing And Debugging – Software Implementation Techniques: Coding practices- Refactoring - PROJECT MANAGEMENT – Cost Estimation – FP Based, LOC Based, Make/Buy Decision, COCOMO II - Planning – Project Plan, Planning Process, RFP Risk Management Identification, Projection, RMMM - Scheduling and Tracking –Task Set & Network Scheduling, EVA - Process and Project Metrics.

UNIT - XVI: BIG DATA ANALYTICS

Evolution of Big Data - Best Practices for Big Data Analytics - Big Data Characteristics - Validating - The Promotion of the Value of Big Data - Big Data Use Cases - Characteristics of Big Data Applications - Perception and Quantification of Value - Understanding Big Data Storage - A General Overview Of High-Performance Architecture - HDFS - Mapreduce And YARN - Map Reduce Programming Model - Advanced Analytical Theory and Methods: Overview of Clustering - K-Means - Use Cases - Classification: Decision Trees - Overview of a Decision Tree - The General Algorithm - Decision Tree Algorithms - Evaluating a Decision Tree - Naïve Bayes - Bayes' Theorem - Naïve Bayes Classifier - Association Rules - Overview - Apriori Algorithm - Evaluation Of Candidate Rules - Applications Of Association Rules - Recommendation System: Collaborative Recommendation - Content Based Recommendation - Knowledge Based Recommendation- Hybrid Recommendation Approaches - Using Graph Analytics For Big Data: Graph Analytics - The Graph Model - Representation As Triples - Graphs And Network Organization - Choosing Graph Analytics - Graph Analytics Use Cases - Graph Analytics Algorithms And Solution Approaches - Real Time Sentiment Analysis, Stock Market Predictions - Nosql Databases : Schema-Less Models: Increasing Flexibility For Data Manipulation - Key Value Stores - Document Stores - Tabular Stores - Object Data Stores - Graph Databases Hive - Sharding – Hbase – Applications of Big Data analytics.

**POSTS OF ASSISTANT SYSTEM ENGINEER /
ASSISTANT SYSTEM ANALYST IN THE COMMISSIONERATE OF
E-GOVERNANCE**

(DEGREE STANDARD)

(PAPER II: OBJECTIVE TYPE)

SUBJECT CODE: 350

ENGINEERING APTITUDE

UNIT- I: QUANTITY / NUMERICAL ABILITY

Numerical computation, numerical estimation, numerical reasoning; Number system; Integer Number Sequences, Rational Number Sequences, Arithmetic Sequences, Geometric Sequences; Square Numbers, Cube Numbers; Fibonacci Series; Polynomials; Algebra; Geometry - Euclid's Geometry, Lines and Angles, Triangles, Quadrilaterals, Circles, Coordinate Geometry, Areas Of Parallelograms And Triangles, Surface Areas And Volumes; Probability, Permutation combination; Mensuration, Arithmetic mean, Geometric mean, Harmonic mean, Median, Mode, Variance, Standard Deviation; Time and work; Averages, Percentages, Profit and loss; Quadratic and linear equations; Relation and Functions; Vectors; HCF & LCM, Logarithm.

UNIT- II: DATA INTERPRETATION

Interpretation and analysis of data based on text, tables, graphs (line, area), charts (column, bar, pie), venn diagram.

UNIT - III: LOGICAL REASONING

Clocks, calendars, binary logic, seating arrangement, logical sequence – Logical Number, Alphabetical, Diagrammatic; Assumption, Premise, Conclusion, Linear and matrix arrangement, Puzzles - Classification, Comparison, Sequential, Selection, Family, Jumbled puzzle; Dice, Visual Reasoning, In alphabetical or miscellaneous, In coding decoding, In blood relation, In direction and distances, In order and ranking, Data sufficiency, Statement, In syllogism.

Annexure III**Abstract**

Social Welfare and Nutritious Meal Programme Department – Third Gender Welfare – Determination of the Community and Reservation in Employment for Third Gender – Orders – Issued.

Social Welfare and Nutritious Meal Programme [SW8 (2)] Department**G.O.(Ms) No.90****Dated 22.12.2017**

ஹேவிளம்பி, மார்கழி 7

திருவள்ளூர் ஆண்டு 2048

Read:

1. G.O. (Ms) No.127, Labour and Employment Department, dated 27.10.2014
2. G.O. (Ms) No.28, Backward Classes, Most Backward Class and Minorities Welfare Department, Dated 06.04.2015
3. G.O. (Ms) No.71, Social Welfare and Nutritious Meal Programme Department, Dated 06.11.2015

Read also:

4. From the Secretary, Tamil Nadu Public Service Commission, D.O.Letter No.4471/RND-D2/2013, dated 12.07.2016
5. From the Director of Social Welfare, Letter Roc.No.21096/WW.1(3)/2017, dated 31.07.2017

ORDER:-

In the Government Order first read above, orders were issued that Third Gender may register their names in Employment Exchange offices based on the certificate identifying them as Transgender issued by the Tamil Nadu Transgender Welfare Board (TGWB) and to sponsor their names for appointment in the vacancies reserved for women category namely 30% and as well as vacancies reserved for General Category (both Men and Women) namely 70%.

2. In the Government Order second read above, orders were issued classifying the "Transgender of Eunuch (Thirunangal or Aravani)" as Most Backward Class by including at Sl.No.36-C in the list of Most Backward Classes.

3. In the Government Order third read above, among other things orders were issued, that Transgender will be identified as 'Third Gender' apart from the Binary Gender System and they have the right to decide their self-identified gender as male or female or as the third gender.

4. The Secretary, Tamil Nadu Public Service Commission in the D.O. letter fourth read above has sought for following clarifications in this matter with regard to:-

- (1) Considering the Transgender under 30% reservation for Women

- (ii) Treating the Transgender candidates who have claimed communal status under Scheduled Caste/ Scheduled Caste (A)/ Scheduled Tribe by producing respective Community Certificate confirming their claim.

5. After careful examination, in consultation with the concerned departments and the Director of Social Welfare, the Government hereby issue the following order regarding the determination of community and reservation in employment for the Third Gender in order to streamline the procedures to be followed by the recruiting agencies like Tamil Nadu Public Service Commission, Teachers Recruitment Board, Uniformed Services Recruitment Board, Medical Recruitment Board, etc., and Employment Exchange offices / appointing authorities, in sponsoring / recruiting / selecting the Third Gender candidates for appointment in Government Service:-

Determination of the Community:-

- (i) The Third Gender candidates, who do not possess any community certificate may be considered under Most Backward Class as per G.O.(Ms).No.28, Backward Classes, Most Backward Class and Minorities Welfare Department, dated 06.04.2015.
- (ii) The Third Gender candidates who belong to Scheduled Caste/Scheduled Caste (A)/Scheduled Tribe communities, and possess community certificate as such, may be considered as per their respective community.
- (iii) The Third Gender candidates who belong to the communities other than Scheduled Caste/Scheduled Caste (A)/Scheduled Tribe and possess community certificate as such (not covered under point (i) above) may be considered as per their own community or as Most Backward Class whichever is advantageous to them as per their option and once the individual exercises option for community selection it should be crystallized and this option should not be changed in future.

Reservation in Employment:-

- (i) The Third Gender candidates who identify themselves as "Female" by self-declaration supported by the certificate (ID card) issued by the Tamil Nadu Third Gender Welfare Board (TNTGWB) may be considered against both 30% reservation for women as well as 70% reservation for the General category (both Men & Women).
- (ii) The Third Gender candidates, who identify themselves as "Male" or "Third Gender", may be considered against the 70% reservation for General category (both Men & Women) as the case may be.

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

(By Order of the Governor)

K. Manivasan,
Principal Secretary to Government

To
The Director of Social Welfare, Chennai-15
The Commissioner of Social Defence, Chennai-10

The Director, Integrated Child Development Services Scheme, Chennai-113
The Secretary, Tamil Nadu Public Service
Commission, Chennai-3
✓ All District Collectors
All Departments of the Secretariat, Chennai-9
The Commissioner of Backward Classes and Minorities Welfare, Chennai-5
The Director of Most Backward Class and Denotified Communities, Chennai-5
The Director of Adi Dravidar Welfare, Chennai-5
The Director of Tribal Welfare, Chennai-5
The Member Secretary, Tamil Nadu Backward Classes Commission, Chennai-4
The Teacher Recruitment Board, Chennai-6
The Tamil Nadu Uniformed Services Recruitment
Board, Chennai-8
The Medical Services Recruitment Board, Chennai -6
The Director of Employment and Training, Chennai-32
The Secretary to Government of India, Ministry of Social
Justice and Empowerment, New Delhi

Copy to:

The Hon'ble Chief Minister's Office, Chennai-9
The Senior Personal Assistant to the Minister for Social Welfare and Nutritious Meal
Programme, Chennai-9
All Sections in Social Welfare and Nutritious Meal Programme Department, Chennai-9
Stock file/Spare copy

// Forwarded by Order //

V. T. *[Signature]*
Section Officer

Div. E
27.12.17

4/5

Annexure IV**Tentative Timeline for the Recruitment Process**

Sl. No.	Process	Timeline
1.	Publication of Results	June 2019
2.	Certificate Verification	July 2019
3.	Final Selection List	August 2019

Secretary