



TAMIL NADU PUBLIC SERVICE COMMISSION

Advertisement No.550
Notification No. 20 / 2019

DATED: 21.06.2019

(Individual communication regarding the date and time of Certificate Verification, Oral Test and Counselling will not be sent to the Candidates, and the above details will be made available in the Commission's Website. Candidates will be informed of the above fact only through SMS and e-mail.)

Warning

- All the Recruitments conducted by the Tamil Nadu Public Service Commission are purely merit based.
- Tamil Nadu Public Service Commission hereby cautions the candidates against touts and agents who cheat 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 into any sort of actions with such unscrupulous persons.
- Candidates are solely responsible for their claims in the online application. They cannot blame the service providers like internet cafe/browsing centres/common service centres for the mistakes made while applying online for the recruitment. Candidates are advised to check the filled in online application before submitting the same.

Applications are invited **only through online mode** up to **22.07.2019** for direct recruitment to the following post.

Name of the Post and Post Code	Name of the Service and Service Code.	No. of vacancies	Scale of Pay
Junior Scientific Officer in Forensic Sciences Department (Code No.1767)	Tamil Nadu Forensic Science Subordinate Service (Code No.033)	64 [2015-19]	Rs.36,900-1,16,600/- (Level 18)

The Group wise details of the vacancies for the said post are as follows :-

S.No	Group	No.of.vacancies
1.	Chemistry	40
2.	Biology	14
3.	Physics	06
4.	Physics and Chemistry (Division: Computer Forensic Science)	04
Total		64

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 should apply online for this recruitment. [The One-Time Registration will be valid for 5 years from the date of registration. Thereafter, the registration should be renewed by paying the prescribed fee.]

2. IMPORTANT DATES AND TIME

Date of Notification	21.06.2019	
Last date for submission of online application	22.07.2019	
Last date for payment of Examination Fee through Bank (State Bank of India or HDFC Bank)	24.07.2019	
Date of Written Examination		
Paper – I (Subject Paper) (PG Degree Standard)	24.08.2019 FN	10.00 A.M. to 01.00 P.M
Paper – II (General Studies) (Degree Standard)	24.08.2019 AN	02.30 P.M. to 04.30 P.M

3. DISTRIBUTION OF VACANCIES

The rule of reservation of appointment is **applicable** for this post and the Distribution of vacancies will be announced based on the receipt of orders from the Government/ Head of the Department regarding admissibility of Differently Abled Persons for recruitment to this post.

4. FEES

a)	<p><u>Registration Fee</u></p> <p>For One-Time Registration (Revised with effect from 01.03.2017 vide G.O.(Ms).No.32, Personnel and Administrative Reforms (M) Department, dated 01.03.2017)</p> <p><u>Note</u></p> <p>(i) Applicants who have already registered in One-Time Registration system within the validity period of 5 years are exempted.</p> <p>(ii) Those who have registered in One-Time Registration system and paid the Registration fee i.e., Rs.150/-, it is enough to pay the Examination fee alone.</p>	Rs.150/-
b)	<p><u>Examination Fee</u></p> <p><u>Note</u></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 fee concession noted below.</p>	Rs.150/-

EXAMINATION FEE CONCESSION

Category	Concession	Condition
(i) Scheduled Castes/ Scheduled Caste (Arunthathiyars), Scheduled Tribes	Full Exemption	--

(ii) Differently Abled Persons, Destitute Widows of all communities	Full Exemption	(i) For Differently Abled Persons, the disability should be not less than 40%. (ii) For Destitute Widows, the Destitute Widow 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 (Muslims)	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 for those Ex-Servicemen who have already been recruited to any class or service or category.

Note :

- (i) The three / two free chances allowed 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 is rejected / admitted or withdrawn will be counted as a free chance availed.
- (ii) Failure to pay the prescribed fee along with the application in-time, will be liable for 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](#)".]

5. MODE OF PAYMENT OF EXAMINATION FEE

- Examination fee of Rs.150/- (Rupees One Hundred and Fifty only) is payable online through Net banking / Credit card / Debit card or it can be paid offline at State Bank of India / HDFC Bank within 2 days from the date of submission of online application, by choosing the option in the online application.
- Applicants have to register their basic particulars through One-Time Registration which is mandatory on payment of Rs.150/- (Rupees One Hundred and Fifty only) towards Registration fee and then should apply online for this recruitment. The One-Time Registration will be valid for 5 years from the date of registration. Thereafter, the registration should be

renewed by paying the prescribed fee. Applicants who have already registered in One-Time Registration system by paying Rs.50/- before 01.03.2017 and having validity and those who have registered for One-Time Registration on or after 01.03.2017 by paying Rs.150/- towards One-Time Registration are exempted from paying the registration fee for this recruitment.

- Applicants have also to pay the service charges applicable to the State Bank of India / HDFC Bank.
- Applicants can avail exemption from paying Examination fees 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.**

[For further details refer para 2 (13-23) of [“Instructions to Applicants”](#)]

Note:

The fees once paid to the Tamil Nadu Public Service Commission will not be refunded to the applicants under any circumstances.

6. QUALIFICATIONS

(A) AGE LIMIT (As on 01.07.2019)

Category of Applicants	Maximum Age
SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s, BCMs and Destitute Widows of all castes	No maximum age limit
‘Others’ [i.e., Applicants not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs]	30 years (Should not have completed)

Note

Applicants not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs who have put in five years and more of service in the State / Central Government are **not eligible** to apply even if they are within the age limit.

Explanation: - “No maximum age limit” shall mean that the candidates should not have completed 58 years of age either on the date of Notification or at the time of selection/ appointment to the post.

[For further details regarding Age limit refer para 5 of [“Instructions to Applicants”](#) and Section 3(r) of [Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016](#)]

Age Concession

Applicants belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs		‘Others’ i.e. Applicants not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs	
Differently Abled Persons	Ex-Servicemen	Differently Abled Persons	Ex-Servicemen
No maximum age limit		40 years	48 years

Note

- The above mentioned age concession will not apply to those Ex-Servicemen applicants who had already been recruited to any class or service or category.
- Instructions given with regard to maximum age limit under para 5 of the [“Instructions to Applicants”](#) will apply to this recruitment.

(B) EDUCATIONAL QUALIFICATION (As on 21.06.2019)

Applicants should possess the following or its Equivalent qualification from any University or Institution recognized by the University Grants Commission as on 21.06.2019 i.e. date of this Notification.

M.Sc., (Forensic Science) Degree and a Degree in the **Subject**, for the **Group** as shown in the **Explanation** below to which he is appointed.

(OR)

M.Sc., Degree in the **Subject** for the **Group** as shown in the **Explanation** below to which he is appointed.

Provided that other things being equal, preference shall be given to person who holds a degree in M.Sc., (Forensic Science)

Explanation: The Group, Division and subjects are specified below :-

S.No.	Group	Division/ Unit belonging to the Group	Subject
(1)	(2)	(3)	(4)
1.	Biology	(i) Anthropology	Zoology / Physical Anthropology
		(ii) Biology	Botany / Zoology / Bio-Chemistry / Micro-Biology / Bio-Technology/ Genetics
		(iii) Serology	
		(iv) DNA	
2.	Chemistry	(i) Chemistry	Chemistry(Organic/Inorganic/Physical/Analytical/ Polymer/Applied) / Environmental Toxicology
		(ii) Explosives	
		(iii) Narcotics	
		(iv) Toxicology	Chemistry(Organic/Inorganic/Physical/Analytical/ Polymer/Applied) / Bio-Chemistry / Environmental Toxicology
		(v) Prohibition	
		(vi) Excise	
3.	Physics	Physics	Physics
4.	Physics and Chemistry	Computer Forensic Science	Chemistry / Computer Science / Physics

Note:-

- (i) The individuals who possess M.Sc degree in Computer Science must have acquired a basic degree in Physics or Chemistry as major subject;
- (ii) The individuals who possess M.Sc degree in Environmental Toxicology must have acquired a basic degree with Chemistry as major subject for appointment in Chemistry or Prohibition or Excise or Explosives or Narcotics Divisions/ Units;
- (iii) The individuals who possess M.Sc degree in Physics or Chemistry or Forensic Science with basic degree in Physics or Chemistry as major subject must have acquired a Diploma or Post-graduate Diploma in Computer Application or any subject related to Computer Science for appointment in Computer Forensic Science Division/Unit.

Note

- i. The Post Graduate Degree qualification prescribed for this post should have been obtained by passing the required qualification in the order of studies, viz., SSLC+ HSC or its equivalent + UG Degree + PG Degree from the recognised Institutions as required under Section 25 of Tamil Nadu Government Servants (Conditions of Service) Act, 2016.

(Results of the Examination should have been declared on or before the date of this Notification)

- ii. Candidates claiming Equivalence of qualification to the prescribed qualification should submit evidence for Equivalence of qualification in the form of Government Order issued on or before the date of this Notification, failing which their application **will be summarily rejected**. The Government Orders issued declaring Equivalence of prescribed qualification after the date of this Notification will not be accepted. (Refer also to the Disclaimer annexed to this Notification)

[For further details regarding Equivalence of Qualification refer para 10 of the [“Instructions to Applicants”](#)]

(C) CERTIFICATE OF PHYSICAL FITNESS

Candidates selected for appointment to this post will be required to produce a Certificate of Physical Fitness in the form prescribed below before their appointment.

Standard of Vision	Form of Certificate of Physical Fitness
Standard I or Better Colour Blindness is considered as a disqualification for appointment to this post.	Form prescribed for ‘Other than Executive and Ministerial posts’

(D) KNOWLEDGE IN TAMIL

Applicants should possess adequate knowledge in Tamil on the date of this Notification.

[For details refer para 11 of the Commission’s [“Instructions to Applicants”](#)]

7. CONCESSIONS

- (i) Concessions in the matter of Age and Fees allowed to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s, BCMs, Destitute Widows, Differently Abled Persons, Ex-Servicemen and other categories of persons are given in paras. 12 to 14 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 by the Tamil Nadu Public Service Commission, otherwise their application will be liable for rejection.

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. [Proviso to Section 3(j)(vii) of [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,STs, MBCs/DCs, BC(OBCM)s and BCMs	Others
<u>i. Paper- I (Subject Paper)</u> (PG Degree Standard) (200 Questions) i. Forensic Science (Code No.226) ii. Biology (Code No.227) iii. Chemistry (Code No.228) iv. Physics (Code No.229) v. Computer Science (Code No.287)	3 hours	300	171	228
<u>ii. Paper - II (General Studies)</u> (100 Questions) (Code No.003) General Studies (Degree Standard) - 75 Questions AND Aptitude and Mental Ability (SSLC Standard) - 25 Questions	2 hours	200		
<u>iii. Interview and Records</u>	---	70		
	Total	570		

Note

- (i) The Candidates who have obtained PG degree in Forensic science should appear in the subject Forensic Science in Paper-I.
- (ii) The candidates who have obtained their PG degree in the subject as shown in column (4) of the **Explanation** in the para 6(b) of the Notification should appear only in the subject under which it is grouped as shown in column (2), except P.G. Degree in Computer Science who should appear only in the subject Computer Science in Paper-I.
- (iii) The Syllabi for Examination is furnished in the **Annexure - II** of the Notification and also available in the Commission's website www.tnpsc.gov.in
- (iv) **The questions for the subjects Forensic Science, Biology and Computer Science in Paper - I will be set in English only** and questions for the subjects Physics and Chemistry in Paper - I will be set both in English and Tamil. The questions for Paper-II will be set both in English and Tamil.

9. EXAMINATION CENTRES

Examination will be held at the following centres: -

Name of the Centre	Centre Code
Chennai	0100
Madurai	1000
Coimbatore	0200
Tiruchirappalli	2501
Tirunelveli	2601
Salem	1701
Thanjavur	1901
Villupuram	2801
Vellore	2701
Krishnagiri	3101
The Nilgiris	1301

Note

- (i) Request for change of Examination Centre / Venue will not be entertained.
- (ii) Candidates will be required to appear for the Written Examination / Certificate Verification / Oral Test at their own expenses.
- (iii) The Commission reserves the right to increase / decrease the number of Examination Centres and to re-allot the candidates.

[For further details refer paragraph 22 (4) of ["Instructions to Applicants"](#)]

10. SELECTION PROCEDURE

Selection will be made in two successive stages i.e., (i) Written Examination and (ii) Oral Test in the form of an interview. Based on the marks obtained by the candidates in the Written Examination and availability of vacancies for the particular **group**, the tentative list of eligible candidates for Certificate Verification will be announced in the Commission's website. After verification of the original certificates, the eligible candidates will be summoned for Oral Test following the rule of reservation of appointment and availability of vacancies for the particular **group**. A candidate who has not appeared in any one of the papers in Written Examination or Oral Test will not be considered for selection, even if he/she secures qualifying marks in the Written Examination or Oral Test. Final selection for appointment to this post will be done in the form of counselling on the basis of total marks obtained by the candidates in the Written Examination and Oral Test taken together, subject to the rule of reservation of appointment and availability of vacancies for the particular **group**.

11. NO OBJECTION CERTIFICATE / INFORMATION TO THE EMPLOYER

No Objection Certificate obtained from appropriate authority shall be produced at the time of Certificate Verification. No Objection Certificate should be produced in the format prescribed under para 15 (g) of Commission's ["Instructions to Applicants"](#). Any violation of this instruction will be liable for rejection of application and forfeiture of his/her candidature.

12. GENERAL INFORMATION

A. The rule of reservation of appointment is applicable for this post.

B. If no qualified and suitable women candidates are available for selection against the vacancies reserved for them, those vacancies will be filled up by male candidates belonging to the respective communal categories.

C. 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 up 20% of vacancies in direct recruitment on preferential basis to the 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 the prescribed qualification is 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 for claiming this reservation). If the candidates with PSTM certificate are not available for selection for appointment against reserved turn, such turns shall be filled up by eligible Non-PSTM candidates, but belonging to the respective communal category. The PSTM certificate shall be produced / uploaded by the candidate in prescribed format/ proforma available in 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"]**

D. The number of vacancies notified is only approximate and is liable for modification / reduction with reference to vacancy position, at any time before finalization of selection.

E. The selection for appointment to this post is purely provisional subject to final orders pending on the Writ Petitions, if any, filed before the Hon'ble Madras High Court and Madurai Bench of Madras High Court.

F. Even after filling up of 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 post reserved for Arunthathiyars remain unfilled for want of adequate number of qualified applicants, it shall be filled up by Scheduled Castes other than Arunthathiyars.

G. As mentioned in Section 26 and 27 (C) of Tamil Nadu Government Servants (Conditions of Service) Act, 2016, the reservation of appointment to **Destitute Widows** and **Ex-Servicemen** **will not apply** to this recruitment.

H. This post is not included under the list of posts of Group-A & B category which are identified as suitable for 4% reservation to Differently Abled Persons vide G.O.(Ms).No.20, Welfare of Differently Abled (DAP 3.2) Department, dated 20.06.2018.

I. Evidence for claims made in the online application should be uploaded / submitted within stipulated time when the documents are called for by the Tamil Nadu Public Service Commission. Any subsequent claim made thereafter on submission of online application will not be entertained. Failure to submit the documents within the stipulated time limit **will entail rejection of the application.**

J. Correct and True information regarding arrest, convictions / debarment / disqualification by any recruiting agency, criminal or any disciplinary proceedings initiated / pending or finalized, participation in agitation or any Political Organization, candidature in election for Parliament/State Legislature/Local Bodies etc., if any, should also be furnished to the Commission at the time of submission of online application i.e., the details thereof, originals of the Judgement, order or G.O dropping further action in Departmental proceedings or any document that may prove the suitability of such candidate for a Government 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 then and there. Failure to report on the part of candidate will be considered as suppression of material information and will attract suitable penal action.

- K. Incomplete applications and applications containing wrong claims or incorrect particulars relating to category of reservation / age / communal category / educational qualification / PSTM / physical qualification and other basic eligibility criteria **will be rejected summarily**.
- L. **One-Time Registration is not an application for any Post / Recruitment**. Though the details/particulars were furnished in the One-Time Registration by the applicants, the details/particulars furnished in the online application submitted for this recruitment alone will be taken into consideration. Tamil Nadu Public Service 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.

13. OTHER IMPORTANT INSTRUCTIONS

- a) **Applicants should ensure their eligibility for Examination:** The applicants applying for the Examination should go through all instructions carefully and ensure that they fulfil all eligibility conditions for admission to 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 applicant will not imply that his/her Candidature has been fully cleared by the Commission.
- b) The **Hall Tickets** for eligible candidates will be made available in the Commission's website <http://www.tnpsc.gov.in> or www.tnpscexams.net or www.tnpscexams.in for downloading the same by candidates. **Hall Tickets will not be sent by post.** Hence, the candidates should watch Commission's website before the scheduled date of Examination. The candidates must comply with each and every instruction given in the Hall Ticket.
- c) **Grievance Redressal Cell for guidance of applicants:** In case of any guidance/ information / clarification of their applications, candidature etc., applicants can contact Tamil Nadu Public Service Commission's Office over Telephone No.044-25332833 / 25332855 or the Commission's Office 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 contacttnpsc@gmail.com.
- d) **After Notification, during the process of recruitment till publication of result, no information, under Right to Information Act, would be furnished.**
- 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 thing or instrument, 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 "[Instructions to Applicants](#)").
 - (iii) Candidates are advised in their own interest not to bring any of the banned items including Mobile Phones to the Venue of the Examination, as arrangements for safekeeping 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 / Oral Test, it is found that they do not fulfil any of the eligibility conditions, their Candidature for the Examination will be rejected summarily 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 candidate shall copy from the papers of any other candidate 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 "[Instructions to Applicants](#)".]
- i) **CONDUCT IN EXAMINATION HALL:** No candidate 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 severely viewed and penalised. [For further details refer "[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

- (i) Applicants should apply only through online mode in the Commission's Website <http://www.tnpsc.gov.in> , <http://www.tnpscexams.net> , <http://www.tnpscexams.in>
- (ii) '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 5 years from the date of registration. All the applications should be submitted using the One-Time Registration ID and password registered by the applicant.
- (iii) To apply under One-Time Registration, applicants should have scanned image of their photograph, certificate 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.
- (iv) Applicants who have already registered in One-Time Registration on or before 29.09.2015 shall use their existing user ID and Password to create applicant Dashboard in the new One-Time Registration system. No applicant is permitted to create more than one Registration ID in One-Time Registration.
- (v) Applicants should enter the Unique ID and password to view the already available information and update them.
- (vi) 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. Applicant who wishes to apply for any post shall click "[Apply](#)" against the post notified in the Commission's Website and use the same USER ID and PASSWORD given for ONE-TIME REGISTRATION.
- (vii) Applicants should select the name of the post(s) and service to which they wish to apply.
- (viii) An online application uploaded without the photograph, specified documents and signature will be rejected.

(ix) All the particulars mentioned in the online application will be considered as final and no modification will be allowed after submission of online application. Once an application is submitted no further request for change of details will be entertained.

(x) **PRINT OPTION**

- a) After submitting the online application, applicants can print / save their Application in PDF format.
- b) On entering user ID and password, applicants can download their application and print the same if required.
- c) Candidates need not send the printout of the online application or any other supporting documents to the Commission. The application and certificates will be verified only when the candidates come up for Certificate Verification.

(xi) **One-Time Registration will not be considered as an application for any post.**

15. UPLOAD / SUBMISSION OF DOCUMENTS

The candidates must upload/submit the necessary documents as on when **called for specifically** by the Tamil Nadu Public Service Commission.

16. LAST DATE FOR SUBMITTING ONLINE APPLICATION

The online application can be submitted up to 22.07.2019 till 11.59 p.m., after which the link will be disabled.

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

**Secretary,
Tamil Nadu Public Service Commission**

DISCLAIMER

“The Government Orders relating to Equivalence of Qualification are available in the Tamil Nadu Public Service Commission’s website. However, the applicants while applying for the Examination should furnish the details of Equivalence of Qualification declared in the form of Government orders issued on or before the date of this Notification if any, and produce the same while submitting the documents, failing which their **application will be rejected**. The Government Orders issued regarding Equivalence of prescribed qualification after the date of this Notification will not be accepted.”

**Secretary,
Tamil Nadu Public Service Commission**

ANNEXURE-I

Qualification considered as Equivalent to the Degree as prescribed in the Rule	G.O. in which ordered
Zoology (Degree)	
B.Sc (Animal Science and Bio-Technology) in the academic year of 2002-2003, B.Sc (Advanced Zoology and Bio-Technology) in the Academic year of 2005-2006 and B.Sc (Zoology with Biotechnology) in the academic year of 2008-2009 is equivalent to B.Sc (Zoology).	G.O.(Ms) No.104, Higher Education (H2) Department, dated 22.06.2012.
B.Sc., Environmental Zoology awarded by Bharathidasan University is equivalent to B.Sc Zoology.	G.O.(Ms) No.58, Higher Education (K2) Department, dated 15.04.2013.
B.Sc Advanced Zoology and Bio-Technology awarded by University of Madras is equivalent to B.Sc Zoology.	G.O.(Ms) No.117, Higher Education (K2) Department, dated 02.07.2013.
B.Sc Zoology Specialization in Bio-Technology offered by Holy Cross College (Autonomous), Trichy awarded by Bharathidasan University is equivalent to B.Sc Zoology, University of Madras.	G.O.(Ms) No.270, Higher Education (K2) Department, dated 31.12.2013.
B.Sc Applied Zoology semester course awarded by Madurai Kamaraj University is equivalent to B.Sc Zoology semester course.	
B.Sc (Special) Zoology (Special in Biotechnology) awarded by Lady Doak College affiliated to Madurai Kamaraj University is equivalent to B.Sc Zoology.	G.O.(Ms) No.27, Higher Education (K2) Department, dated 13.02.2014.
B.Sc Advanced Zoology and Bio-technology awarded by Manonmaniam Sundaranar University till 2009-2010 (subsequently the nomenclature of the said course has been changed as B.Sc Zoology) is equivalent to B.Sc Zoology.	
B.Sc Zoology with Biotechnology awarded by A.V.V.M. Sri Pushpam College (Autonomous), Bharathidasan University is equivalent to B.Sc Zoology.	G.O.(Ms) No.112, Higher Education (K2) Department, dated 18.07.2014
B.Sc Advanced Zoology and Biotechnology course awarded by Vivekananda College affiliated to Madurai Kamaraj University is equivalent to B.Sc Zoology.	G.O.(Ms) No.116, Higher Education (K2) Department, dated 22.07.2014.
B.Sc Zoology (Vocational) awarded by Mother Teresa Women's University is equivalent to B.Sc Zoology	G.O.(Ms) No.72, Higher Education (K2) Department, dated 20.04.2015.
B.Sc Advanced Zoology and Biotechnology (Sericulture) awarded by Manonmaniam Sundaranar University is equivalent to B.Sc Zoology.	
B.Sc Zoology (vocational Stream Sericulture) awarded by Periyar University is equivalent to B.Sc Zoology.	G.O.(Ms) No.232, Higher Education (K2) Department, dated 18.11.2016.
B.Sc Zoology (Animal Science and Animal Biotechnology) degree course offered by Seethalakshmi Ramaswami College (Autonomous) Tiruchirapalli affiliated to Bharathidasan University is equivalent to B.Sc Zoology.	G.O.(Ms) No.33, Higher Education (K2) Department, dated 12.02.2018.
M.Sc Zoology 5 year integrated courses offered by Annamalai University is equivalent to corresponding U.G degree	G.O.(Ms) No.75, Personnel and Administrative Reforms (M) Department, dated 30.06.2011.
பாரதியார் பல்கலைக் கழகத்தால் வழங்கப்படும் நுண்ணுயிரியல் பட்டப்படிப்பு (B.Sc Micro-Biology), விலங்கியல் பட்ட படிப்புக்கு (B.Sc Zoology) இணையானது	அரசு ஆணை நிலை எண் 254, பணியாளர் மற்றும் நிர்வாகச் சீர்திருத்தத் (ஆர்) துறை, நாள் 22.10.1998.

B.Sc (Zoology) with allied subject viz., Vocational – Industrial Micro Biology awarded by Periyar University, Salem is equivalent to B.Sc (Zoology)	G.O.(Ms) No.58, School Education (CC4(2) Department, dated 01.03.2016
Zoology (PG Degree)	
பாரதியார் பல்கலைக் கழகத்தால் வழங்கப்படும் விலங்கின அறிவியல் பட்டமேற்படிப்பு(M.Sc Animal Science), விலங்கியல் பட்டமேற்படிப்புக்கு (M.Sc Zoology) இணையானது.	அரசு ஆணை நிலை எண் 254, பணியாளர் மற்றும் நிர்வாகச் சீர்திருத்தத் (ஆர்) துறை, நாள் 22.10.1998.
M.Sc Zoology (Specialization in Biotechnology) awarded by Lady Doak College affiliated to Madurai Kamaraj University is equivalent to M.Sc Zoology.	G.O.(Ms) No.27, Higher Education (K2) Department, dated 13.02.2014.
M.Sc Marine Biology & Oceanography (with B.Sc Zoology as major) awarded by Annamalai University is equivalent to M.Sc Zoology.	G.O.(Ms) No.116, Higher Education (K2) Department, dated 22.07.2014
M.Sc degree in Zoology (Biotechnology) awarded by Vivekananda College (Autonomous) affiliated to Madurai Kamaraj University is equivalent to M.Sc Zoology.	
Botany (Degree)	
B.Sc Plant Biology and Plant Bio-technology awarded by Bharathiar University is equivalent to B.Sc Botany.	G.O.(ID) No.268, Higher Education (H1) Department, dated 20.09.2012
B.Sc Plant Biology and Plant Bio-technology awarded by Madras University is equivalent to B.Sc Botany.	G.O.(Ms) No.117, Higher Education (K2) Department, dated 02.07.2013.
B.Sc Botany (Vocational Bio-Technology) awarded by Periyar University is equivalent to B.Sc Botany.	G.O.(Ms) No.112, Higher Education (K2) Department, dated 18.07.2014.
B.Sc (Special) in Botany (Specialisation in Industrial Microbiology) awarded by Lady Doak College, Madurai Kamaraj University is equivalent to B.Sc Botany.	
(i) B.Sc Plant Biology & Plant Biotechnology awarded by Bharathidasan University and (ii) B.Sc Plant Biology & Plant Biotechnology (offered by St.Joseph's College (Autonomous), Trichy affiliated to Bharathidasan University is equivalent to B.Sc Botany.	G.O.(Ms) No.171, Higher Education (K2) Department, dated 30.09.2014
B.Sc Plant Biology and Plant Biotechnology awarded by St.Xavier's College (Autonomous), Palayamkottai affiliated to Manonmaniam Sundaranar University is equivalent to B.Sc Botany.	G.O.(Ms) No.72, Higher Education (K2) Department, dated 20.04.2015.
பாரதியார் பல்கலைக் கழகத்தால் வழங்கப்படும் நுண்ணுயிரியல் பட்டப்படிப்பு (B.Sc Micro-Biology), தாவரவியல் பட்ட படிப்புக்கு (B.Sc Botany) இணையானது	அரசு ஆணை நிலை எண் 254, பணியாளர் மற்றும் நிர்வாகச் சீர்திருத்தத் (ஆர்) துறை, நாள் 22.10.1998.
Botany (PG Degree)	
பாரதியார் பல்கலைக் கழகத்தால் வழங்கப்படும் தாவர அறிவியல் பட்டப்படிப்பு (M.Sc Plant Science), தாவரவியல் பட்ட மேற்படிப்புக்கு (M.Sc Botany) இணையானது	அரசு ஆணை நிலை எண் 254, பணியாளர் மற்றும் நிர்வாகச் சீர்திருத்தத் (ஆர்) துறை, நாள் 22.10.1998.
M.Sc Plant Science degree course awarded by University of Madras is equivalent to M.Sc Botany	G.O.(Ms) No.185, Higher Education (K2) Department, dated 26.09.2013.
M.Sc Applied Plant Science awarded by University of Madras is equivalent to M.Sc Botany.	G.O.(Ms) No.270, Higher Education (K2) Department, dated 31.12.2013

<p>M.Sc Plant Biology & Plant Biotechnology awarded by St.Joseph College (Autonomous) affiliated to Bharathidasan university is equivalent to M.Sc Botany.</p> <p>M.Sc Plant Biotechnology awarded by Bharathidasan University is equivalent to M.Sc Botany.</p> <p>M.Sc Plant Science and Technology (Five year Integrated) programme of Annamalai University is equivalent to M.Sc Botany.</p> <p>M.Sc Botany (specialization in Microbiology) awarded by American College affiliated to Madurai Kamaraj University is equivalent to M.Sc Botany.</p>	G.O.(Ms) No.116, Higher Education (K2) Department, dated 22.07.2014.
M.Sc Botany (Five year Integrated) awarded by Annamalai University is equivalent to M.Sc Botany.	G.O.(Ms) No.171, Higher Education (K2) Department, dated 30.09.2014
M.Sc Applied Botany awarded by Periyar University as equivalent to M.Sc Botany.	G.O.(Ms) No.72, Higher Education (K2) Department, dated 20.04.2015.
M.Sc Botany (Specialization in Plant Bio-Technology) offered by SFR (Standard Fire Works Rajaratnam) College (Autonomous), Sivakasi affiliated to Madurai Kamaraj University is equivalent to M.Sc Botany.	G.O.(Ms) No.123, Higher Education (K2) Department, dated 25.06.2018.
Bio-Technology (Degree)	
M.Sc Biotechnology, 5 year integrated course offered by Annamalai University is equivalent to corresponding U.G degree	G.O.(Ms) No.75, Personnel and Administrative Reforms (M) Department, dated 30.06.2011.
Micro-Biology (Degree)	
M.Sc Microbiology, 5 year integrated course offered by Annamalai University is equivalent to corresponding U.G degree.	G.O.(Ms) No.75, Personnel and Administrative Reforms (M) Department, dated 30.06.2011.
Micro-Biology (PG Degree)	
M.Sc Applied Micro-Biology awarded by university of Madras is equivalent to M.Sc Micro-Biology.	G.O.(Ms) No.27, Higher Education (K2) Department, dated 13.02.2014.
M.Sc Applied Microbiology awarded by Periyar University is equivalent to M.Sc Microbiology.	G.O.(Ms) No.112, Higher Education (K2) Department, dated 18.07.2014
M.Sc Industrial Microbiology awarded by University of Madras is equivalent to M.Sc Microbiology.	G.O.(Ms) No.37, Higher Education (K2) Department, dated 17.02.2016.
<p>i) M.Sc Applied Microbiology awarded by Bharathiar University is equivalent to M.Sc Microbiology.</p> <p>ii) M.Sc Applied Microbiology awarded by Thiruvalluvar University is equivalent to M.Sc Microbiology.</p> <p>iii) M.Sc Applied Microbiology awarded by Periyar University is equivalent to M.Sc Microbiology</p>	G.O.(Ms) No.65, Higher Education (K2) Department, dated 24.04.2019.
Chemistry (Degree)	
B.Sc (Special) Chemistry with Cheminformatics awarded by Lady Doak College affiliated to Madurai Kamaraj University is equivalent to B.Sc Chemistry.	G.O.(Ms) No.232, Higher Education (K2) Department, dated 18.11.2016.

B.Sc (Special) Chemistry degree awarded by Lady Doak College (Autonomous) affiliated to Madurai Kamaraj University is equivalent to B.Sc Chemistry.	G.O.(Ms) No.323, Higher Education (K2) Department, dated 13.11.2017.
B.Sc (Special) Chemistry semester Degree course of American College (Autonomous), Madurai affiliated to Madurai Kamaraj University is equivalent to B.Sc Chemistry.	
B.Sc Nanoscience degree offered by Sarah Tucker College (Autonomous), Tirunelveli affiliated to Manonmaniam Sundaranar University is equivalent to B.Sc Chemistry.	G.O.(Ms) No.123, Higher Education (K2) Department, dated 25.06.2018.
B.Sc Industrial Chemistry (Vocational Stream) awarded by Periyar University is equivalent to B.Sc Chemistry.	
B.Sc Applied Chemistry awarded by Annamalai University is equivalent to B.Sc Chemistry.	G.O.(Ms) No.65, Higher Education (K2) Department, dated 24.04.2019
B.Sc., B.Ed (4 year Integrated Programme) awarded by Periyar Maniammai Institute of Science and Technology (Deemed to be University) is equivalent to B.Sc Chemistry.	
M.Sc Chemistry 5 year integrated courses offered by Annamalai University is equivalent to corresponding U.G degree	G.O.(Ms) No.75, Personnel and Administrative Reforms (M) Department, dated 30.06.2011.
Chemistry (PG Degree)	
காந்திகிராமம் ஊரக நிலையத்தால் (நிகர் பல்கலைக் கழகம்) வழங்கப்படும் செயல்முறை வேதியியல் முதுநிலை பட்டப்படிப்பு (M.Sc Applied Chemistry) பிற பல்கலைக் கழகங்களால் வழங்கப்படும் வேதியியல் (M.Sc Chemistry) முதுநிலை பட்டப் படிப்புக்கு இணையானது.	அரசாணை நிலை எண். 133, பணியாளர் மற்றும் நிர்வாக சீர்திருத்த (ஆர்) துறை, நாள் 28.07.1999.
அண்ணா பல்கலைக் கழகத்தால் வழங்கப்படும் செயல்முறை சார்ந்த வேதியியல் முதுநிலைப் பட்டப்படிப்பினை (M.Sc. Applied Chemistry) வேதியியல் முதுநிலைப் பட்ட படிப்பிற்கு (M.Sc Chemistry) இணையானது.	அரசாணை நிலை எண் 164, பணியாளர் மற்றும் நிர்வாக சீர்திருத்த (ஆர்) துறை, நாள் 21.08.2000.
M.Sc Industrial Chemistry awarded by Bharathidasan University, Tiruchirappalli and Alagappa University, Karaikudi is equivalent to M.Sc Chemistry.	G.O.(Ms) No.24, Higher Education (K2) Department, dated 13.02.2013.
M.Sc (Chemical Sciences) Degree awarded by Pondicherry University is equivalent to M.Sc Chemistry.	G.O.(Ms) No.323, Higher Education (K2) Department, dated 13.11.2017.
M.Sc (Nanoscience and Technology Chemistry Based) awarded by Bharathiar University is equivalent to M.Sc Chemistry.	G.O.(Ms) No.55, Higher Education (K2) Department, dated 15.03.2018.
M.Sc Chemistry Specialization in Green Chemistry awarded by Manonmaniam Sundaranar University is equivalent to M.Sc Chemistry.	G.O.(Ms) No.65, Higher Education (K2) Department, dated 24.04.2019.
Physics (Degree)	
B.Sc Physics with Specialization in Electronics awarded by Bharathidasan University is equivalent to B.Sc Physics.	G.O.(Ms) No.270, Higher Education (K2) Department, dated 31.12.2013.
B.Sc., (Special) Physics with Computer Application awarded by Madurai Kamaraj University is equivalent to B.Sc Physics.	G.O.(Ms) No.27, Higher Education (K2) Department, dated 13.02.2014.
B.Sc Physics with Computer Applications awarded by Bharathiar University is equivalent to B.Sc Physics.	

B.Sc Physics (Electronics Communication and Computer Applications) awarded by Vivekanada College (Autonomous), Madurai Kamaraj University is equivalent to B.Sc Physics.	G.O.(Ms) No.27, Higher Education (K2) Department, dated 13.02.2014.
B.Sc (Spl) Physics awarded by Lady Doak College (Autonomous) affiliated to Madurai Kamaraj University is equivalent to B.Sc Physics. (i) B.Sc Physics with Specialization in PC Hardware and Networking awarded by Lady Doak College affiliated to Madurai Kamaraj University, (ii) B.Sc (Special) Physics with Computer Applications awarded by Madurai Kamaraj University are equivalent to B.Sc Physics.	G.O.(Ms) No.116, Higher Education (K2) Department, dated 22.07.2014
B.Sc (Hons) Physics Degree course of Hansraj College affiliated to University of Delhi is equivalent to B.Sc Physics Degree course.	G.O.(Ms) No.323, Higher Education (K2) Department, dated 13.11.2017.
B.Sc Physics (Computer Application) (Vocational Stream) awarded by Periyar University is equivalent to B.Sc Physics major course of different universities in Tamil Nadu.	G.O.(Ms) No.123, Higher Education (K2) Department, dated 25.06.2018.
M.Sc Physics 5 year integrated courses offered by Annamalai University is equivalent to corresponding U.G degree	G.O.(Ms) No.75, Personnel and Administrative Reforms (M) Department, dated 30.06.2011.
Physics (PG Degree)	
காந்திகிராமம் ஊரக நிலையத்தால் (நிகர் பல்கலைக் கழகம்) வழங்கப்படும் செயல்முறை இயற்பியல் முதுநிலை பட்டப்படிப்பு (M.Sc Applied Physics) பிற பல்கலைக் கழகங்களால் வழங்கப்படும் இயற்பியல் (M.Sc Physics) முதுநிலை பட்டப் படிப்புக்கு இணையானது	அரசாணை நிலை எண். 133, பணியாளர் மற்றும் நிர்வாக சீர்திருத்த (ஆர்) துறை, நாள் 28.07.1999.
அண்ணா பல்கலைக்கழகம் வழங்கும் எம்.எஸ்.சி, மெட்டீரியல் சயின்ஸ் என்ற முதுநிலை பட்டத்தை எம்.எஸ்.சி (இயற்பியல்) தகுதி படைத்த கல்வி என நிர்ணயிக்கப்பட்டுள்ள பதவிகளுக்கான நியமனத்தில் சமமாக கருதுதல்.	G.O.(Ms) No.244, Higher Education (J1) Department, dated 05.12.2016.
M.Sc (Applied Physics) Degree awarded by National Institute of Technology, Trichy is equivalent to M.Sc Physics.	G.O.(Ms) No.37, Higher Education (J1) Department, dated 28.02.2019.
M.Sc Physics (Five years Integrated) awarded by Bharathidasan University is equivalent to M.Sc Physics (two years programme) M.Sc Physics (Five years Integrated) awarded by Annamalai University is equivalent to M.Sc Physics (two years programme)	G.O.(Ms) No.65, Higher Education (K2) Department, dated 24.04.2019.
Computer Science (PG Degree)	
i) M.Sc (Software Science) (5 years Integrated) awarded by Periyar University is equivalent to M.Sc Computer Science with B.Sc in Computer Science. ii) M.Sc Applied Science (Computer Technology) (5 years Integrated) awarded by Periyar University is equivalent to M.Sc (Computer Science) with B.Sc Computer Science.	G.O.(Ms) No.55, Higher Education (K2) Department, dated 15.03.2018.
M.SC Software Engineering awarded by Manonmaniam Sundaranar University is equivalent to M.Sc Computer Science.	G.O.(Ms) No.194, Higher Education (K2) Department, dated 14.08.2018.

ANNEXURE - II
PAPER-I
SYLLABUS

FORENSIC SCIENCE (PG DEGREE STANDARD)

Code No. 226

UNIT- I :

Forensic Science - Definition - Development of Forensic science in India - Organization and functions of Forensic laboratory

UNIT- II :

Physical evidences - their classification and significance - Locard's Principle of exchange- class and individual characteristics.

Crime Scene examinations - documentation of crime scene- recognition, collection, preservation and transportation of physical evidence for laboratory examinations.

Fundamentals of photography - crime scene photography

UNIT - III :

Foot and tyre impressions - Walking pattern - Recording and examination of foot prints and tyre prints.

Finger prints - Fundamental principles - Finger print patterns - classification of finger prints - methods of developments of latent finger prints.

UNIT- IV :

Tool marks - identification - restoration of filed off/erased marks - Detection of counterfeit coins and currency.

Fire arms, Bullet and cartridge case identification - pellets and wads - Range of firing.

UNIT- V :

Fire and arson - Natural fires - Arson - Accelerants - Combustible properties of flammable substances.

Explosives - Classification of explosive substances - Combustion, detonation and explosion - Effects of explosion - Military and industrial explosives - Improvised explosive devices - Explosive residues - Residues examination.

UNIT- VI :

Questioned documents, identification of hand writing, type writer and forged signatures - Erasures and alterations on documents and their detection

UNIT - VII :

Broken glass - glass fractures - direction of force - backward fragmentation - comparison of glass fragments.

Forensic examination of soil and paints,

Theory and practice of polygraph and voice identification

UNIT- VIII :

Toxicology - classification and mode of action of poisons - narcotic drugs - alcoholic beverages - isolation and identification of poisons, drugs and alcohol

UNIT- IX :

Examination of biological fluids - blood, seminal and saliva stains - forensic characterization of the above stains - stain patterns of the blood, Examination of fibres, hair, bones, teeth and skull - Fundamental of DNA typing.

UNIT- X :

Instrumental methods of organic analysis - principles of chromatography, spectrophotometry, and mass spectrometry.

Instrumental methods of inorganic analysis - Principles of emission and atomic absorption spectra - X-ray diffraction - Neutron activation analysis.

PAPER-I
SYLLABUS
BIOLOGY (PG DEGREE STANDARD)

Code No.227

UNIT- I :

General classification and salient features of Invertebrata and vertebrata – Metamorphosis and regeneration in lower forms of animal – Economic importance of oyster, honey bee, Silkworm – Agricultural pests and their control – Larval forms of crustacean and Echinodermata - Classification and identification of poisonous and nonpoisonous snakes and types of snake venom. Evolution: Theories, types and factors influencing evolution Evidences of human evolution – Human genetics: Pedigree analysis, lod score for linkage testing, Karyotyping, Significance of human genome project.

UNIT- II :

Structural organization and importance of animal cells - Muscle cells – Cardiac, Striated and non-striated muscle cells– Hepatocytes, Neurons, Nephrons, Keratinocytes, immune and endocrine cells. Functions of hormones and their receptors – Impact of sex hormones in human behavior. Chronobiology: importance of circadian rhythm and human biological clock – DNA analysis in paternity testing – Cell counting of WBC and RBC. Functions and disorders of Digestive, Respiratory, Cardiovascular Nervous, Muscular, Excretory, Reproductive and Integumentary systems. Developmental biology: production of sperm and egg, Fertilization – Zygote, Cleavage. Blastulation, gastrulation and formation of germ layers in animals and organogenesis – determination of sex by Amniocentesis. Entomology: Insect classification – Beneficial and harmful insects – Role of insects in decomposition of decayed materials – Exploiting insect olfaction in forensic studies – Importance of ants, blowflies and beetles in forensic investigation.

UNIT – III :

Fundamentals of Anthropology

Meaning – Scope and branches of Anthropology – Basic concepts / principles of Physical or Biological Anthropology – Anthropology and its relation with other Social, Biological and Medical Sciences – Analysis of kinship – Health and Ethno medicine – Population dynamics with special reference to Tamil Nadu – Applied and developmental Anthropology – Tribal, Rural and Urban Communities

Research Methodology- Anthropological research – Fieldwork Tradition, Methods and Techniques, Qualitative and Quantitative research Methods, Observation, Case study, Ethnography, Life histories and Personal documents, Visual Anthropology, Genealogical Methods.

UNIT – IV :

Physical / Biological Anthropology

Position of human being in the animal kingdom – Human Evolution - Theories of human evolution, Human growth and development – Factors affecting for growth, Demographic growth variation, Sex and Gender – Bio-cultural dimensions, Race and Ethnicity - Major racial groups of India, Ethnicity and contemporary relevance – Applied physical anthropology - Anthropometry and its uses, DNA Technology, genetic diseases, Forensic Anthropology and criminal investigations.

UNIT-V :**Chemistry of Biomolecules**

Carbohydrates – Structure and functions [Mono, Di & Polysaccharides] – Disorders of Carbohydrate Metabolism and its laboratory diagnosis.

Proteins and Amino acids – Types, structure and function.

Lipids – Types structure and functions. Sterols –Cholesterol. Disorders of lipid metabolism and its laboratory diagnosis.

Nucleic acid – DNA – Types, structure and functions

RNA – Types, structure and functions

Enzymes – Classification and properties of enzymes, Coenzymes, Marker enzymes

Hormones- Classes and functions of hormones

UNIT-VI :**Biochemical and Molecular Techniques**

Blood and its composition – WBC, RBC and Platelets. Blood clotting, Blood grouping, Cross matching and compatibility tests, Blood smear analysis, HLA typing.

Antigens and Immunoglobins – Classes and functions. Collection and Preservation of Biological fluids [Blood, Urine, CSF, Amniotic fluid, Semen, Sputum and Saliva]. Normal and Abnormal constituents of Biological fluids.

Isolation of DNA from blood sample, Agarose gel Electrophoresis, PCR, DNA Sequencing, RAPD, RFLP, DNA Finger printing -STR Typing.

Isolation of Proteins from blood sample, SDS PAGE, RIA, ELISA, FISH.

Ames test, Comet Assay.

UNIT- VII :

Origin of Microbiology, Contribution of Louis Pasteur, Alexander Flemming, Waksman, Robert Koch. Microscopy; Brightfield, Phase contrast, Fluorescent, Electron Microscopy and Confocal Microscopy. Staining techniques.

Cultivation of Microorganisms, Preparation of culture media, Sterilization techniques, Preservation techniques, Identification of Microorganisms; Conventional and Molecular techniques.

Host parasite interaction, Microbial diseases, Nosocomial infection, Zoonotic diseases, Food borne diseases, Microbial diseases of medical negligence. Bioterrorism and Biohazards.

UNIT- VIII :

DNA profiling, Genetic code, Mutation and DNA polymorphism, Microbial nanotechnology, Infectomics.

Biodeterioration of fibres and leather, Bioremediation, Bioconversion - Biogas technology, Environmental microbiology - Microbiology of air, water and soil. Role of microbes in production of fermentation products.

Production of antibiotics, Enzymes, Pigments, Insulin, Interferon, Monoclonal antibodies and Growth Hormones. Recombinants DNA technology.

Microbial biofertilizers, Microbial biopesticides and Microbial degradation of synthetic pesticides.

UNIT – IX :

Plant Diversity, Cell Biology – Taxonomy and Paleo botany, Plant Physiology Plant biochemistry, Plant pathology

Plant Diversity – Algae, Fungi, Bryophyte, pteridophytes, Gymnosperms, lichen.

Cell Biology – Cell structure and functions

Taxonomy– Principals of Taxonomy and phylogeny of angiosperms, Nomenclature of plants, Monocotyledons and dicotyledons

Paleo botany – Fossil plants

Plant Physiology and Plant biochemistry – Ezymes, Protein, Aminoacid and photo synthesis, respiration

Plant pathology – Bacterial, Fungal and Viral Diseases of Plants.

UNIT- X :

Plant Anatomy, Embryology, Genetics, Economic Botany, Ethnobotany, Environmental Botany

Plant Anatomy – Cell cycle, Cell division, Tissue system and secondary growth, Fruit wall and seed coat.

Embryology – Embryogenesis, Polyembryony, Double fertilization, Somatic Embryogenesis and Pollen grains.

Genetics – Mendelism, Linkage, crossing-over, chromosome mapping, RAPD and RFLP Techniques.

Economic Botany – Wood and Wood products, Fatty Oils and Vegetable Oils. Tannins and Dyes.

Ethnobotany – Ethno Medicinal Plants, Narcotic Plants.

Environmental Botany – Plant adaptations, Hydrophytes, Xerophytes, Mesophytes, Epiphytes, Halophytes and Mangrove vegetation. Ecological Indicators, Forest and Forest Management.

PAPER-I
SYLLABUS
CHEMISTRY (PG DEGREE STANDARD)

Code No.228

Unit – I : Quantum Chemistry : Quantum mechanical postulates – Eigen value and function – the Schrodinger wave equation – elementary applications of Schrodinger's equation – the particle in a box (one, two and three dimensional cases) – particle in a ring. The harmonic oscillator – the rigid rotor – the hydrogen atom – the Schrodinger equation for hydrogen atom – angular momentum – term symbols – Approximation methods – perturbation and variation method – application to hydrogen and helium atoms – R.S. coupling and term symbols for atoms in the ground state – Slater orbital and HF – SCF methods Born open – Heimer approximation – valence bond theory for hydrogen molecule – LACO – MO theory for di and polyatomic molecules – concept of hybridization – Huckel theory for conjugated molecules (ethylene butadiene and benzene) – semi empirical methods.

Unit – II: Chemical Kinetics and Thermodynamics: Rate laws – rate constant for first, second, third and zero order reaction – Half life period Temperature dependence on rate – Arrhenius theory – collision theory – Absolute reaction rate theory – ionic reaction – salt effect – catalysis – Laws of photo chemistry, quantum efficiency - photo physical processes of electronic excited molecules.

Partial molar properties – Chemical Potential – Partial molar volume and molar heat content – significance and determination – Thermodynamics of real gases - gas mixture – fugacity definition – determination of fugacity variation of fugacity with temperature and pressure – concept of thermodynamic probability – distribution of distinguishable and non – distinguishable particles. Maxwell – Boltzmann, Fermi-Dirac and Bose Einstein statistics – modes of contribution to energy – partition function – translational, vibrational and rotational partition functions for mono, diatomic and polyatomic ideal gases.

Unit – III : Nuclear Chemistry : Nuclear properties – nuclear spin and moments, origin of nuclear forces, salient features of liquid drop and shell models. Types of radioactive decay: Orbital electron capture, nuclear isomerism, internal conversion, detection and determination of activity by cloud chamber, nuclear emulsion, bubble chamber, G.M., Scintillation and Cherenkov counters; Accelerators – Linear and Cyclotron. Nuclear reaction: Types, reaction cross section, Q-value, threshold energy, compound nucleus theory: nuclear fission and fusion reactions as energy sources: photonuclear and thermo nuclear reactions. Components of nuclear reactor – the fast breeder reactor – nuclear reactors in India. Radioactive tracer – principles of tracer technique – application of tracers in the study of reaction mechanism and in analytical chemistry – neutron activation analysis, isotope dilution analysis – radio chemical determination of age of geological specimen. Tracers as applied to industry and agriculture – radioactive tracer in the diagnosis and treatment in the field of medicine.

Unit- IV: Electrochemistry : Mean ionic activity and activity coefficient: concept of ionic strength, Debye-Huckel theory of strong electrolytes – activity coefficient of strong electrolytes-determination – Deby Huckel limiting law at appreciable concentration of electrolytes – Debye Huckel Bronsted equation – qualitative and quantitative verification. PH & PKa of acids and bases – determents and buffer actions conductometric and potentiometric tirations Mechanism of electrode reaction – polarization and overpotential. Corrosion and passivation of metals: Pourbaix and Evans diagrams – fuel cells – electrodeposition – principle, applications and anticorrosion techniques.

Unit – V : Spectroscopy

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

Unit – VI : Organometallic compounds, Bio inorganic chemistry and Polymers:

Metal carbonyls, Metal nitrosyls, metal alkyl, alkenes and arene compounds – organic metallic compounds in catalysis – Chemistry of porphyrins – chlorophyll hemoglobin, myoglobin, ferredoxin, rubredoxin and cytochromes. Preparation and uses of polyethylene and uses of polyethylene, poly butylenes PVC, Nylon – Ziegler – Natta catalysts – Inorganic Polymers such as silicones, Borazines and phosphonitrilic compounds.

Unit – VII : Organic reaction mechanism and Stereochemistry:

General methods of reaction mechanisms (Kinetic and non kinetic) S_N1 , S_N2 mechanisms – addition substitution, elimination and rearrangements – free radical mechanism – aromatic substitution – formation and stability of reactive intermediates – The arenium ion mechanism. Orientation and reactivity (ortho, meta and para directing groups). Typical reactions to be studied – nitration, halogenations, alkylation, acylation and diazonium coupling. Formylation – Gatterman, Gatterman-Koch, Vilsmeier-Hack & Reimer-Tiemann, Ziegler alkylation, Chichibabin, Aldol condensation – Claisen condensation – Perkin, Cannizzaro, Friedel Craft, Favorski, Strick enamine – Michael addition – Baeyer – Villiger – Chichibabin. Pericyclic reactions – classification and examples Woodward and Hoffmann rules – use of OsO_4 , diborane, $NaBH_4$, $LiAlH_4$ in organic synthesis. Photo Chemistry of ketones, photo oxygenation, photo reduction, photocycloaddition, Paterno - Buchi reaction, Di-pi-methane rearrangement. Cis-trans isomerisation, Barton reaction and photo-Fries reaction.

Elements of symmetry – optical and geometric isomerism E.Z and R.S notation's – Conformational analysis simple cyclic and acyclic systems – Effects of conformation on reactivity in acyclic compounds and cyclohexanes. Relative stabilities of cis – trans isomers.

Unit – VIII: Natural Products and Drugs :

Carbohydrates - Classification – configuration and general reactions of monosaccharide's – Chemistry of glucose, fructose, sucrose and maltose, important compounds in Chemistry – Dyes – azo triphenylmethane and phthalin groups – indigo – alizarin vitamins, hormones, proteins – structural determination – Terpenoids – classification, isolation, general properties of citral, α -Terpineol, menthol, camphor.

Alkaloids and Flavonoids – Nomenclature and classification general properties – colour reactions, structure for Nicotine, atropine, cocaine, quinine, morphine and Heroin.

Drugs: Pharmacological actions, therapeutic uses and screening tests of the following drugs – opium alkaloids – morphine, heroin, antibiotics – synthetic analgesics – pethidine, methadone – barbiturates – tranquilizers – phenothiazines, meprobamate, diazepam – stimulants – amphetamines, imipramines – hallucinogens – cannabinoids, LSD – hypnosis and sedatives – antipyretics, analgesic, antiseptics and disinfectants – Alcohol - manufacture of ethyl alcohol and liquors – constituents of liquors – estimation of alcohol contents in liquors – denaturation, denaturants, industrial alcohol and power alcohol.

Unit - IX : Poisons and Pesticides : Definition of poisons – Mode of action of poisons – Extraction and purification of poisons in toxicological analysis – Volatile poisons – metallic poisons – non-volatile organic poisons – water soluble compounds – protein precipitation methods. Estimation of the following poisons – Carbon monoxide, cyanide, formaldehyde, methanol, chloral, chloroform, phenols, cresols, phosphorus and amphetemines - Signs and symptoms of H_2SO_4 , HNO_3 , CO_2 , H_2S poisoning. Analytical methods for the estimation of ethyl alcohol. Metallic poison – signs, symptoms of arsenic, mercury, lead and copper – Reinch test - Marsch Berzelius and Gutzeit tests –volumetric, colorimetric and instrumental methods of analysis of the above metals. Pesticides & Insecticides – Definition – general propertics poisonous nature – detection & isolation.

Unit – X : Analytical Chemistry and Instrumental methods: Significant figures – precession & accuracy – Errors - minimizing methods – estimation of errors – rejection of observation. Absorption, partition chromatography – Gas Chromatography – HPLC – Solvent extraction and ion exchange methods – atomic absorption spectroscopy – Electron analytical techniques voltammetry, cyclic voltammetry, polarogaphy, amperometry, Coulmetry and conductometry, ion-Selective electrodes – TGA, DTA and DSC.

PAPER-I
SYLLABUS
PHYSICS (PG DEGREE STANDARD)

Code No.229

1. UNIT-I MECHANICS – RELATIVITY AND SPACE PHYSICS:-

Impulse – Impact – Laws of Impact – Direct impact and Oblique impact between two smooth Spheres – Loss of Kinetic theory – Motion of two interacting bodies – Reduced mass – Rigid body dynamics

RELATIVITY: Postulates of Special Theory of relativity – Lorentz transformation Equations and its Consequences – Relativity of Simultaneity - Mass Energy Equivalence

SPACE PHYSICS: Escape Velocity – Orbital Velocity – Geo Stationary Orbits and Satellite Communication – Remote Sensing.

2. UNIT-II CLASSICAL MECHANICS:-

Generalised Co-ordinates – D'Alembert's Principle - Lagrangian Equations and its applications – Hamilton's Equations from Variation Principle – Principle of Least Action – Canonical Transformations and its applications – Hamilton – Jacobi Theory – Action Angle Variable – Kepler's Problem – Theory of Small Oscillations – Eulerian Angles, Eulerian Theorem – Coriolis force – Euler Equations of motion.

3. UNIT-III THERMODYNAMICS – STATISTICAL MECHANICS:-

Laws of thermodynamics – Entropy – Thermodynamic potentials – Maxwell's equations and its applications Gibbs phase rule – Phase transition – Vanderwaal's equation of State.

CLASSICAL STATISTICS: Micro and Macro States – Liouville's theorem – Micro Canonical and grand Canonical ensembles – partition function Gibbs Paradox.

QUANTUM STATISTICS: Maxwell's distribution – BE Statistics – Black body radiation – Planck's Radiation Law – FD Statistics – Applications

4. UNIT- IV OPTICS – ATOMIC AND MOLECULAR SPECTROSCOPY:-

Basic ideas of Interference, Diffraction and Polarisation – Principle of LASER and its applications – Coupling Schemes – Zeeman effect – Paschen – Back effect – Spectra Structure of atomic molecules – Rotation, Vibration and Rotation – Vibration Spectra Frank – Condon principle – Microwave, IR, RAMAN, Mossbauer, NMR, NQR and ESR Spectroscopy – Principle, technique and applications.

5. UNIT-V SOLID STATE AND NUCLEAR PHYSICS:-

Crystal Classes and Systems – 2D, 3D Lattices – Lattice heat capacity X-rays – X-ray diffraction – Uses – Band theory of Solids – Fermi level – Superconductivity – Basic concepts – application of Super Conductors. Different types of magnetic materials.

Nucleus – Properties and Structure – Nuclear forces – Binding energy – Radioactive decays – Particle detectors and accelerators – Nuclear fission and fusion – Elementary particles – Cosmic Rays.

6. UNIT-VI QUANTUM MECHANICS:-

Basic formalism – Schroedinger time dependent and time independent equations – eigen values and eigen functions – uncertainty principle – Hilbert space - Dirac notation – Schroedinger and Heisenberg interaction picture – WKB Quantisation rule – Time dependent perturbation theory – Fermi golden rule – Born and Sudden approximations – Dirac's relativistic equation – Dirac's equation for a central field – Spin angular momentum – negative energy states.

7. UNIT-VII ELECTRO MAGNETIC THEORY:-

Gauss Law – Laplace and Poisson equations – Biot and Savart Law – Ampere Law – Faraday's Laws of induction – Maxwell's Equations – Molecular Polarisability and electrical susceptibility – Lorentz force – Equation of Continuity – Propagation of EM Waves in non conducting and conducting medium – reflection and refraction at a plane interface between dielectrics – Radiation from a localised source – oscillating electric dipole.

8. UNIT-VIII ELECTRONIC DEVICES AND APPLICATIONS:-

Semi Conductor diode and Transistor – Optoelectronic devices – photo diode, photo transistor, LDR, LED, LCD, Special Semi conductor devices – JFET, MOSFET, UJT, SCR – Characteristics and applications – Operational amplifier Characteristics and applications – 555 timer – Block diagram and working.

Electrodes and transducers used in ECG and EEG techniques – ultrasound Scan – Basic ideas of CT and MRI Scan.

9. UNIT-IX DIGITAL ELECTRONICS AND MICROPROCESSOR:-

Logic gates – half and full adder and subtractors – Parellel binary adder – 8421 adder – karnaugh map –NAND – NOR networks – flipflops – counters and shift registers - Architecture of 8085 – Addressing models – Instruction set – Programming techniques – Semiconductor memory types – RAMS and ROMS – Interfacing of memory devices and I/o Ports.

10. UNIT- X COMMUNICATION ELECTRONICS:-

Directional high frequency antennas – Sky wave propagation – Ground wave propagation – Modulation and demodulation techniques – Principle of radio communication – AM and FM transmission – RADAR Principle and equation – Television transmission and reception – Fibre optics – Propagation of Light in an Optical fibre – Losses and dispersion – applications

PAPER-I
SYLLABUS

COMPUTER SCIENCE (PG DEGREE STANDARD)

SUBJECT CODE: 287

UNIT - I: MATHEMATICAL FOUNDATIONS

AUTOMATA, LANGUAGES AND COMPUTATION Basic concepts of strings, alphabets, languages, finite automaton, regular expressions, Moore and Mealy machines, regular sets, minimization of finite automata, Chomsky hierarchy of languages, relation between classes of languages, context free grammar, pushdown automata, Linear bounded automata, Turing machines, halting problem and decidability.

DESIGN AND ANALYSIS OF ALGORITHMS Design Techniques, divide and conquer, greedy method, dynamic programming etc., graph algorithms, Strassen's matrix multiplication algorithm, geometric algorithms, NP complete problems, approximation algorithms.

UNIT - II: COMPUTER ARCHITECTURE

Review of elements of Computer organisation - Machine instructions, addressing modes, instruction pipelining, memory organization. CPU and system buses, bus standards, Von Neumann Vs Non Von Neumann architectures, language directed architectures, RISC architectures, object oriented architectures, memory and I/O subsystems - Hierarchical memory, virtual memory system memory allocation and management, cache memories, I/O subsystems, architectural classification, pipelined processors, vector processing. Array processors, multiprocessor architectures.

UNIT - III: DATA STRUCTURES IN C++

Data types, control statements, procedures, Scope rules, arrays and records, enumerated data types, sets, pointers, recursion. Sequential, indexed files, sorting and merging report generations. Arrays, queues, linked lists, stacks, tree traversal, evaluation of expressions using postfix notation, sorting algorithms, bubble sort, quick sort, heap sort, complexity of algorithms.

UNIT - IV: COMPILERS AND ADVANCED OPERATING SYSTEMS

Assemblers loaders, linkers, macro processor, text editors, programming languages, lexical analysis, parsing techniques, precedence grammars, symbol tables, scope rules and parameter passing mechanisms, syntax directed translation, run time environment, machine code generation, interpreter.

ADVANCED OPERATING SYSTEMS

(a) **Review of uniprocessor operating system:** Batch, multiprogramming and time-sharing systems, operating system concepts, memory, device and file management, process scheduling, interprocess communication, process synchronization and concurrency, deadlocks, protection.

(b) **Multiprocessor operating system:** Classification of multiprocessor operating systems, software and operating system requirements for multiprocessors, multiprocessor scheduling strategies. (c) **Distributed Operating System:** Communication in distributed systems, client server model, remote procedure call, group communication, synchronization in distributed systems, mutual exclusion and election algorithms, deadlocks in distributed systems, processor allocation algorithms, scheduling in distributed system, distributed file systems.

UNIT - V: DATABASE MANAGEMENT SYSTEMS

Elements of data base systems, file organization, relational and network data models, normal forms, query languages. Design and implementation of typical database systems, Internal and external consistency, concurrency control techniques, object oriented data bases.

UNIT - VI: MOBILE COMMUNICATIONS

Mobile IP: Goals – Packet Delivery – Strategies – Registration – Tunneling and Reverse Tunneling – Adhoc Networks – Routing Strategies. WIRELESS APPLICATION PROTOCOL [WAP] – Architecture – XML – WML Script – Applications.

UNIT - VII: SOFTWARE PROJECT MANAGEMENT

Software Project Planning: Size Estimation - Cost Estimation Models - The Constructive Cost Model (COCOMO)-COCOMO II - The Putnam Resource Allocation Models -Software Risk Managements.

UNIT - VIII: MULTIMEDIA AND WEB TECHNOLOGIES

Uses of Multimedia – Introduction to making multimedia – Multimedia skills. Multimedia hardware and software – Connections – Memory and storage devices – Input devices – Output devices – Communication devices. Basic software tools – Text editing and word processing tools – Painting and drawing tools – 3-D modelling and animation tools – Image editing tools – Animation, video and digital movie tools. Making instant multimedia – Multimedia authoring tools. Multimedia Building Blocks – Text – Sound – Multimedia System Sounds – MIDI versus Digital Audio – Digital Audio – Making MIDI Audio – Audio File Formats – Production tips - Images – Animation - Video.

The world wide web: Browsing the Web - Web address - Web browser basics - Strong and managing(book marks) - Surfing the web with web browser - Searching the web directory - Search engines - Navigation tools.

Email: Sending - Reading - Replying - Deleting - Exiting - Sending Mail to more than one person sending folder - Forwarding a mail - Checking the spelling - Attachments.

HTML: Overview of HTML - Adding structure to a page formatting text and pages - Linking page to the world - Including picture - Clearing lists - Arranging items within tables - Getting feedback from form - Splitting a page into frames.

UNIT - IX: OBJECT ORIENTED ANALYSIS AND DESIGN

Unified Modeling Language [UML] - Diagrams - Class - Use case - Naming Classes - Identifying Objects, Relationships, Attributes, Methods - Association - Super and Sub Class Relationship - Aggregation.

UNIT - X: ADVANCED TOPICS: ARTIFICIAL INTELLIGENCE, CLOUD COMPUTING, CYBER SECURITY

Artificial Intelligence: Production systems, different strategies, hill climbing, backtracking, graph search specialised production systems, minimax procedure, alphabeta pruning, resolution and refutation, control strategies, structured representation of knowledge, semantic nets, frames.

Cloud Computing: Architecture - Deployment Models - Application Virtualization - Hardware Virtualization.

Network Security: Potential Attacks to Computer System – Cryptography – Authentication – Access Control – Digital Signatures.

PAPER- II
SYALLBUS
GENERAL STUDIES (DEGREE STANDARD)

UNIT- I: GENERAL SCIENCE

Physics Universe-General Scientific laws-Scientific instruments-Inventions and Discoveries - National scientific laboratories-Science glossary - Mechanics and properties of matter-Physical quantities, standards and units-Force, motion and energy-Electricity and Magnetism, Electronics and Communication -Heat, light and sound-Atomic and nuclear physics-Solid State Physics – Spectroscopy- Geophysics - Astronomy and space science.

Chemistry Elements and Compounds-Acids, bases and salts-Oxidation and reduction- Chemistry of ores and metals-Carbon, nitrogen and their compounds-Fertilizers, pesticides, insecticides-Biochemistry and biotechnology-Electrochemistry-Polymers and plastics.

Botany Main Concepts of life science-The cell-basic unit of life-Classification of living Organism -Nutrition and dietetics-Respiration-Excretion of metabolic waste- Bio-communication.

Zoology Blood and blood circulation-Endocrine system-Reproductive system-Genetics the science of heredity-Environment, ecology, health and hygiene, Bio- diversity and its conservation-Human diseases-Communicable diseases and non- communicable diseases- prevention and remedies- Alcoholism and drug abuse-Animals, plants and human life.

UNIT- II: CURRENT EVENTS

History Latest diary of events – National--National symbols-Profile of States-Defence, national security and terrorism-World organizations-pacts and summits-Eminent persons & places in news-Sports & games-Books & authors -Awards & honours-Cultural panorama-Latest historical events - India and its neighbours-- Latest terminology- Appointments-who is who?

Political Science 1.India's foreign policy-2. Latest court verdicts – public opinion-3. Problems in conduct of public elections - 4. Political parties and political system in India- 5. Public awareness & General administration- 6. Role of Voluntary organizations & Government.,- 7. Welfare oriented Government schemes, their utility.

Geography Geographical landmarks-Policy on environment and ecology.

Economics Current socio-economic problems-New economic policy & govt. Sector.

Science Latest inventions on science & technology-Latest discoveries in Health Science- Mass media & communication.

UNIT-III: GEOGRAPHY

Earth and Universe-Solar system - Atmosphere hydrosphere, lithosphere- Monsoon, rainfall, weather and climate-Water resources - rivers in India- Soil, minerals & natural resources-Natural vegetation-Forest & wildlife - Agricultural pattern, livestock & fisheries-Transport including Surface transport & communication - Social geography – population density and distribution-Natural calamities – disaster management-Climate change - impact and consequences - mitigation measures-Pollution Control.

UNIT-IV: HISTORY AND CULTURE OF INDIA

Pre-historic events - Indus valley civilization-Vedic, Aryan and Sangam age- Maurya dynasty-Buddhism and Jainism-Guptas, Delhi Sultans, Mughals and Marathas-Age of Vijayanagaram and the bahmanis-South Indian history-Culture and Heritage of Tamil People - Advent of European invasion-Expansion and consolidation of British rule-Effect of British rule on socio-economic factors-Social reforms and religious movements-India since independence-Characteristics of Indian culture-Unity in diversity –race, colour, language, custom-India-as secular state-Organizations for fine arts, dance, drama, music- Growth of rationalist, Dravidian movement in TN-Political parties and populist schemes- Prominent personalities in the various spheres – Arts, Science, literature and Philosophy – Mother Teresa, Swami Vivekananda, Pandit Ravishankar , M.S.Subbulakshmi, Rukmani Arundel and J.Krishnamoorthy etc.

Unit-V: INDIAN POLITY

Constitution of India-. Preamble to the constitution- Salient features of constitution- Union, State and territory- Citizenship-rights amend duties- Fundamental rights- Fundamental duties- Human rights charter- Union legislature – Parliament- State executive- State Legislature - Assembly- Status of Jammu & Kashmir- Local government – Panchayat raj – Tamil Nadu - Judiciary in India – Rule of law/Due process of law- Indian federalism – Centre – state relations- Emergency provisions- Civil services in India- Administrative challenges in a welfare state- Complexities of district administration- Elections - Election Commission Union and State. Official language and Schedule-VIII- Amendments to constitution- Schedules to constitution-. Administrative reforms & tribunals- Corruption in public life- Anti-corruption measures – Central Vigilance Commission, lok-adalats, Ombudsman, - Comptroller and Auditor General of India- Right to information - Central and State Commission- Empowerment of women- Voluntary organizations and public grievances redressal- Consumer protection forums.

UNIT-VI: INDIAN ECONOMY

Nature of Indian economy-Need for economic planning-Five-year plan models-an assessment - Land reforms & agriculture-Application of science in agriculture- Industrial growth - Capital formation and investment-Role of public sector & disinvestment- Development of infrastructure - National income- Public finance & fiscal policy- Price policy & public distribution- Banking, money & monetary policy- Role of Foreign Direct Investment (FDI) - WTO-globalization & privatization - Rural welfare oriented Programmes - Social sector problems – population, education, health, employment, poverty-HRD - sustainable economic growth- Economic trends in Tamil Nadu -Energy Different sources and development- Finance Commission -Planning Commission- National Development Council.

UNIT-VII: INDIAN NATIONAL MOVEMENT

National Renaissance-Early uprising against British rule-1857 Revolt- Indian National Congress-Emergence of national leaders-Gandhi, Nehru, Tagore, Nethaji - Growth of militant movements -Different modes of agitations-Era of different Acts & Pacts-World war & final phase struggle-Communalism led to partition-Role of Tamil Nadu in freedom struggle - Rajaji, VOC, Periyar, Bharathiar & Others-Birth of political parties /political system in India since independence.

Unit-VIII: APTITUDE & MENTAL ABILITY TESTS (SSLC Standard)

Conversion of information to data - Collection, compilation and presentation of data - Tables, graphs, diagrams-Parametric representation of data - Analytical interpretation of data - Simplification - Percentage - Highest Common Factor (HCF) - Lowest Common Multiple (LCM) - Ratio and Proportion-Simple interest-Compound interest- Area - Volume - Time and Work - Behavioural ability - Basic terms, Communications in information Technology - Application of Information and Communication Technology (ICT) - Decision making and problem solving-Logical Reasoning-Puzzles - Dice-Visual Reasoning-Alpha numeric Reasoning-Number Series - Logical Number/Alphabetical/Diagrammatic Sequences.

Annexure - III
Tentative Timeline for the Recruitment Process for the post
of Junior Scientific Officer

Sl. No.	Process	Timeline
1.	Publication of Written Examination results	October 2019
2.	Certificate Verification	November 2019
3.	Oral Test	December 2019
4.	Final Result	December 2019

Secretary,
Tamil Nadu Public Service Commission