



# TAMIL NADU PUBLIC SERVICE COMMISSION

**NOTIFICATION NO.29/2018**

**DATED: 25.10.2018**

Applications are invited from eligible candidates only through online mode upto **21.11.2018** for direct recruitment to the posts of **Assistant Director of Horticulture and Horticultural Officer** included in the Tamil Nadu Horticultural Service. The applicants who had earlier applied for this recruitment, which was announced in the Commission's notification No.29/2017, dated 28.11.2017 need not apply again. However, the admission of the applications of such candidates will be subject to the conditions stipulated in this notification.

Sl.No.	Name of the posts	Name of the service	No. of vacancies	Scale of pay
1	<b>Assistant Director of Horticulture,</b> (2018-2019) (Post code No.3018)	Tamil Nadu Horticultural Service (Code No.104)	<b>74</b>	<b>Rs. 56100 - 177500</b> (Level 22) as per Tamil Nadu Revised Pay Rules, 2017
2	<b>Horticultural Officer</b> (2018-2019) (Post code No.3001)		<b>101</b> ( including 1 carried forward vacancy viz., <b>BC(M)(G)</b> )	<b>Rs. 37700-119500</b> (Level 20) as per Tamil Nadu Revised Pay Rules, 2017

**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 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 posts of Assistant Director of Horticulture and Horticultural Officer are as follows;

### i) For the post of Assistant Director of Horticulture (No. of vacancies:74):

GT (G)	GT (G) (PSTM)	GT (G) (DAP- LV)	GT (W)	GT (W) (PSTM)	GT (W) (DAP- HI, HH)	BC(OBCM) (G)	BC(OBCM) (G) (PSTM)	BC(OBCM) (W)	BC(OBCM) (W) (PSTM)	BC (M) (G)	BC (M) (W)	MBC/ DC (G)	MBC/ DC (G) (PSTM)	MBC/ DC (G) (DAP- LD, LC, DF, AC)	MBC/ DC (W)	MBC/ DC (W) (PSTM)	SC (G)	SC (G) (PSTM)	SC (W)	SC (A) (G)	SC (A) (G) (PSTM)	SC (A) (W) (PSTM)	ST (G) (PSTM)	TOTAL
11	3	1	5	1	1	11	3	5	1	1	1	7	2	1	4	1	7	1	3	1	1	1	1	74

ii) **For the post of Horticultural Officer:**

(i) **CARRIED FORWARD VACANCY : BC(M)(G) – 1 vacancy**

ii) **CURRENT VACANCIES: 100**

GT (G)	GT (G) (PSTM)	GT (G) (DAP- HI, HH)	GT (W)	GT (W) (PSTM)	BC(OBCM) (G)	BC(OBCM) (G) (PSTM)	BC(OBCM) (G) (DAP- LD, LC, DF, AC)	BC(OBCM) (W)	BC(OBCM) (W) (PSTM)	BC (M) (G)	BC (M) (G) (PSTM)	BC (M) (W)	BC (M) (W) (PSTM)	MBC/ DC (G)	MBC/ DC (G) (PSTM)	MBC/ DC (W)	MBC/ DC (W) (PSTM)	MBC/ DC (W) (DAP- LV)	SC (G)	SC (G) (PSTM)	SC (W)	SC (A) (G)	SC (A) (G) (DAP - LV)	SC (A) (W)	ST (G)	TOTAL
16	4	1	7	2	14	4	1	7	1	1	1	1	1	11	3	3	2	1	8	3	4	1	1	1	1	100

**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; LV- Low vision; HI- Hearing impaired; HH- Hard of hearing; LD– Locomotor disability; LC-Leprosy cured; DF – Dwarfism; AC- Acid attack victims;

Note:

1. With respect to the post of Horticultural Officer, firstly, the selection will be made for 'one' carried forward vacancy. [Section 27 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016]. Secondly, the selection will be made for '100' regular vacancies following the rule of reservation.

**3. IMPORTANT DATES AND TIME:**

Date of notification	25.10.2018		
Last date for submission of application	21.11.2018		
Last date for payment of fee through Bank (State Bank of India or Indian Bank)	23.11.2018		
<b>Dates of written examination</b>			
Horticulture Officer	Subject paper- Horticulture (Degree standard)	12.01.2019	10.00 A.M. to 01.00 P.M.
	General studies (Degree standard)	12.01.2019	02.30 P.M. to 04.30 P.M.
Assistant Director of Horticulture	Subject paper- Horticulture (P.G. Degree standard)	13.01.2019	10.00 A.M. to 01.00 P.M.
	General studies (Degree standard)	12.01.2019	02.30 P.M. to 04.30 P.M.

**Note**

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

**4. QUALIFICATIONS:****(A) AGE LIMIT (as on 01.07.2018):**

Sl. No.	Category of Applicants	Maximum Age
1.	For both posts: SCs, SC (A)s, STs, MBCs/ DCs, BC(OBCM)s, BCMs and Destitute Widows of all castes.	No age limit
2.	'Others' [i.e. applicants not belonging to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs].	
	For the post of Assistant Director of Horticulture	Should not have completed 30 years
	For the post of Horticultural Officer	Should not have completed 30 years [Persons holding a post graduate degree or Ph.D in Horticulture should not have completed 32 years]

**Note:**

'Others' [i.e. 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 even if they are within the age limit. (For further details refer para.5 of "Instructions to applicants" and Section 3(r) of Tamil Nadu Government Servants (Conditions of Service) Act, 2016).

**Explanation:** No maximum age limit shall mean that the applicants 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, refer to para. 5 of the "Instructions to Applicants" and Section 20(8) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)

**AGE CONCESSION:****For Differently Abled Persons :**

Differently Abled Persons are eligible for age concession upto 10 years over and above the maximum age limit prescribed.

(Section 64 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)

**For Ex-servicemen:**

- The maximum age limit for ex-servicemen is 48 years.  
(Section 63 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)
- The above mentioned age concession **will not apply** to the ex-servicemen applicants who have already been recruited to any class or service or category.  
(Section 3(j) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)

**(B) EDUCATIONAL QUALIFICATION (as on 25.10.2018)**

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

For the post of Assistant Director of Horticulture	Must possess a degree in M.Sc. (Horticulture)
For the post of Horticultural Officer	Must possess a degree in B.Sc. (Horticulture)

**NOTE:**

- (i) The qualification prescribed for the posts should have been obtained by passing the required qualification in the following order of studies: 10<sup>th</sup> + HSC or its equivalent + Bachelor's degree + Post-graduate 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. ([Section 20\(4\)\(iv\) of the Tamil Nadu Government Servants \(Conditions of Service\) Act, 2016](#)).
- (ii) The qualifications considered equivalent are indicated in Annexure-I to this notification.
- (iii) Applicants claiming equivalence of qualification should upload and submit evidence for equivalence of qualification, in the form of government order issued on or before the date of this notification, and produce it 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 Director of Horticulture	Standard-III	Form prescribed for executive post.
2.	Horticultural Officer		

Color blindness will be 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. (Para. 1 under the heading 'Note' under [para. 11 of Commission's 'Instructions to Applicants'](#) is applicable for this recruitment).

**5. FEES:**

a)	<p><b>REGISTRATION FEE:</b></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><b>Note:</b></p> <p>i. Applicants who have already registered in one time online registration system and are within the validity period of five years are exempted from payment of registration fee.</p>	Rs.150/-
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b)	<b>WRITTEN EXAMINATION FEE:</b> <b>Note:</b> The Examination fee <b>should be paid</b> at the time of submitting the online application for this recruitment if they are not eligible for the concessions noted below.	Rs.200/-
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**NOTE:**

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).

**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:**

- Written 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 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 five 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.150/- before 01.03.2017 and having validity and those who have registered for One-Time Registration system are exempted from paying the registration fee for this recruitment.
- 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 age and examination fees allowed to SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s, BCMs, Destitute Widows, Differently Abled Persons and Ex-servicemen 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, 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 the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).

**8. SCHEME OF EXAMINATION:**i) For the post of **Assistant Director of Horticulture:**

Subject	Duration	Maximum Marks	Minimum qualifying marks for selection	
			SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs	Others
<b>i. Paper – I</b> (Objective type) (Subject paper – <b>P.G. degree standard</b> ) (200 questions) <b>Horticulture</b> (Code No.279)	3 Hours	300	171	228
<b>ii. Paper -II</b> General Studies (100 questions) (Code No.003)  General Studies (Degree standard) – 75 questions and Aptitude and Mental ability test–25 questions (S.S.L.C standard)	2 Hours	200		
<b>iii. Interview and Records</b>	--	70		
<b>Total</b>		<b>570</b>		

ii) For the post of **Horticultural Officer:**

Subject	Duration	Maximum Marks	Minimum qualifying marks for selection	
			SCs, SC(A)s, STs, MBCs/DCs, BC(OBCM)s and BCMs	Others
<b>i. Paper – I</b> (Objective type) (Subject paper – <b>Degree standard</b> ) (200 questions) <b>Horticulture</b> (Code No.278)	3 Hours	300	171	228
<b>ii. Paper -II</b> General Studies (100 questions) (Code No.003)  General Studies (Degree standard) – 75 questions and Aptitude and Mental ability test – 25 questions (S.S.L.C standard)	2 Hours	200		
<b>iii. Interview and Records</b>	--	70		
<b>Total</b>		<b>570</b>		

**NOTE (For both posts):**

- a) The questions in subject paper "Horticulture" (Paper-I) will be set in English only and "General Studies" (Paper-II) will be set both in English and in Tamil.
- b) The syllabus for the subject paper "Horticulture" (Paper-I) and "General Studies" (Paper-II) are available in **Annexure-II** to this notification.
- c) Refer para. 22 of the "Instructions to Applicants" for instructions to be followed while appearing for Competitive Examinations conducted by the Commission.

**9. SELECTION PROCEDURE:**

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

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

**Note:**

With respect to the post of Horticultural Officer, firstly, the selection will be made for 'one' carried forward vacancy. [Section 27 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016]. Secondly, the selection will be made for '100' regular vacancies following the rule of reservation.

**10. CENTRE FOR EXAMINATION:**

**Examination will be held at the following centres;**

Sl.No.	Name of the centre	Centre code
1.	Chennai	0100
2.	Madurai	1000
3.	Coimbatore	0200

**NOTE:**

- (i) Request for change of examination centre / venue will not be entertained (For further details refer to the "[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 examinations / certificate verification / oral test at their own expenses.

**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.
- (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. (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](http://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 posts 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 the Tamil Nadu Government Servants (Conditions of Service) Act, 2016, reservation of appointment to **"Destitute Widows"** and **"Ex-servicemen"** **will not apply** to this recruitment.
- (E) The posts of **Assistant Director of Horticulture and Horticultural Officer** have been identified as suitable for differently abled persons with the following disabilities – **LV, HI, HH, LD, LC, DF, AC** as ordered in G.O.Ms.No.20 Welfare of Differently Abled Persons (DAP 3.2) Department, dated 20.06.2018. [**LV- Low Vision, HI – Hearing impaired, HH – Hard of hearing, LD - Locomotor disability, LC-Leprosy cured, DF-Dwarfism, AC-Acid attack victims**]
- (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, the degree of disability and their capability to discharge the duties of this post as instructed in para. 14(b) of the 'Instructions to Applicants', when called for by the Commission.  
**(Section 20 (5) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016)**
- (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.  
**(Section 26 (5) of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).**
- (H) Wherever vacancies are reserved for Arunthathiyars on preferential basis, even after filling the vacancies reserved for SC (Arunthathiyars) on preferential basis, if more number of qualified Arunthathiyars are available, they shall be entitled to compete with the Scheduled Castes other than Arunthathiyars in the inter-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.  
**(Section 27 of the Tamil Nadu Government Servants (Conditions of Service) Act, 2016).**

- (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) **Incomplete applications and applications containing wrong claims or incorrect 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 claims made in the online application for this recruitment alone will be taken into consideration.** The Commission will not be responsible for any consequences arising out of furnishing of incorrect and incomplete details in the application or omission to provide the required details in the application for this recruitment.
- (M) Refer **Annexure-III** of this notification regarding determination of community and reservation in employment for third genders.

### 13. OTHER IMPORTANT INSTRUCTIONS:

- a) Applicants should ensure their eligibility for the recruitment. Applicants applying for the recruitment should go through all the instructions carefully and ensure that they fulfil all the eligibility conditions for admission to the recruitment. Their admission to all stages of the recruitment 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](http://www.tnpsc.gov.in) or [www.tnpscexams.net](http://www.tnpscexams.net) or [www.tnpscexams.in](http://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 [contacttnpsc@gmail.com](mailto:contacttnpsc@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 recruitment should ensure that they fulfil all the eligibility conditions for admission to the recruitment. Their admission at all the stages of recruitment for which they are admitted by the Commission will be purely provisional, subject to their satisfying the prescribed eligibility conditions. If, on verification at any time before or after the written examination / certificate verification / oral test , it is found that they do not fulfil any of the eligibility conditions, their candidature for the recruitment will be 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](http://www.tnpsc.gov.in) / [www.tnpscexams.net](http://www.tnpscexams.net) / [www.tnpscexams.in](http://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 21.11.2018 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](http://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.

**Secretary**

**DISCLAIMER**

“ Government orders relating to equivalence of qualification have been hosted on the Tamil Nadu Public Service Commission’s website. However, while applying for the recruitment, applicants should furnish the details of equivalence of qualification in the form of government orders issued on or before the date of this notification and produce a copy of the same when called for by the Tamil Nadu Public Service Commission, failing which their application will be **rejected**. The 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.	Equivalent Qualifications	Government Orders
1.	<p>தமிழ்நாடு வேளாண்மைப் பல்கலைக் கழகத்தால் வழங்கப்படும் பிடெக்/(தோட்டக்கலை) (B.Tech (Horticulture) பட்டப்படிப்பு அதே பல்கலைக்கழகத்தால் வழங்கப்படும் இளங்கலை அறிவியல்(தோட்டக்கலை) (B.Sc/Horticulture) பட்டப்படிப்பிற்கு இணையானது என அங்கீகரிக்கலாம் என ஆணையிடப்பட்டுள்ளது.</p>	<p>அரசாணை (நிலை) எண்.7, வேளாண்மை (பக) துறை, நாள் 10.01.2011.</p>
2.	<p>M.Sc., (Agri) in Horticulture awarded by Annamalai University is equivalent to M.Sc., (Horticulture)</p>	<p>G.O.(Ms)No.271, Agriculture (AAI) Department, dated 06.11.2017</p>

**ANNEXURE-II****[ SYLLABUS FOR WRITTEN EXAMINATION ]****SUBJECT PAPER : HORTICULTURE (P.G. DEGREE STANDARD)****SUBJECT CODE: 279****UNIT- I: PRINCIPLES OF HORTICULTURE**

Scope and importance of horticulture - Scenario of horticulture industry in the regional, National and global economy - Area and production - Export and import - Nutritive value of horticultural crops - Horticultural therapy - Role of soil and climate on crop production – Planting system – HDP, UHDP and meadow orchard - Importance and methods of Irrigation - Water stress management - Essential and beneficial nutrients – Classification - Functions and deficiency symptoms of primary, secondary and micronutrients in horticulture crops – Fertigation - Weed management – Training and pruning – Cropping systems – Mulching - Role of growth regulators – Off season production – Physiological disorders and its remedies – Pests and diseases management strategies - Maturity indices – Harvest – Grading – Post harvest handling - Importance of protected cultivation in horticultural crops – Vegetable forcing - Hydroponics – Nutrient Film Technique - Aeroponics - Precision horticulture – Commercial horticulture – GAP – GMP - Organic horticulture and certification – Horticulture developmental agencies, programmes and commodity boards.

**UNIT - II: PROPAGATION AND NURSERY TECHNIQUES OF HORTICULTURAL CROPS**

Sexual propagation, principles, advantages and disadvantages – Apomixis, polyembryony, seed dormancy and methods to overcome the dormancy - Factors influencing seed germination - Protrays - Containers - Media - Growing structures – Management of fruit nursery - Asexual propagation – Principles, advantages and disadvantages – Mist chamber - Rooting of vegetatively propagated plants - Physiological, anatomical and bio chemical basis of root induction - Layering, Grafting and budding principles – Methods - Problems and measures to overcome - Stock and scion relationship – Incompatibility - Propagation through specialized plant parts, rejuvenation of senile orchards through top working, progeny orchard and bud wood bank - Hardening - Nutrient management, pest and disease management in nursery. Nursery certification-micro propagation - principles and concepts – *in vitro* clonal propagation techniques – Media - Growth hormones - Callus induction - Direct and indirect organogenesis – Synthetic seeds - Meristem culture - Embryogenesis - Micro-grafting - Callus induction and sub culturing - Hardening - Packing and transport of micro propagated plants.



**UNIT - III: GROWTH AND DEVELOPMENT OF HORTICULTURAL CROPS**

Important phases of growth and development – Definitions, photosynthetic productivity, leaf area index (LAI) – optimum LAI in horticultural crops. Canopy development: Different stages of growth, growth curves, growth analysis in horticultural crops. Plant bio-regulators – Auxin, gibberellin, cytokinin, ethylene, inhibitors and retardants, basic functions, biosynthesis, role in crop growth and development, propagation, flowering, fruit setting, fruit thinning, fruit development, fruit drop and fruit ripening. physiological basis of training and pruning, source and sink relationship. Seed development and maturation, seed dormancy and bud dormancy, causes and breaking methods in horticultural crops. factors affecting flowering, physiology of flowering, photoperiodism in horticultural crops. Physiology of fruit growth and development, fruit setting, ripening- study of chemical manipulations on growth and development, understanding stress impact on growth and development.

**UNIT - IV: BREEDING OF HORTICULTURAL CROPS**

Scope and importance of plant breeding in horticultural crops – Breeding systems and objectives – Plant genetic resources - Modes of reproduction - Mechanisms of pollination control, sterility and incompatibility – Effect of mating systems. Methods of breeding in annual vegetable crops(cross and self pollinated crops) – Approaches for crop improvement – Introduction, selection, hybridization – Pedigree breeding, bulk, single seed descent method, mass selection, recurrent and reciprocal recurrent selection, back cross breeding – Heterosis breeding – Development of F1 hybrids, synthetics, composites, mutation breeding, polyploidy breeding, breeding for quality traits – Resistance breeding for biotic and abiotic stress. Methods of breeding in fruit crops - Objectives– modes of reproduction – Approaches for crop improvement – Introduction, selection, hybridization, mutation breeding , polyploidy breeding, breeding for quality traits – Resistance breeding for biotic and abiotic stresses - Biotechnological interventions. In vitro and molecular approaches - Molecular tools for breeding – Molecular markers – Protein based and PCR based detection for genetic confirmation – *in vitro* mutation breeding - Genetic transformation methods – Vector transformation and particle bombardment – RNAi technology – Emerging concepts and applications in horticultural crops.

## **UNIT – V: PRODUCTION TECHNOLOGY OF FRUIT CROPS**

Scope and importance - Current scenario on national and international level production and trade of fruit crops – Field gene bank and cryopreservation of fruit crops - Species - Varieties / hybrids – Climate and soil requirements and its influence on crop growth - propagation methods and nursery technologies – Rootstocks influence-planting systems including high density planting(HDP) and ultra high density planting(UHDP) – Canopy management and crop regulation - Water management – Nutrient management – Fertigation - Cropping systems – Training and pruning - Mulching – Weed management – Use of plant growth regulators - Special horticultural practices - Role of biotic and abiotic factors, limits of fruit production and their management – Nutrient deficiency and physiological disorder and its corrective measures - Maturity indices – Harvesting - Ripening – Post harvest management – Supply chain management of important fruit crops : Mango, Banana, Acidlime, Sweet Orange, Grapes, Papaya, Guava, Sapota, Pineapple, Jackfruit, Pomegranate, Annona, Ber, Aonla, Apple, Pear, Plum, Peach, Strawberry, Litchi, Avocado, Walnut and Almond and minor fruit crops.

## **UNIT - VI: PRODUCTION TECHNOLOGY OF VEGETABLE CROPS**

Scope and importance of warm, cool and under exploited vegetable crops -Current scenario on national and international level of production and trade of vegetable crops - Types of vegetable farming - Commercial varieties / hybrids - Climatic and soil requirements – Seasons - Seed rate and seed treatment - Nursery management - Protray nursery - Sowing/planting - Cropping systems – Nutrient management – Fertigation - Irrigation management – Plant growth regulators - Intercultural operations, weed management – Mulching - Biotic and abiotic stresses and their management - Nutrient deficiency and physiological disorder and its corrective measures - Maturity standards – Harvesting - Post harvest management -Protected cultivation – Precision farming - Seed production techniques of vegetable crops: Tomato, Brinjal, Chilli and Capsicum (Sweet pepper), Bhendi, Leguminous Vegetables (Beans, Peas, Cluster beans - Cowpea - Dolichos bean); Bulbous vegetables (onion); Tuber crops - (Potato, Tapioca, Sweet potato, Elephant footyam, Colacassia); Cucurbitaceous Vegetables (Cucumber, Bittergourd, Snakegourd, Ridgegourd, Ashgourd, Musk melon, Watermelon, Pumpkin) - Cruciferous vegetables (Cabbage, Cauliflower and Knolkhol); Root vegetables (Carrot, Radish, Beetroot, Turnip) - Leafy vegetables (Spinach, Lettuce, Palak, Amaranthus) – Perennial vegetables (Drumstick, Coccinea) – Underexploited vegetables.

## **UNIT - VII: PRODUCTION TECHNOLOGY OF COMMERCIAL FLOWER CROPS AND LANDSCAPING**

Scope and importance of floriculture industry - Loose flower production and trade - National and international status – Commercial varieties/ hybrids - Climatic and soil requirements - Field preparation – Season - Systems of planting, transplanting techniques - Precision farming techniques - Water and nutrient management, Weed management - Training and pruning, Special horticultural practices - Pinching, disbudding, use of growth regulators - Physiological disorders and remedies – Biotic and abiotic stress management - Harvest indices, harvesting techniques - Post -harvest handling and grading, pre-cooling, packing and storage, transportation and marketing. value addition - Dry flowers - Pigment extraction - Concrete and essential oil extraction of important loose flower crops – Jasmine, Scented Rose, Chrysanthemum, Tuberose, Marigold, Crossandra, Celosia, Gomphrena, Nerium.

Scope and importance of cut flowers - Production and trade - Global and National scenario - Special nursery practices, growing environment, open cultivation, protected cultivation, soil requirements, soil decontamination techniques, planting methods, influence of environmental parameters, light, temperature, moisture, humidity and CO<sub>2</sub> on growth and flowering - Water and nutrient management, Fertigation, weed management, ratooning, training and pruning, special horticultural practices - Use of growth regulators, flower forcing and year round flowering through physiological interventions, chemical regulation, physiological disorders and remedies, environmental manipulation – Biotic and abiotic stress management - Cut flower standards and grades, harvest indices, harvesting techniques, post-harvest handling of cut Rose, cut Chrysanthemum, carnation, gerbera, anthurium, orchids, gladiolus, cut foliages and fillers.

Principles of landscape designing – Styles of gardening - Types of gardening viz., Mughal, Japanese, English, Persian, Italian, French gardening - Garden components – Plants for container growing – Indoor plants - Plants for instant gardens – Plants for spring, summer, winter and autumn - Ornamental trees and burlapping - Shrub, annuals, climbers and creepers, hedge and edge plants (foliage and flowering) - Cactus and succulent, xeriscapping - Interior scaping – Garden adornments - Principles and styles of flower arrangements – Bonsai styles and culture – Different gardening: industrial, institutional, public and private landscaping – Vertical garden – Roof garden – Terrace garden – Sky rise garden – Scenic gardens - Landscaping for roadways and traffic islands – Garden with water

features and water conservation – Speciality garden – Dish, terrarium, bottle, miniature, bog and rock garden. Lawn – Classification of turf grasses - Conditions for healthy turf - Soil properties, micro irrigation, nutrient management – Turf grass establishment and maintenance – Astroturf and maintenance - Overview of software for Computer Aided Design and Drafting (CADD) - AUTOCAD plants and design - AUTOCAD - File handling.

### **UNIT - VIII: PRODUCTION TECHNOLOGY OF SPICES AND PLANTATION CROPS**

Scope and importance of spices and plantation crops - Present status - National and International trade - Climatic and soil requirements - Commercial varieties/hybrids - Season – Propagation - Sowing/planting - Seed rate and seed treatment - Nutrient and water management – Intercropping - Mixed cropping - Multitier cropping - Weed management – Mulching - Shade and canopy regulation – Nutrient deficiencies – Biotic and abiotic stress management - Harvest and post-harvest management and processing - Organic farming and certification of major spices and plantation crops - Spice crops : Black pepper, Cardamom, Turmeric, Ginger, Coriander, Fenugreek, Fennel, Cumin and Ajowan, Nutmeg, Clove, Cinnamon, Allspice, Tamarind, Garcinia, Garlic, Vanilla, Curry Leaf and Paprika. Plantation crops: Coffee, Tea, Rubber, Cashew, Coconut, Oilpalm, Palmyrah, Arecanut, Cocoa and Betelvine

### **UNIT - IX: PRODUCTION TECHNOLOGY OF MEDICINAL AND AROMATIC CROPS**

Scope and importance of medicinal and aromatic plants. - Production and trade - National and International scenario of herbal and perfumery industry, WTO - Export and import status, Indian system of medicine, *in situ* and *ex situ* conservation. Classification of medicinal and aromatic crops - Organic production and certification - Climatic and soil requirements - Varieties and species – Propagation -Sowing/planting - Nutrient and water management, Weed management - Biotic and abiotic stress management - Harvest index-harvesting, Post harvest handling – Drying, processing, grading, packing and storage, processing and value addition; Quality standards in herbal products. Production of secondary metabolites - Distillation of essential oils and quality analysis. GAP – GCP – GMP. Medicinal crops: Senna, Periwinkle, Coleus, Aswagandha, Glory Lily and Sarpagandha. *Dioscorea sp.*, *Aloe vera*, *Phyllanthus amarus*, *Andrographis paniculata* and Medicinal solanum , Isabgol, Poppy, Safed Musli, *Stevia rebaudiana* and *Mucuna pruriens*, Aromatic crops: Palmarosa, Lemongrass, Citronella, Vettiver, Geranium, *Artemisia*, *Mentha*, *Ocimum*, Eucalyptus, Rosemary, Thyme, Patchouli, Lavender, Marjoram, Oreganum.

**UNIT - X: POST- HARVEST TECHNOLOGY OF HORTICULTURAL CROPS**

Scope and importance – National and Global scenario of post-harvest technology in horticultural crops – Harvest indices, harvesting methods in horticultural crops – Harvesting practices for specific market requirements - Influence of pre harvest factors on post harvest quality and shelf life of horticultural crops – Factors leading to post harvest losses. Ethylene action on ripening of fruits and ethylene management – Pre-cooling - Treatments prior to transport – Chlorination, waxing, chemicals, bio-control agents and natural plant products. Storage methods viz., ventilated, refrigerated, MAS, CAS – Physical injuries and disorders during storage – Post-harvest disease and insect management. Packaging technologies - Packaging materials and transport - Principles and methods of preservation - Minimal processing of fruits and vegetables – Pre-treatment – Blanching, canning and irradiation – Value added including, encapsulated fruit flavours, nutritionally enriched / fortified products in horticultural crops - Food safety standards.

**SUBJECT PAPER : HORTICULTURE (DEGREE STANDARD)****SUBJECT CODE: 278****UNIT- I: FUNDAMENTALS OF HORTICULTURE**

Scope and importance – State, National and Global scenario of horticultural crops – Area and production – Import and export – Nutritive value of horticultural crops – Horticultural zones of Tamil Nadu and India – National and regional agencies involved in promotion of horticultural Industry in India (NHB, APEDA and Commodity Boards) – Classification of horticultural crops – Factors limiting horticultural crop production – Role of season – Soil and climate requirements - Physical and chemical properties of soil - Climatic factors – Light, temperature, photoperiod, relative humidity, rainfall, altitude, microclimate - Kitchen gardening -Nutrition gardening – Truck gardening – Market gardening - Vegetable forcing - Protected and precision horticulture – Hydroponics, Aeroponics – Nutrient Film Technique - Horticulture therapy.

**UNIT - II: GROWTH AND DEVELOPMENT OF HORTICULTURAL CROPS**

Important phases of growth and development - Bearing habits – Classification of horticultural crops based on life cycle – Annual, biennial perennial (woody and herbaceous perennials) – Fruitfulness and unfruitfulness - External and internal factors associated with unfruitfulness – Physiology of flowering, fruit set, ripening and senescence – Fruitdrop - Causes and control measures - Plant growth regulators – Functions and role in horticultural crops - Bud dormancy – Dormancy breaking – Parthenocarpy – Parthenogenesis – Polyembryony – Stenospermocarpy – Vivipary - Apomixis.

**UNIT - III: PROPAGATION OF HORTICULTURAL CROPS**

Propagation – Definition – Establishment of nursery – Site selection - Tools and implements propagation structures - Mist chamber, phytotron - Humidifiers – Greenhouse – Glasshouse – Polyhouse - Shade net, glass house, poly tunnels, cold frames and hotbeds, pit nursery - Media and containers – Soil sterilization - Sexual propagation – Merits and demerits – Crops propagated through seeds - Seed viability, longevity, dormancy, germination – Pre-sowing treatment – stratification, scarification, seed priming, seedling vigour – Raised seed bed and pro-tray nursery – Asexual propagation – Merits and demerits – Methods of vegetative propagation – Identification of plus trees – Mother block, scion bank – Clonal nursery – Cutting – Layering – Grafting, budding types – Anatomical and physiological basis of grafting

– Stock scion relationship, graft compatibility -Budwood selection and certification – Propagation through specialized plant parts (bulbs, tubers, offsets, runners, suckers, slip, crown, rhizomes, corms) – Quality management and nursery certification – Micro propagation – Application – infrastructure requirements – Types of media – Stages of micro propagation – Micro grafting – *in vitro* propagation of important horticultural crops.

#### **UNIT - IV: MANAGEMENT TECHNIQUES FOR HORTICULTURAL CROPS**

Planning – Layout and management of orchards – Fencing – Wind breaks and shelter beds – Spacing – Planting system – Physical and chemical properties – Soil reaction – acid, saline and alkaline soils – Soil fertility - Essential elements –Functions - Organic manures and inorganic fertilizers, bio-fertilizers, vermi-composting - Applications and management – Nutrient deficiencies and corrective measures - Physiological disorders and remedies - Irrigation – Critical stages of water requirement – Effect of water stress on crop yield – Anti-transpirants – management of irrigation water quality - Conventional and micro irrigation – Fertigation - Mulching – Sod culture – Weed management – Application growth regulators – Training and pruning principles and methods - Rejuvenation of senile and old orchards – Cropping systems - Cover cropping - Multitier cropping –Intercropping – Special horticultural techniques (pinching, thinning, disbudding, blanching, smudging, notching, ringing) - Principles of organic horticulture – GAP and GMP.

#### **UNIT - V: PRODUCTION TECHNOLOGY OF FRUIT CROPS**

Scope and importance of fruit crops - Composition and uses - Origin and distribution – Species – Season - Climate and soil requirement – Varieties and hybrids – Propagation techniques - Planting systems and planting density -Including High density planting (HDP) and ultra high-density planting (UHDP) –spacing – Water and nutrient management – Fertigation - Weed management - Canopy management - Training and pruning – Intercultural practices - Off season production - Special horticultural techniques – Use of plant growth regulators – Maturity indices - Harvest and yield – Nutrient deficiencies and physiological disorders and its corrective measures and management of important pest and diseases of important fruit crops :- Mango, Banana, Acidlime, Sweet orange, Mandarin, Grapes, Papaya, Guava, Sapota, Pineapple, Jackfruit, Pomegranate, Aonla, Annona, Ber, Apple, Pear, Plum, Peach, Strawberry, Litchi, Avocado, Walnut and Almond and minor tropical, arid and temperate fruit crops.

## **UNIT- VI: PRODUCTION TECHNOLOGY OF VEGETABLE CROPS**

Scope and importance of vegetable crops - Composition and uses - Origin and distribution – Area and production - Soil and climatic requirements - Varieties and hybrids – Propagation methods - Seed rate – Sowing and nursery practises – Containerized seedling production - Season – Planting methods – Water, nutrient and weed management – Fertigation – Training for vegetables – Intercultural practices - Maturity indices – Harvest and yield – Nutrient deficiencies and physiological disorder and its corrective measures of important vegetable crops: Tomato, Brinjal, Chilli and Capsicum (Sweet Pepper), Bhendi, Leguminous vegetables (Beans, Peas, Cluster beans, Cowpea, Dolichos bean); Bulbous vegetables (Onion, Garlic); Tuber crops - (Potato, Tapioca, Sweet potato, Elephant footyam, Colacassia); Cucurbitaceous vegetables (Cucumber, Bittergourd, Snakegourd, Ridgegourd, Ashgourd, Muskmelon, Watermelon, Pumpkin) - Cruciferous vegetables (Cabbage, Cauliflower and Knolkhol); Root vegetables (Carrot, Radish, Beetroot, Turnip) - Leafy vegetables (Spinach, Lettuce, Palak, Amaranthus) – Perennial vegetables (Drumstick, Coccinea) – Protected cultivation of vegetable crops - Precision farming of important vegetable crops and seed production.

## **UNIT – VII: FLORICULTURE & LANDSCAPE GARDENING**

Scope and importance of flower crops production - Uses - Origin and distribution – Area and production - Climate and soil requirement - Species and varieties - Propagation, season - Spacing and planting methods - Irrigation, nutrient management – Fertigation – Weed management - Training and pruning – Intercultural operations – Special horticultural techniques – Growth regulators – Off season production - Maturity indices – Harvest and yield and management of important pest and diseases for important loose flower crops: Jasmine, Rose, Tuberose, Chrysanthemum, Marigold, Nerium and Crossandra - Cut flowers - Rose, Carnation, Anthurium, Orchid and Gerbera – Cutfoliage and fillers. Principles of Landscape designing – Styles of gardening - Types of gardening viz.,Hindu, English, Mughal, Japanese, Persian, Italian, French gardening -Garden components – Trees foliage flowering and avenue trees – Burlapping –Shrubs – Flowering annuals creepers and Climbers - Cacti and succulents -Lawn – Astroturf - Types of grasses – Layout, planting and maintenance of lawn – Hedge and edge plants - Indoor plants and interior scaping – Garden adornments - Principles and styles of flower arrangements – Bonsai styles and culture – Industrial, Institutional, Public and Private landscaping - Special types of gardening – Bog garden, dish, terrarium, bottle, roof, vertical gardening and green wall.



### **UNIT – VIII: PRODUCTION TECHNOLOGY OF SPICES AND PLANTATION CROPS**

Scope and Importance of spices and plantation crops - Composition and uses - Origin and distribution – Area and production – Climate and soil requirements - Species and varieties - Season, seed rate / propagation methods –Spacing - Planting system – High density planting – Irrigation and nutrient management – Fertigation and weed management – Training and pruning – Cropping systems – Multitier cropping – Cover cropping – Inter cropping - Growth regulators – Mulching - Shade and canopy regulation – Maturity indices, harvest, yield and management of important pest and diseases and processing methods of important plantation and spice crops: Major, seed, tree, herbal spices and minor spices - Black Pepper, Cardamom, Turmeric, Ginger, Curry leaf, Clove, Nutmeg, Cinnamon, Coriander, Fenugreek, Cumin, Tamarind, all spice and vanilla – Plantation crops - Tea, Coffee, Rubber, Cocoa, Coconut, Oilpalm, Cashew, Palmyrah, Arecanut.

### **UNIT – IX: PRODUCTION TECHNOLOGY OF MEDICINAL AND AROMATIC CROPS**

Scope and importance of medicinal and aromatic crops - Composition and uses - Origin and distribution – Area and production - *Ex situ* and *insitu* conservation – Classification of medicinal and aromatic crops – Constraints in medicinal plant cultivation - Climate and soil – Varieties – Propagation - Nursery practices - Planting methods - Cropping systems – Manures & fertilizers – Irrigation – Intercultural operations – Harvest indices – Harvest & yield and management of important pest and diseases - Production systems - Contract farming – GAP – GCP – GMP - Organic production and certification – Classification and distillation methods of essential oils – Secondary metabolite production - Value addition - Organisational support for promotion of medicinal and aromatic crops - Medicinal crops: Senna, Periwinkle, Glory lily, Aswagandha, Medicinal coleus and Solanum, Sweet flag, Aloe, Isabgol, *Phyllanthus*, *Stevia*, Opium poppy. Aromatic crops: Lemon grass, Citronella, Vetiver, Ocimum, Davana, Mint, Geranium, Patchouli and Eucalyptus.

### **UNIT - X: POST- HARVEST TECHNOLOGY OF HORTICULTURAL CROPS**

Importance of post-harvest handling in horticultural crops – Maturity indices – Post-harvest handling methods – Washing – Grading - Waxing – Grades and standards – Methods of packing - Types of containers and their advantages and disadvantages – Storage - Principles and methods of refrigerated and gas storage - Storage methods - Pre-cooling - Controlled atmospheric storage, Modified atmospheric storage – Low pressure storage and

cold chain concept - Importance and scope of processing industry in India, general principles of fruit and vegetable preservation like canning, dehydration, freezing, fermentation - Use of chemicals(preservatives) and irradiation – GMP – Food safety and quality control.

**PAPER-II****GENERAL STUDIES (DEGREE STANDARD/OBJECTIVE TYPE)****(Code No: 003)****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 & Govt., 7. Welfare oriented govt. 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 – center – 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 forms

**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 AND MENTAL ABILITY TESTS**

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****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

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**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 (Thirunangai 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:-

- (i) 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. Ganji  
Section Officer

27/12/17

21/7



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

<b>Sl. No.</b>	<b>Process</b>	<b>Timeline</b>
1.	Publication of results	March 2019
2.	Certificate verification	April 2019
3.	Date of oral test & final selection list	May 2019

**Secretary**

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