TELANGANA STATE PUBLIC SERVICE COMMISSION: HYDERABAD

NOTIFICATION NO. 20/2022, DATED: 07/12/2022

LECTURERS IN GOVERNMENT POLYTECHNICS IN TECHNICAL EDUCATION SERVICE
(GENERAL RECRUITMENT)

PARA – I:

1) Applications are invited Online from qualified applicants through the proforma Application to be made available on Commission’s website (https://www.tspsc.gov.in) to the posts of Lecturers in Government Polytechnics in Technical education service in the State of Telangana.

i) Submission of ONLINE applications starts from Dt. 14/12/2022.

ii) Last date and time for submission of ONLINE applications is upto 5.00 PM on 04/01/2023.

The payment of Fee will be accepted upto 5:00 P.M of last date for submission.

2) The details of Lecturer vacancies subject wise are given below:

<table>
<thead>
<tr>
<th>Psc. No.</th>
<th>NAME OF THE SUBJECT</th>
<th>MULTI ZONE</th>
<th>Total Vacancies</th>
<th>Age as on 01/07/2022 Min. Max.</th>
<th>Scale of Pay Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MZ-I</td>
<td>MZ-II</td>
<td></td>
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</tr>
<tr>
<td>01</td>
<td>Auto Mobile Engineering</td>
<td>–</td>
<td>15</td>
<td>15</td>
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<tr>
<td>02</td>
<td>Bio-Medical Engineering</td>
<td>–</td>
<td>03</td>
<td>03</td>
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<tr>
<td>03</td>
<td>Chemical Engineering</td>
<td>–</td>
<td>01</td>
<td>01</td>
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</tr>
<tr>
<td>04</td>
<td>Civil Engineering</td>
<td>33</td>
<td>49</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Electrical and Electronics Engineering</td>
<td>05</td>
<td>19</td>
<td>24</td>
<td></td>
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<tr>
<td>06</td>
<td>Electronics and Communication Engineering</td>
<td>19</td>
<td>22</td>
<td>41</td>
<td></td>
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<tr>
<td>07</td>
<td>Electronics and Instrumentation Engineering</td>
<td>–</td>
<td>01</td>
<td>01</td>
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<tr>
<td>08</td>
<td>Foot Wear Technology</td>
<td>–</td>
<td>05</td>
<td>05</td>
<td></td>
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<tr>
<td>09</td>
<td>Letter Press (Printing Technology)</td>
<td>–</td>
<td>05</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Mechanical Engineering</td>
<td>26</td>
<td>10</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Metallurgy</td>
<td>04</td>
<td>01</td>
<td>05</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Packaging Technology</td>
<td>–</td>
<td>03</td>
<td>03</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Tannery</td>
<td>–</td>
<td>03</td>
<td>03</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Textile Technology</td>
<td>01</td>
<td>–</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Architecture Engineering</td>
<td>–</td>
<td>04</td>
<td>04</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Pharmacy</td>
<td>02</td>
<td>02</td>
<td>04</td>
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<tr>
<td>17</td>
<td>Geology</td>
<td>01</td>
<td>–</td>
<td>01</td>
<td></td>
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<tr>
<td>18</td>
<td>Chemistry</td>
<td>02</td>
<td>06</td>
<td>08</td>
<td></td>
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<tr>
<td>19</td>
<td>Physics</td>
<td>–</td>
<td>05</td>
<td>05</td>
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<td></td>
<td></td>
<td>Total</td>
<td>93</td>
<td>154</td>
<td>247</td>
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</tbody>
</table>

(The Details of Vacancies i.e., Community-wise, PH-wise, EWS, Sports Category, Multi Zone and Gender-wise (General/Women) may be seen at Annexure-I.)
IMPORTANT NOTE:- The number of vacancies are subject to variation on intimation being received from the Department concerned. Addition of vacancies if any, will be accepted only before the date of examination and an addendum to that effect will be issued. Deletion of vacancies if any, can be effected upto the declaration of result.

3) (i) The Examination (Objective Type) is likely to be held in the Month of May/June-2023 and the Commission reserves the right to conduct the Examination either through COMPUTER BASED RECRUITMENT TEST (CBRT) OR OFFLINE OMR BASED EXAMINATION OF OBJECTIVE TYPE.

(ii) Exact date for the above examination will be announced later.

(iii) Hall Tickets can be downloaded from 7 days prior to the examination.

(iv) Candidates are instructed to read the instructions at Annexure-IV of this Notification and Instructions printed on the Hall Ticket carefully.

4) Before applying for the posts, candidates shall register themselves on the One Time Registration (OTR) through the Official Website of TSPSC (https://www.tspsc.gov.in). Those who have registered in OTR already shall apply by login to their profile using their TSPSC ID and Date of Birth as provided in OTR. (In case if the candidate has forgotten the TSPSC ID, the candidate has to visit the TSPSC website and click on the link “Know Your TSPSC_ID” and enter the Aadhar Number and Date of Birth to get the TSPSC ID).

Note:- i) One Time Registration is not considered as an application for any post under any circumstances.

ii) The applicants are advised to retain their Mobile Number and email ID registered in OTR for receiving OTP/SMS for further communication.

IMPORTANT NOTE: Applicants are requested to keep the soft copy of the following documents ready while uploading their Applications and updating the OTRs.

i. Aadhar Card / Voter ID / Pass Port / Driving License / Service ID Cards with (Photograph issued by Central/State/PSU/Public Limited Companies) / Passbook with (photograph by Bank / Post Office) / PAN Card.

ii. Educational Qualifications i.e., SSC, Intermediate, Degree, Post Graduation etc.,

iii. Study (Bonafide) / Residence Certificate (1st to 7th Class period).


v. Income certificate for the Financial Year prior to the year of application issued by the competent authority of Telangana Government for claiming EWS reservation.

vi. Certificates claiming Sports & PH reservation, and age relaxation for Ex-Servicemen.

5) The applicants who possess requisite qualification may apply online by satisfying themselves about the terms and conditions of this recruitment.

6) EDUCATIONAL QUALIFICATIONS: Applicants must possess the requisite qualifications as detailed below, specified in the relevant Service Rules, indented by the Department, as on the Date of Notification.

|---------|---------------------|------------------------------------------------------------------------------------------------------------------|
| 01      | Automobile Engineering | 1. Level-9A Those possessing a minimum of 4 years Bachelor’s Degree in BE/B.Tech/B.S in relevant disciplines with First Class or Equivalent shall be placed in Level-9A at entry pay of Rs.56,100/-.
| 02      | Bio-Medical Engineering | 2. Level-10 Bachelor’s and Master’s Degree in relevant disciplines with First Class in either of the two at the time of Selection shall be placed in Level-10 at entry pay of Rs.57,700/-.
<p>| 03      | Chemical Engineering |                                                                                                                                 |
| 04      | Civil Engineering |                                                                                                                                 |
| 05      | Electrical and Electronics Engineering |                                                                                                                                 |</p>
<table>
<thead>
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<tbody>
<tr>
<td>06</td>
<td>Electronics and Communication Engineering</td>
</tr>
<tr>
<td>07</td>
<td>Electronics and Instrumentation Engineering</td>
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<td>Foot Wear Technology</td>
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<td>15</td>
<td>Architecture Engineering</td>
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<td>16</td>
<td>Pharmacy</td>
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<td>17</td>
<td>Geology</td>
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<tr>
<td>18</td>
<td>Chemistry</td>
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<tr>
<td>19</td>
<td>Physics</td>
</tr>
</tbody>
</table>

1. **Level-9A**
   Those possessing a minimum of 4 years Bachelor’s Degree in BE/B.Tech/B.S in relevant disciplines with First Class or Equivalent shall be placed in Level-9A at entry pay of Rs.56,100/–

2. **Level-10**
   Bachelor’s and Master’s Degree in relevant disciplines with First Class in either of the two at the time of Selection shall be placed in Level-10 at entry pay of Rs.57,700/–

3. **Foot Wear Technology**
4. **Letter Press (Printing Technology)**
5. **Architecture Engineering**
6. **Pharmacy**
7. **Geology**
8. **Chemistry**
9. **Physics**

**NOTE:**
1) First Class or Equivalent as specified for Level – 9A & First Class either two (i.e., Bachelor’s or Master’s) at Level -10 of Para 4.1(a) & 4.2(a) of Appendix-B for all Categories except SC/ST.
2) Relaxation of 5% of Marks for SC/ST (i.e., 55% or 6.25 Grade point is enough for SC/ST Candidates) as mentioned in Para 6.3 read with 2.20 of Appendix-B.
If a class / division is not awarded, minimum of 60% marks in aggregate shall be considered equivalent to first class / division. If a Grade Point System is adopted the CGPA will be converted into equivalent marks as below:

<table>
<thead>
<tr>
<th>Grade Point</th>
<th>Equivalent Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.25</td>
<td>55%</td>
</tr>
<tr>
<td>6.75</td>
<td>60%</td>
</tr>
<tr>
<td>7.25</td>
<td>65%</td>
</tr>
<tr>
<td>7.75</td>
<td>70%</td>
</tr>
<tr>
<td>8.25</td>
<td>75%</td>
</tr>
</tbody>
</table>

IMPORTANT NOTE:-
1) For Pc. No. 17, 18 & 19:- Master’s Degree in appropriate subject with First Class or equivalent at Bachelor’s or Master’s Level.
2) The First Class shall be either at Bachelor’s or Master’s Level.

N.B:- i) **Distance Education**: The Applicants who have obtained requisite Degrees through Open Universities / Distance Education mode are required to have recognition by the University Grants Commission / AICTE / Distance Education Bureau as the case may be. Unless such Degrees have been recognised by the relevant Statutory Authority, they will not be accepted for purpose of Educational Qualification vide its Public Notice No. F.27-1/2012 (CPP-II), Dt. 27/06/2013. (A university established or incorporated by or under a State act shall operate only within the territorial jurisdiction allotted to it under its Act and in no case beyond the territory of the State of its location). The onus of proof of recognition by the relevant Statutory Authority that their Degrees / Universities have been recognised rests with the candidate.

ii) **Equivalent Qualification**: At the time of verification of certificates, if it is noticed that any applicant possessing other than prescribed qualification and claims it as equivalent to the prescribed qualifications, then an Expert Committee will be constituted including the Unit Officer by the Commission and the Commission will take a decision based on the report of the Expert Committee.

7) **AGE**: The candidates should possess Minimum 18 years & Maximum 44 years. The age is reckoned as on 01/07/2022 (Rule-12(1)(a)(v) of State and Subordinate Service Rules).

(As per G.O.Ms.No.42, G.A.(Ser.A) Department, Dt. 19/03/2022 the upper age limit is raised up to 10 years i.e., from 34 years to 44 years)

**Minimum Age (18 years):** An Applicant should not be born after 01/07/2004

**Maximum Age (44 years):** An applicant should not be born before 02/07/1978

The Upper Age limit will be relaxed as per Rules and will be calculated on the above lines.

**Age Relaxations:** The upper age limit prescribed above is however relaxable in the following cases:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Category of candidates</th>
<th>Relaxation of age permissible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Telangana State Government Employees (Employees of TSRTC, Corporations, Municipalities etc. are not eligible).</td>
<td>Upto 5 Years based on the length of regular service.</td>
</tr>
<tr>
<td>2.</td>
<td>Ex-Service men</td>
<td>3 years &amp; length of service rendered in the armed forces.</td>
</tr>
<tr>
<td>3.</td>
<td>N.C.C. (who have worked as Instructor in N.C.C.)</td>
<td>3 Years &amp; length of service rendered in the N.C.C.</td>
</tr>
<tr>
<td>4.</td>
<td>SC/ST/BCs &amp; EWS</td>
<td>5 Years</td>
</tr>
<tr>
<td>5.</td>
<td>Physically Handicapped persons</td>
<td>10 Years</td>
</tr>
</tbody>
</table>

**Note:** Provided that the persons referred at Sl.No. 2&3 above shall, after making deductions referred to in Sub Rule–12(c)(i)&(ii) of Telangana State and Subordinate Service Rules not exceed the maximum age limit prescribed for the post.

i) The age relaxation for Ex-servicemen is applicable for those who have been released from Armed forces other than by way of Dismissal or Discharge on account of misconduct or Inefficiency.

ii) The age relaxation for NCC, a Person who was recruited as a whole-time Cadet Corpse Instructor on or after the 1st January, 1963 on his discharge from the NCC either before or after the expiry of the initial or extended tenure of his office in NCC having served for a period of not less than six months prior to his release from the NCC.
N.B. However, no person shall be eligible if he/she crossed 61 years of age (Superannuation age) after availing the eligible age relaxations as on 01/07/2022.

8) (A) FEE:
   i) **Application Processing Fee**: Each applicant must pay Rs. 200/- (Rupees Two Hundred Only) towards Online Application Processing Fee.
   ii) **Examination Fee**: The applicants have to pay RS. 120/- (Rupees One Hundred and Twenty Only) towards Examination Fee. However,
      a) All unemployees are exempted from payment of examination fee, and
      b) All Employees of any Government (Central / State / PSUs / Corporations / Other Government Sector) have to pay the prescribed examination fee.

B) Mode of Payment of Fee:
   The Fee mentioned at Para-I(8)(A) is to be paid online through payment gateway duly following online instructions once the application form details are submitted.
   The fee once remitted, shall not be refunded or adjusted under any circumstances.
   Failure to pay the Application Processing fee and Examination fee, wherever applicable, will entail total rejection of application. Unless full payment of both Examination fee (unless exempted) and Application fee is made, the candidature of the applicant will be rejected and no correspondence or concession in this regard will be entertained.
   The list of Banks providing service for the purpose of online remittance of fee is given in ANNEXURE – II.

PARA-II: CENTRES FOR THE WRITTEN EXAMINATION:

1) The Written Examination (Objective Type) will be held at the following centres or as may be decided by the Commission.
   i) HYDERABAD (including HMDA Jurisdiction)
   ii) KARIMNAGAR
   iii) KHAMMAM
   iv) HANUMAKONDA
   v) NIZAMABAD
2) However, the Commission reserves the right to allot candidates to any centre other than the centre chosen by the applicant or to remove / create a new centre for administrative reasons. Request for change of the centre will not be entertained.

PARA-III: HOW TO APPLY:

HOW TO SUBMIT THE ONLINE APPLICATION FORM:

(i) The Applicant has to read the User Guide (https://www.tspsc.gov.in) for Online Submission of Applications and then proceed further.

Step I: Before applying, the Applicant has to visit the website (https://www.tspsc.gov.in) and fill the OTR application if not registered earlier to obtain TSPSC ID. The candidates are advised to upload all the required certificates (However, original certificates have to be produced for verification at the time of scrutiny before finalizing the selection list). While filling the OTR, the applicant has to ensure that there are no mistakes in it. The Commission will not be held responsible for the mistakes, if any, made by the applicants. If already registered in the OTR the applicant can directly access the application form. The applicant is instructed to fill his/her application form himself/herself with utmost care instead of delegating to others.

Step II-a) In order to fill the application form, the Applicant has to visit the website (https://www.tspsc.gov.in) and Click on the online Application Link provided on the Website, then enter TSPSC ID and Date of Birth and login with OTP received to proceed further.
   b) Applicant has to verify the details fetched from OTR database pertaining to Name, Date of Birth, requisite Educational Qualifications, Community, Gender, Ex-Servicemen & Sports etc., displayed on the screen.
   c) In addition to the details obtained from OTR database, specific details of Notification such as Examination Centre opted, required qualification and declarations etc., should be filled by the applicant.
   d) Preview and Edit facility is available to make changes and then click on SAVE & PAY button for proceeding to next step of making online payment of fee through payment gateway.
Step III:- The applicant should pay the prescribed fee as specified through any of the three modes of payment online i.e., Net Banking, Debit Card and Credit Card duly following the instructions appearing on the screen.

Step IV:- After payment of fee, the PDF application will be generated which contains the particulars furnished by the applicant. The applicant must download a copy of his/her submitted form (PDF). The Reference ID Number in the PDF application form has to be quoted for future reference/correspondence.

1) Applicant shall note that, the details available in OTR database at the time of submitting the application will only be considered for the purpose of this notification. Hence, the candidate is advised to update / edit the details in OTR form before submitting online application form. The Time and Date of submission of the application will be printed on the application PDF form. Changes made by the applicant in OTR details after submission of application form will not be considered for the purpose of this Notification.

2) The Commission is not responsible for any discrepancy in Bio-data particulars submitted in the application form. The applicant is therefore advised to strictly follow the instructions and User guide in his/her own interest before submitting the application.

3) Applicant must compulsorily fill-up all relevant columns of the application form. The eligibility of the applicant will be decided based on the particulars given in the online application form in terms of notification and it is validated by the software and it will be taken as final. For eg: If an applicant fails to update the OTR regarding his/her Sports status before applying, the applicant will not be considered for Sports vacancies. Applicant should therefore be very careful, while entering the data and uploading / submitting the application form online.

4) Incomplete / incorrect application form will be rejected. The information if any furnished by the applicant subsequently in any form will not be entertained by the Commission under any circumstances unless specifically called for. Applicant should be careful in filling-up the application form and submission. If any lapse is detected during the scrutiny/verification of certificates, the candidature will be rejected even though he/she comes through the final stage of recruitment process or even at a later stage.

5) Before uploading/submission of application form, the applicant should carefully ensure his/her eligibility for this examination. No relevant column of the application form should be left blank, otherwise application form will not be accepted.

6) The Commission will not make any corrections in the application form submitted by the applicant.

7) Applicant must click on Save & Pay Button after filling and preview of the application. Otherwise the application particulars will not be saved in the database.

8) Hand written/ Typed/ Photostat copies/ outside printed Application Form will not be entertained. The Commission will not be held responsible for the applications submitted in any other mode.

9) For any Technical problems related to Online submission and downloading of Hall-Tickets please contact 040-23542185 or 040-23542187 (Call Time: 10.30 A.M to 1.00 P.M & 1.30 P.M to 5.00 P.M on working days) or mail to helpdesk@tspsc.gov.in.

PARA- IV GENERAL PROVISIONS

1) The applications received online in the prescribed proforma within the time shall only be considered.

2) Applicant must upload his/her scanned recent pass port size photo and signature in .jpeg format.

3) The applicant should not furnish any particulars that are false, tampered, fabricated or suppress any material information while submitting online application.

4) All the essential certificates issued by the competent authority of Telangana State shall be kept with the applicants at the time of submitting the application.

5) The required original certificates should be submitted at the time of verification of certificates or whenever called for. Failure to produce the required certificates will lead to disqualification.

6) Important:- The claim of the applicants with regard to the date of birth, educational qualifications and community etc., are accepted provisionally on the information furnished by them in their application form and is subject to verification and satisfaction of the
Commission. Mere admission to any test or inclusion of the name of an applicant in a Merit List will not confer on the applicant any right for appointment. The candidature is therefore, provisional at all stages and the Commission reserves the right to reject candidature at any stage of the selection even after declaration of results, if any mistake/wrong information is noticed at a later date.

7) The applicants should be willing to serve anywhere in Telangana State.

8) **NOTE ON UTILISING EDIT OPTION BY CANDIDATES:**

The applicant should follow the TSPSC website regularly to utilize the edit option if given by the Commission at any point of time. No separate advertisement / notification will be issued in any news paper. No separate individual intimation shall be given.

9) **Invalidation of OMR Answer Sheet:**

a) If any applicant fails to bubble or wrongly bubble the Question Booklet Number, Hall Ticket Number in the OMR Answer Sheet, such Answer Sheets are invariably invalidated as they are valued by Optical Mark Reader. This stipulation is to avoid any sort of human interface in evaluation of the Scripts.

b) Tampering of OMR answer sheet by using whitener, eraser, blade and chalk powder etc., and also tampering of barcode by any means leads to invalidation.

c) No request for reconsideration of such rejected/invalidated cases will be entertained.

10) **The following certificates / documents must be submitted by the candidates at the time of verification of certificates.**

i) PDF Application form

ii) Hall Ticket.

iii) Aadhar Card / Voter ID / Pass Port / Driving License / Service ID Cards with (Photograph issued by Central/State/PSU/Public Limited Companies) / Passbook with (photograph by Bank / Post Office) / PAN Card.

iv) Proof of Educational Qualifications.

v) S.S.C / CBSE / ICSE (For Date of Birth)

vi) School Study Certificate (1st to 7th Class)

vii) Certificate of Residence (where the Candidate has not studied in Educational Institution) (1st to 7th Class period) obtained from competent authority of Telangana Government.

viii) Certificate of Residence for the Financial Year prior to the year of application issued by the competent authority of Telangana government for claiming EWS reservation.

ix) No Objection Certificate from Employer (even if employed at any later stage of recruitment).

x) Service Certificate (If any employee claimed Age relaxation).

xi) Certificate claiming sports reservation.

xii) Certificate claiming Ex-servicemen for age relaxation.

xiii) Community Certificate for BCs, SCs & STs (Issued in the name of candidate with Father Name is only acceptable.) obtained from competent authority of Telangana Government.

xiv) Non-Creamy Layer Certificate for BCs as per Form- VIIB vide G.O. Ms. No. 34 BC Welfare (OP) Department Dt.08/10/2015 and G.O. Ms. No. 20 BC Welfare (OP) Department D31/10/2017 (Certificate issued in the name of candidate as S/o OR D/o is only acceptable.) obtained from competent authority of Telangana Government.

xv) Income certificate for the Financial Year prior to the year of application issued by the competent authority of Telangana government for claiming EWS reservation.

xvi) In case of PH Candidates, Visually Handicapped / Hearing Disability & Hearing Impairment / Orthopedically Handicapped / Multiple disabilities, certificates should be obtained from Competent Medical Authority in SADAREM format relevant to them.

xvii) Any other certificate required.

**B) Guidelines for evaluation of various disabilities and procedure for certification**

are mentioned in G.O.Ms.No.31, WD, CW & (DW) Dept, Dt:01-12-2009.

1. Physically Challenged candidates who are claiming reservations under Disability quota must note that they will be referred to State Medical Board (Appellate Medical Authority) after completion of certificate verification. The report of Medical Board is final.

2. Request for re-medical-examination by the State Medical Board (Appellate Medical Authority) for assessment of disability will not be entertained.

**Note:-** The Certificate formats are available on Commission’s website [https://www.tspsc.gov.in/certificateformats.jsp](https://www.tspsc.gov.in/certificateformats.jsp).
PARA-V :- IMPORTANT LEGAL PROVISIONS GOVERNING THE RECRUITMENT PROCESS:

1. **Vacancies**: The recruitment will be made to the vacancies notified before the examination only. There shall be no waiting list as per G.O. Ms. No. 81 General Administration (Ser.A) Department, Dated 22/02/1997 and as per Rule 6 of TSPSC Rules of Procedure.

2. Unfilled and Non-Joining vacancies will be Carried Forward to next recruitment.

3. This Recruitment is entrusted to TSPSC along with Finance Clearance vide G.O.Ms.No.116 Finance (HRM.VII) Department, Dt. 22/07/2022.

4. **Recruitment**: The Recruitment will be processed as per this Notification and also as per the Rules and Instructions issued by the Government and also as decided by the Commission from time to time in terms of respective Special Rules/Adhoc Rules governing the Recruitment vide G.O. Ms. No. 178 Higher Education (TE.I-2) Dept., Dt. 09/12/2005 read with G.O. Ms. No. 26, Higher Education (TE) Dept., Dt. 30/07/2021 and as per Government Orders issued from time to time, and other related G.Os, Rules etc., applicable in this regard.

5. **Rules**: All are informed that the various conditions and criterion prescribed herein are governed by the General Rules of existing State and Subordinate Service Rules, read with the relevant Special Rules applicable to any particular service in the departments. Any guidelines or clarification is based on the said Rules, and, in case of any necessity, any matter will be processed as per the relevant General and Special Rules in force.

6. **Constitutional Provisions**: The Commission is empowered under the provisions of Article 315 and 320 of the Constitution of India read with relevant laws, rules, regulations and executive instructions and all other enabling legal provisions in this regard to conduct examination for appointment to the posts notified herein, duly following the principle of order of merit as per Rule 3 of the TSPSC Rules of Procedure read with reference to relevant statutory provisions and ensuring that the whole recruitment and selection process is carried out with utmost regard to maintain secrecy and confidentiality so as to ensure that the principle of merit is followed.

7. **Multi Zonal Post**: The posts are classified into Multi Zonal posts and the local reservation is applicable as per G.O.Ms.No.124, General Administration (SPF-MC), Department, Dated 30-08-2018.

8. **Local**: The Local Reservations shall be followed as per the Telangana Public Employment (Organization of Local Cadres and Regulation of Direct Recruitment) Order, 2018, G.O.Ms.No.124, General Administration (SPF-MC), Department, Dated 30-08-2018 as amended vide G.O.Ms. No. 128, G.A. (SPF-I) Dept., Dated: 30/06/2021 and other orders issued by the Government of Telangana from time to time and other related G.Os, Rules etc., applicable.

9. **Employee Details**: The persons already in Government Service/ Autonomous bodies/ Government aided institutions etc., whether in permanent or temporary capacity or as work charged employees are required to inform in writing to the Head of Office / Department, that they have applied for this recruitment, as the case may be and required to submit the "No Objection Certificate" from the Head of Office / Department concerned to the Commission as and when required to do so.

The persons who are employed after submission of application or at any later stage for this recruitment should also submit "No Objection Certificate" from the Head of Office / Department concerned to the Commission as and when required to do so.

10. **A) Penal Action**: The Commission is also empowered to invoke the penal provisions of the T.S. Public Examinations (Prevention of Malpractices and Unfair means) Act, 1997 (Act No.25/1997) for matters connected therewith or incidental thereto and as per the Rules of Procedure of TSPSC published in Telangana Gazette No: 60 dated 28/12/2015 in respect of this Notification.

**B) Disqualification for appointment**: A candidate shall be disqualified at any stage as per Rule-12(4) of Telangana State and Subordinate Service Rules.

11. **Community**: (a) The candidates belonging to SC & ST are required to produce Community Certificate issued by the competent authority (obtained from Government of Telangana State) in terms of G.O.Ms No. 58, SW (J) Dept., dt: 12/5/97 read with G.O. Ms. No. 5 Scheduled Castes Development (POA.A2) Dept., dt. 08/08/2014, G.O. Ms. No. 11 Scheduled Castes Development (POA.A2) Dept., dt. 17/09/2014 and G.O. Ms. No. 2 Scheduled Castes Development (POA.A2) Dept., dt. 22/01/2015. As per Rule-2(29) of T.S. State and Subordinate Service Rules. Explanation: No person who professes a religion different from Hinduism, the Sikh or Buddhism shall be deemed to be as member of a Scheduled Caste. (b)The candidates belonging to Backward Classes are required to produce Community Certificate (BC-A, BC-B, BC-C, BC-D & BC-E) issued by the
Competent Authority in the State of Telangana obtained through Mee-Seva vide G.O. Ms. No. 16 BCW (OP) Dept.,Dt. 11/03/2015. (c) Income Certificate for claiming EWS Reservation issued by the Tahsildar (Government of Telangana) vide G.O. Ms. No. 244 General Administration (Ser.D) Department, Dt. 24/08/2021 and orders and instructions issued by the Government from time to time.

12) **Reservation:**

(i) The rule of reservation is applicable in terms of General Rule 22 & 22 (A) of Telangana State and Subordinate Service Rules.

(ii) Reservation to Disabled persons is subject to the Special Rules/Adhoc Rules governing the posts. The extent of Disability will be decided by the State Appellate Medical Authorities.

(iii) If eligible disabled women candidates of VH(W) / HH(W) / OH(W) / MH(W) category are not available in the initial recruitment, the same shall be filled up by the eligible Male candidates with same category of disability respectively as per G.O.MS. No. 96 General Administration (Ser.D) Department, Dt. 22/07/2019. Hence, eligible male candidates of VH/ HH/ OH/ MH disabled category can also apply for the posts meant for Women categories.

(iv) For Carry Forward PH vacancies, if eligible disabled candidates of that particular category are not available, the same shall be filled up by the method of interchanging as per G.O.MS. No. 96 General Administration (Ser.D) Department, Dt. 22/07/2019. Hence, candidates of all the disabled categories can apply.

(v) Reservation to BC-E group as per G.O. Ms. No. 23 Backward Classes Welfare (C.2) Department, Dt. 07/07/2007, will be subject to the adjudication of the litigation before the Honorable Courts including final orders in Civil Appeal No: (a) 2628-2637 of 2010 in SLP. No. 7388-97 of 2010, dated. 25/03/2010 and orders from the Government.

(vi) The reservation to Meritorious Sports Person is applicable as per the amendments made to State and Subordinate Service Rules as per G.O.Ms.No.107, General Administration (Ser.D) Dept., Dt. 27-07-2018 that is in Rule-2, for sub-Rule (20) and in Rule-22 (i) in sub-Rule (2), for Class-D. In implementing the reservation to Meritorious Sports Person as per G.O. Ms. No.05 YAT&C(Sports) Department, Dt. 14/05/2018, or as may be revised by the Government from time to time shall be followed.

(vii) **Economically Weaker Sections:** The EWS reservation is applicable as per G.O. Ms. No. 243 & 244 GA (SER.D) Dept., Dt. 22/08/2021.

(viii) As per G.O.Ms.No.130, General Administration (Ser.D) Department, Dt.09.11.2022, enhancing the reservations for Scheduled Tribes from 6% to 10% read with G.O.Ms.No.135, General Administration (Ser.D) Department, Dt.23.11.2022.

**Note:** Candidates producing Certificates issued by the Competent Authorities in Telangana State alone are eligible to claim various reservations like SC/ST/BC/ EWS/PH etc.

**PARA-VI:**

(1) Local Reservation (95%) is applicable as per Para-8 of G.O.Ms.No.124 General Administration (SPF-MC) Department, dated :30.08.2018).

(2) **Local Candidate as per Para-7 of G.O.Ms.No.124 General Administration (SPF-MC) Department, Dated :30.08.2018:-**

“(1) A candidate for direct recruitment to any post shall be regarded as a local candidate in relation to a local area.-

(a) in cases where a minimum educational qualification has been prescribed for recruitment to the posts,-

(i) if he has studied in an educational institution or educational institutions in such local area for a period of not less than four consecutive academic years ending with the academic year in which he appeared or, as the case may be, first appeared for the relevant qualifying examination; or

(ii) where during the whole or any part of the four consecutive academic years ending with the academic year in which he appeared or as the case may be first appeared for the relevant qualifying examination he has not studied in any educational institution, if he has resided in that local area for a period of not less than four years immediately preceding the date of commencement of the qualifying examination in which he appeared, or as the case may be, first appeared.

(b) In cases where no minimum educational qualifications has been prescribed for recruitment to the post, if he has resided in that local area for a period of not less than four
years immediately preceding the date on which the post is notified for recruitment.

Explanations:- For the purpose of this paragraph,-
(i) ‘educational institution’ means a University or any educational institution recognized by the State Government, a University or other competent authority;
(ii) relevant qualifying examination in relation to a post means,-
(a) the examination, a pass in which is the minimum educational qualification prescribed for the post;
(b) the Seventh Class examination or an examination declared by the State Government to be equivalent to the Seventh Class examination; whichever is lower;
(iii) in reckoning the consecutive academic years during which a candidate has studied, any period of interruption of his study by reason of his failure to pass any examination shall be disregarded;
(iv) the question, whether any candidate for direct recruitment to any post has resided in any local area shall be determined with reference to the places where the candidate actually resided and not with reference to the residence of his parents or other guardian.

(2) A candidate for direct recruitment to any post who is not regarded as a local candidate under sub-paragraph (1) in relation to any local area shall,-
(a) in cases where a minimum educational qualification has been prescribed for recruitment to the post,-
(i) If he has studied in educational institutions in the State for a period of not less than seven consecutive academic years ending with the academic year in which he appeared or as the case may be, first appeared for the relevant qualifying examination be regarded as a local candidate in relation to,-
(A) Such local area where he has studied for the maximum period out of the said period of seven years; or
(B) Where the periods of his study in two or more local areas are equal, such local areas where he has studied last in such equal periods;
(ii) If during the whole or any part of the seven consecutive academic years ending with the academic year in which he appeared or as the case may be first appeared for the relevant qualifying examination, he has not studied in the educational institutions in any local area, but has resided in the State during the whole of the said period of seven years, be regarded as a local candidate in relation to,-
A) Such local area where he has resided for the maximum period out of the said period of seven years; or
(B) Where the periods of his residence in two or more local areas are equal, such local area where he has resided last in such equal periods;
(b) In cases where no minimum educational qualification has been prescribed for recruitment to the post, if he has resided in the State for a period of not less than seven years immediately preceding the date on which the post is notified for recruitment, be regarded as a local candidate in relation to,-
(i) such local area where he has resided for the maximum period out of the said period of seven years; or
(ii) where the periods of his residence in two or more local areas are equal such local area where he has resided last in such equal periods.
(c) In cases where Visually Handicapped and Hearing Handicapped persons studied in the special schools meant for the them, the native place of the parents of such Visually Handicapped and Hearing Handicapped persons.’


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<td>Mahaboobnagar, Narayanpet, Jogulamba-Gadwal, Wanaparti, Nagarkurnool Districts</td>
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PARA-VII: SCHEME OF EXAMINATION:-  The Scheme & Syllabus for the examination has been shown in ANNEXURE-III.

PARA-VIII: RESOLVING OBJECTIONS RELATED TO QUESTIONS, KEY AND OTHER MATTERS OF OBJECTIVE TEST:

i) The Commission publishes the key on its website after conduct of the objective test. Any objections with regard to the questions / Key shall be filed within the stipulated period through the link provided in the TSPSC website, after publication of the key. The objections received physically in the form of representations or through emails are not entertained in any circumstances. Any objection(s) received after the last date for receipt of objections on key would not be entertained.

ii) However, for each objection raised by the candidate he/she required to pay Rs.500/- (Rupees Five Hundred only) online through payment gateway duly following online instructions. The list of Banks providing service for the purpose of online remittance of payment is given in Annexure–II.

iii) The objections received in the prescribed proforma within due date will be referred to Expert Committee for opinion to take appropriate decision thereon by the Commission. Final key will be hosted as per decision of the Commission.

iv) Objections on final key shall not be entertained.

v) The marks for the deleted questions, if any, will be awarded to each candidate proportionately based on his performance on the remaining questions and the marks would be considered upto 3rd decimal figure, to determine the merit of the candidates.

vi) After completion of Examination, the Images of OMR Sheets will be hosted on the Commission’s Website (https://www.tspsc.gov.in) for reference. Candidates by entering the required Login credentials can download the Images of OMR Sheets. Candidates are advised to retain their Images of OMR Sheets for future purpose until completion of the recruitment process. Duplicate Images of OMR Sheets will not be issued under any circumstances.

PARA-IX: PROCEDURE OF SELECTION:

1) Pattern of Examination will be as per G.O. Ms. No. 55 General Administration (Ser.A) Department, Dt. 25/04/2022.

2) The Selection of Candidates for appointment to the posts will be made by Written Examination (Objective Type) by CBRT/OMR Based and the Selection for the posts will be based on marks secured in the written examination.

3) Those candidates who qualify in the Written Examination in order of merit will be called for verification of Certificates, Community and Category wise for the vacancies available as required. The qualifying marks for selection of the candidates belonging to: OC, Ex-Service men, Sports men & EWS – not less than 40%, BCs - not less than 35% SCs, STs and PH – not less than 30%.

N.B.: Mere securing minimum qualifying marks does not vest any right in a candidate for being considered for selection

4) In the event of SC and ST candidates not coming up for selection with the minimum marks prescribed above for selection, their selection shall be considered on the basis of marks with reference to their performance in the written examination irrespective of the marks secured.

5) The appearance in all the paper/papers at the Written Examination is compulsory. Absence in any of the paper/papers will automatically render his/her candidature for disqualification.

6) Candidates have to produce Original documents and other particulars on the day of verification itself. If candidate fails to produce any of the required original certificates and if the particulars furnished by him / her in the Application do not tally with the Original documents produced him / her, then his / her candidature will be rejected/disqualified without any further correspondence. Those candidates who are called for verification of certificates should furnish their order of preference of Multi-Zones, Subjects by exercising Web-Options and submit at the time of verification of certificates, which are final, failing which his/her candidature shall not be considered for further selection process. The selections will be confined only to the web options exercised by the candidates. Under no circumstances he/she will be considered for the posts/places where preference was not indicated.
7) The candidates will be selected and allotted to Multi-Zone as per their merit and order of Preference (web-options) against the vacancies available.

8) The appointment of selected candidates will be subject to their being found medically fit in the appropriate Medical Examination, and if he/she is of sound health, active habits free from any bodily defect or infirmity.

**PARA-X: DEBARMENT:**

a) Candidates should make sure of their eligibility to the posts applied for and that the declaration made by them in the format of application regarding their eligibility is correct in all respects. Any candidate furnishing incorrect information or making false declaration regarding his/her eligibility at any stage or suppressing any information is liable to be debarred from appearing for any of the examinations conducted by the Commission, and for summarily rejection of candidature for this recruitment.

b) The Commission is vested with the constitutional duty of conducting recruitment and selection on rules duly maintaining utmost secrecy and confidentiality in this process and any attempt by anyone causing or likely to cause breach of this constitutional duty in such manner or by such action as to violate or likely to violate the fair practices followed and ensured by the Commission will be sufficient cause for rendering such questionable means as ground for debarment and penal consequences as per law and rules and as may be decided by the Commission.

c) Any candidate is or has been found impersonating or resorting to any other irregular or improper means in connection with his / her candidature for selection or obtaining support of candidature by any means, such a candidate may in addition to rendering himself/ herself liable to criminal prosecution, will be debarred permanently from any exam or selection held by any Public Service Commission in the country.

d) If he/she himself/herself or through relations or friends or any others has canvassed or endeavored to enlist for his candidature extraneous support, whether from official or non-official sources for appointment to any State Service or Subordinate Service shall be disqualified.

e) The applicants are not allowed to bring any Electronic devices or Gadgets such as Smart / Mobile Phones, Calculators, Tablets, iPad, Bluetooth, Pagers, Programmable Devices or Storage Media like Pen-drive, Smart Watches, Camera etc., or any other equipment or related accessories either in working or switched off mode capable of being used as a communication device during the examination. Loaning and interchanging of articles among the applicants is not permitted in the examination hall and any form of malpractice will not be permitted in the exam hall and applicants are advised not to bring any of the banned items including mobile phones to the venue of the examination, as arrangement for safe – keeping cannot be assured.

f) Any infringement / unfair means of the above instructions as per Act No. 25/1997 shall entail disciplinary action published in State Gazette No. 35, Part-IV-B Extraordinary Dt. 21/08/1997 (as adapted by the Telangana Adaptation of Laws Order, 2016) if noticed, at any stage of the Recruitment shall be punishable with imprisonment for a term which shall not be less than three years but which may extend upto seven years and with fine which shall not be less than Rupees Five Thousand, but which may extend upto Rupees One Lakh.

**PARA-XI:- (A)** Please read the following Annexures appended to the Notification before filling the application form.

- Annexure-I Breakup of Vacancies
- Annexure-II Payment gateway
- Annexure-III Scheme and Syllabus
- Annexure-IV Instruction to the Candidates
- Annexure-V List of Communities
- Annexure-VI List of the recognized sports

**(B) MEMORANDUM OF MARKS:-** After Publication of results, the marks list (total marks) of the successful candidates will be displayed on the Commission’s Website. However, Memorandum of Marks can be obtained after one month from the date of declaration of selection list in TSPSC website on payment of Rs.200/- (Rupees Two Hundred Only) through IPO/DD in favour of the Secretary, T.S. Public Service Commission, Hyderabad, for a period of Three Months only. Rejected, Invalid, disqualified, ineligible candidates will not be issued any Memorandum of Marks and fees paid by such candidates, if any, will be forfeited to Government account, without any correspondence in this regard. Requests for memorandum of marks, will not be entertained until the recruitment process is finalized.
PARA XII: SPECIAL INSTRUCTIONS TO CANDIDATES:

Candidates are directed to follow the Commission’s Website (https://www.tspsc.gov.in) regularly to know the latest developments of this Recruitment and any changes/ Modifications/ Addendum/ Corrigendum, dates of Examination, calling of candidates for verification of Certificates/ Results etc. Candidates may note that individual communication is not possible. Hence, they must regularly visit the TSPSC website for updates such as Edit option, Schedule of Examination and Hall Tickets, Merit List, List of candidates shortlisted for Certificate Verification, schedule of certificate verification / Medical board, etc.

Candidates are advised to go through the Instructions to Candidates enclosed to this Notification at Annexure-IV.

PARA-XIII: COMMISSION’S DECISION TO BE FINAL:

The decision of the Commission in all aspects and all respects pertaining to the application and its acceptance or rejection as the case may be, conduct of examination and at all consequent stages culminating in the selection or otherwise of any candidate shall be final in all respects and binding on all concerned, under the powers vested with it under Article 315 and 320 of the Constitution of India. Commission also reserves its right to alter and modify time and conditions laid down in the notification for conducting the various stages up to selection or withdraw the Notification at any time, duly intimating details thereof to all concerned, as warranted by any unforeseen circumstances arising during the course of this process, or as deemed necessary by the Commission at any stage.

HYDERABAD
DATE: 07/12/2022

Sd/-
SECRETARY
# ANNEXURE – I

BREAK-UP OF VACANCY POSITION FOR THE POST LECTURERS IN GOVERNMENT POLYTECHNICS IN TECHNICAL EDUCATION SERVICE

**PC.NO. 01:- LECTURER IN AUTOMOBILE ENGINEERING**

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**PC.NO. 02:- LECTURER IN BIOMEDICAL ENGINEERING**

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G = General, W = Woman, M = Male, E = Economically Weaker Section, BC = Backward Class, EWS = Economically weaker sections, SC = Other Social Caste, ST = Other Social Tribe, PH = Physically Handicapped, SPORTS = Sports, TOTAL = Total Vacancy, MZ-I = Multi Zone I, MZ-II = Multi Zone II.
### PC. NO. 03:- LECTURER IN CHEMICAL ENGINEERING

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- M: SC
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- MZ: GWS
- MZ: MWS
- TOTAL includes (HH) and (VH) categories.
## PC. NO. 05:- LECTURER IN ELECTRICAL AND ELECTRONIC ENGINEERING

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<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
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<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>
## ANNEXURE-II

### LIST OF BANKS FOR MAKING ONLINE PAYMENT

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Bank</th>
<th>Sl. No.</th>
<th>Name of the Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andhra Pragathi Grameena Bank</td>
<td>35</td>
<td>Kalyan Janata Sahakari Bank</td>
</tr>
<tr>
<td>2</td>
<td>A U Small Finance Bank</td>
<td>36</td>
<td>Karnataka Bank Ltd</td>
</tr>
<tr>
<td>3</td>
<td>Bandhan Bank</td>
<td>37</td>
<td>Karnataka Gramin Bank</td>
</tr>
<tr>
<td>4</td>
<td>Bank of Bahrain and Kuwait</td>
<td>38</td>
<td>Karnataka Vikas Grameena Bank</td>
</tr>
<tr>
<td>5</td>
<td>Bank of Baroda</td>
<td>39</td>
<td>Karur Vysya Bank</td>
</tr>
<tr>
<td>6</td>
<td>Bank of India</td>
<td>40</td>
<td>Kotak Bank</td>
</tr>
<tr>
<td>7</td>
<td>Bank of Maharashtra</td>
<td>41</td>
<td>Laxmi Vilas Bank</td>
</tr>
<tr>
<td>8</td>
<td>Bassien Catholic Coop Bank</td>
<td>42</td>
<td>Maharashtra Gramin Bank</td>
</tr>
<tr>
<td>9</td>
<td>Canara Bank</td>
<td>43</td>
<td>Mehsana urban Co-op Bank</td>
</tr>
<tr>
<td>10</td>
<td>Capital Small Finance Bank</td>
<td>44</td>
<td>NIKGSB Co-op Bank</td>
</tr>
<tr>
<td>11</td>
<td>Catholic Syrian Bank</td>
<td>45</td>
<td>North East Small Finance Bank Ltd</td>
</tr>
<tr>
<td>12</td>
<td>Central Bank of India</td>
<td>46</td>
<td>Nutan Nagarik Sahakari Bank Limited</td>
</tr>
<tr>
<td>13</td>
<td>City Union Bank</td>
<td>47</td>
<td>Punjab &amp; Sind Bank</td>
</tr>
<tr>
<td>14</td>
<td>Cosmos Bank</td>
<td>48</td>
<td>Punjab National Bank</td>
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<tr>
<td>15</td>
<td>DCB Bank</td>
<td>49</td>
<td>RBL Bank Limited</td>
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<tr>
<td>16</td>
<td>Deutsche Bank</td>
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<td>Saraswat Bank</td>
</tr>
<tr>
<td>17</td>
<td>Dhanlakshmi Bank</td>
<td>51</td>
<td>SBM Bank India</td>
</tr>
<tr>
<td>18</td>
<td>Digibank by DBS</td>
<td>52</td>
<td>Shivalik Mercantile Cooperative Bank Ltd</td>
</tr>
<tr>
<td>19</td>
<td>Equitas Small Finance Bank</td>
<td>53</td>
<td>South Indian Bank</td>
</tr>
<tr>
<td>20</td>
<td>ESAF Small Finance Bank</td>
<td>54</td>
<td>State Bank of India</td>
</tr>
<tr>
<td>21</td>
<td>Federal Bank</td>
<td>55</td>
<td>SVC Co-operative Bank Ltd</td>
</tr>
<tr>
<td>22</td>
<td>Fincare Bank</td>
<td>56</td>
<td>Tamil Nadu State Co-operative Bank</td>
</tr>
<tr>
<td>23</td>
<td>Gujarat State Co-operative Bank Limited</td>
<td>57</td>
<td>Tamilnad Mercantile Bank Ltd.</td>
</tr>
<tr>
<td>24</td>
<td>HDFC Bank</td>
<td>58</td>
<td>The Kalupur Commercial Co-operative Bank</td>
</tr>
<tr>
<td>25</td>
<td>HSBC Retail Net Banking</td>
<td>59</td>
<td>The Surat People’s Co-operative Bank Limited</td>
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<tr>
<td>26</td>
<td>ICICI Bank</td>
<td>60</td>
<td>The Sutex Co-op Bank Ltd</td>
</tr>
<tr>
<td>27</td>
<td>IDBI Bank</td>
<td>61</td>
<td>T J S B Bank</td>
</tr>
<tr>
<td>28</td>
<td>IDFC FIRST Bank</td>
<td>62</td>
<td>UCO Bank</td>
</tr>
<tr>
<td>29</td>
<td>Indian Bank</td>
<td>63</td>
<td>Union Bank of India</td>
</tr>
<tr>
<td>30</td>
<td>Indian Overseas Bank</td>
<td>64</td>
<td>Utkarsh Small Finance Bank</td>
</tr>
<tr>
<td>31</td>
<td>Indus-Ind Bank</td>
<td>65</td>
<td>Varachha Co-operative Bank Limited</td>
</tr>
<tr>
<td>32</td>
<td>Jammu &amp; Kashmir Bank</td>
<td>66</td>
<td>YES Bank Ltd</td>
</tr>
<tr>
<td>33</td>
<td>Jana Small Finance Bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Janata Sahakari Bank Ltd Pune</td>
<td>67</td>
<td>Zoroastrian Co-Operative Bank Ltd</td>
</tr>
</tbody>
</table>
## ANNEXURE-III

**SCHEME AND SYLLABUS FOR RECRUITMENT TO THE POST OF LECTURERS IN GOVERNMENT POLYTECHNICS IN TECHNICAL EDUCATION SERVICE**

### SCHEME OF EXAMINATION

<table>
<thead>
<tr>
<th>Written Examination (Objective Type)</th>
<th>No. of Questions</th>
<th>Duration (Minutes)</th>
<th>Marks</th>
</tr>
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<tbody>
<tr>
<td>Paper – I: General Studies and General Abilities</td>
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<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Paper – II: Concerned Subject</td>
<td>150</td>
<td>150</td>
<td>300</td>
</tr>
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</table>

**TOTAL MARKS**

<table>
<thead>
<tr>
<th>Name of the Papers</th>
<th>Language of Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper-I: General Studies and General Abilities</td>
<td>Bilingual i.e., English and Telugu</td>
</tr>
<tr>
<td>Paper-II: Concerned Subject</td>
<td>English Only</td>
</tr>
</tbody>
</table>

### LIST OF CONCERNED SUBJECTS

1. Architectural Engineering
2. Automobile Engineering
3. Bio-Medical Engineering
4. Chemical Engineering
5. Chemistry
6. Civil Engineering
7. Electrical and Electronics Engineering
8. Electronics and Communication Engineering
9. Electronics and Instrumentation Engineering
10. Footwear Technology
11. Geology
12. Letter Press (Printing Technology)
13. Mechanical Engineering
14. Metallurgy
15. Packaging Technology
16. Pharmacy
17. Physics
18. Tannery (Leather Technology)
19. Textile Technology
SYLLABUS

PAPER – I: GENERAL STUDIES AND GENERAL ABILITIES

2. International Relations and Events.
3. General Science; India’s Achievements in Science and Technology.
4. Economic and Social Development of India and Telangana.
5. Physical, Social and Economic Geography of India.
7. Socio-economic, Political and Cultural History of Modern India with special emphasis on Indian National Movement.
8. Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood Movement and formation of Telangana state.
9. Indian Constitution; Indian Political System; Governance and Public Policy.
10. Social Exclusion; Rights issues such as Gender, Caste, Tribe, Disability etc. and inclusive policies.
11. Society, Culture, Heritage, Arts and Literature of Telangana.
12. Policies of Telangana State.
13. Logical Reasoning; Analytical Ability and Data Interpretation.
14. Basic English. (10th class Standard)

PAPER – II: CONCERNED SUBJECT

1. ARCHITECTURAL ENGINEERING (DEGREE LEVEL)


Building Construction: Foundations, Footings, Walls, Lintels, Carpentry & Joinery, Openings (doors & windows), Composite Masonry, Partition Walls, Staircases, Cladding, Sloping and flat roofs, Floorings, Structural steel work and Types of steel trusses

Architectural Drawing & Graphics: Importance of Scale, Different forms, Architectural representation of different objects, Solid geometry, Building Geometry – isometric, axonometric, etc., Types of Arches, Sciography, Perspectives, Rendering, visualization skills and importance of free hand drawing.

Engineering Mechanics: Simple stress and strain, Types of stresses, elastic limit, modulus of elasticity, Bending moment and shear forces, Moment of inertia, Deflection, Buckling & Crushing failures, Slenderness ratio, Torsion, Design of RCC & Steel Structures.

Introduction of art and architecture: Importance of art, Development and exploration of art, Relationship between art and architecture, Role of an architect in society, relationship with other consultants, Technical knowledge and expertise, Evolution of Shelter forms.


Water supply and Sanitary Engineering: Sources of water supply, Quality of water, Treatment of water, Distribution system of water, Collection and Treatment of refuse, Sewage, Principles of drainage, plumbing and Sanitary fittings and fixtures, Roads & Pavements.


Landscape design and site planning: Importance and role of landscape designing, Historical Perspective, Elements in Landscape design, Plants and design, Landscape construction.


Sociology of Human settlements: Sociological aspects, Elements of society, Urbanization, Historic Evolution, Transportation and communication, Principles of ekistics.

Economics, Estimating and Costing: Introduction on economics, Micro and Macroeconomics, economic issues, Financing of a project, Quantity surveying and estimating (approximate and detailed) and rate analysis.

Town Planning: Town forms in urban planning and development processes, various levels of planning: national, regional, urban, rural, local etc., objectives of town planning, O-D surveys, F.S.I. planning of industrial and recreational areas, urban renewals, TCPO and Town planning organization in India and Geographical information systems (GIS).

Building Acoustics: Need to study acoustics, history of acoustics, generation, propagation, transmission of sound, characteristics of sound, sensibility of human ear, resonance, reverberation time, sabine's formula, echoes, principles of acoustical design process and sound isolation.


Computer Applications: Hardware and Software requirements, Operating systems, Features of presentation package, drafting packages, benefits of Internet technology, visualization software and building information modeling (BIM).

2. AUTOMOBILE ENGINEERING (DEGREE LEVEL)

01. Heat Transfer and Thermodynamics:


05. Automobile Instrumentation: Electronic components used in an automobile – Sensors & Transducers: Flow measurement - Temperature measurement – Speed measurement – Pressure measurement – Distance measurement.


10. Kinematics and Dynamics of Machines:


14. Electric vehicles: Types and systems, Types of electrical motors used as drive motors and relative advantages and limitations – Charging methods – Electronic controller – Regenerative braking system – Hybrid vehicles: Types and systems.


19. Automobile Servicing and Maintenance: Automobile Service Station Equipment - Types of Maintenance – Machines and equipments used for Servicing and Re-conditioning – Servicing, Maintenance and Trouble diagnosis charts of various automobile systems.

3. BIO-MEDICAL ENGINEERING (DEGREE LEVEL)

Respiratory Measurements and Aid; Principles and techniques of impedance pneumography and pneumotachograph.


Audiometry: Common Tests and procedures, Air-conduction, Bone Conduction, Masking, Schematic Functional Diagram of an Audiometer.


Anesthesia Equipment, Boyle’s Apparatus, Gas Distribution Systems.


Electro-encephalography: Block schematic diagram of EEG recording system. General features of different blocks : specification of EEG amplifiers : qualitative requirements, 10-20 electrode system, Resting Rhythms and sleep stages.

Electro Myography: Block schematic diagram of EMG recording system. Measurement of nerve conduction velocity, EMG amplifiers. Design considerations of EMG amplifiers. Data display for EMG.

Blood Pressure and blood flows. Electronic techniques for indirect and direct measurement of blood pressure: measurement of blood flow by electromagnetic, doppler and plethysmographic methods.

Phonocardiography: Origin of heart sounds. Phonocardiographic instrumentation consisting of microphone, filters and signal conditioners.


Electrical hazards during Bioelectric monitoring: safety, Codes, Standards. Micro and Macroshock and their physiological effects. Leakage currents and protection by use of isolation transformers. Equipotential grounding and earth free monitoring.

Electrical factors in Hospital Design : Electrical power supply systems in a hospital building, Proper installation and grounding for providing safety to the patient - electrical environment.

Ultrasonics: Basic principles of Medical Ultrasonics, Echo Techniques, Functional Block Diagram of Basic Pulse-Echo System for Diagnostic Purposes. Different Display Modes A-Mode, B-Mode, M-Mode, Types of Scan-B Scan, Principles of Echocardiography and Echoencephalography with Schematic Block Diagrams. Sector Scanners, and phased array scanners.


Medical Thermography: Basic Principle, Functional Block Diagram of thermo graphic equipment, scanning and display arrangements for Infra-Red Imaging, Medical applications.


Cardioverters: Working Principles, Scheme of synchronizing D.C. Defibrillators with the R-wave of ECG. Testing and safety. Cardiac pacemakers: Types -

i. Asynchronous and Synchronous (demand) mode of operation.

ii. External and implantable, Asynchronous Pacemakers.

Working principles, block diagram and circuit diagram of blocking oscillator asynchronous pacemaker.

Synchronous / Demand Pacemaker: Working principles, modes of triggering-ventricular triggered (QRS triggered) and atrioventricular synchronized pacemaker (P wave triggered).

Biomaterials: Significance of Biocompatibility, Types of biomaterials, in-vitro, in-vivo testing of biomaterials, Factors influencing implants, Orthopedic Implants, Ophthalmic & Dental applications of Biomaterials.

Prosthetic Heart Valves: Qualitative requirements. Categories Mechanical and tissue valves. Types of mechanical valves - ball and cage, tilting disc and bi-leaflet valves. Types of tissue valves - Homograft or allograft (human cadaver) and Heterografts or Xenografts (Porcine or Bovine). In vitro performance testing of prosthetic heart valves using a pulse duplicator.

Heart- Lung Machine: Governing principles, qualitative requirements, functional details of bubble, thin film and membrane - Type of blood oxygenators.

Hemodialyzer: Qualitative requirements. General Scheme of operation. Types of Exchangers, block diagram, electronic control and monitoring systems.


Physical Therapy Equipment. Short wave, Microwave and Ultrasonic diathermy. Electrical stimulators.


Electrical activity of skeletal muscles-motor unit potentials. EMG wave form. Surface and needle electrodes for EMG. Velocity and their changes in normal and abnormal states. Fatigue and conduction - chemical significance.

Introduction to bioelectric Phenomena of hearing - Mechanical equivalent schematic diagram of the ear. Mechanical transformer of the middle ear. Frequency analysis of sound by the basilar membrane. Cochlear microphonics.

Interaction between Engineering and life sciences. Definition of Biomedical Engineering, its scope. The role of Biomedical Engineer in Health care delivery systems. Medical Electronics Industry Research, Development and education.

Application of Engineering concepts and methods for understanding Physiological systems. Basic electrical and Mechanical properties skeletal systems, muscular system, heart and brain. Nervous system as an internal communication system of the human body. Sense Organs.


Physiological signals, Characteristics, Basis of ECG, EMG, EEG and qualitative treatment of instrumentation for measuring these signals.


Transducers for physiological application. Static-types like variable R.L. & C, LVDT, Therma couples, Thermistors Photo electric and Dynamic types like piezoelectric and moving coil type and their applications. Special requirements.

Development of instrumentation for Clinical practice and Medical Research. Introduction. Comparative study of industrial and Medical Instrumentation. Basic classification of Medical Instruments, Instrument characteristics, linearity, range, frequency response, signal to noise ratio and stability.

Broad classification of Biomedical Instrumentation for Clinical practice that is:

1. Instrumentation for Diagnosis, ECG, EEG, EMG, PCG etc.,
2. Therapeutic Devices - Stimulators, diathermy equipments etc.,
6. Data Storage & Analysis - Computers in medicine.
7. Analytical Instruments - Photocolorimetry, Spectrophoto Meter, Electrophoresis, Centrifuges, Waterbath etc., Hospital illumination, Theatre illumination, Requirements and typical arrangements. Miscellaneous equipment’s.
4. CHEMICAL ENGINEERING (DEGREE LEVEL)


3. Mass Transfer: Molecular diffusion in fluids, inter phase mass transfer, mass transfer coefficients, Distillation (binary system), gas absorption and adsorption, liquid-liquid extraction, leaching, humidification, drying and crystallization operations. Equipment for distillation, gas absorption, liquid-liquid extraction, drying, humidification and crystallization.

4. Reaction Engineering: Rate of reaction, variables affecting the rate of reaction. Interpretation of kinetic data in batch and flow systems. Theories of reaction rate, classification of reactors, design equations for batch and flow reactors. Catalysis.


7. Process Technology: Manufacture of following chemical products in process industries – Location and uses – Water, Inorganic chemical industries (sulfuric acid, phosphoric acid, Soda ash, Caustic soda and Chlorine industry), fertilizers (Ammonia, Urea, SSP and TSP); natural products industries (Pulp and Paper, Sugar, Oil, and Fats); petroleum refining and petrochemicals ( Coal chemicals, coking of coal, coal tar distillation, petroleum refining-atmospheric distillation and vacuum distillation , fluid catalytic cracking , catalytic reforming , petrochemicals from methane and ethylene): polymerization industries (polyethylene, polypropylene, PVC and polyester synthetic fibres). Cement, Electro thermal industries; Calcium carbide, Silicon carbide, Graphite, Pigments and Paints.

8. Material and Energy Balances: Basic calculations, Determination of molarity, molality & normality, analysis of solids , liquids and gases on dry and wet basis , Dalton's law , ideal gas equation of state , vapor pressure boiling point and freezing point , elevation of boiling point and depression of freezing point-uses, Bypassing ,Recycling & purge streams – uses , limiting component , excess reactant , percentage conversion & yield and degree of completion , Material balances with and without chemical reactions, law of conservation of energy , heat of reaction , heat of formation , and heat of combustion – related problems , gross and net calorific values , theoretical air and excess air calculations


11. Environmental Studies and Pollution Control Engineering: Scope and importance of environmental studies, segments, Eco systems, bio diversity, water pollution, types, classification, treatment methods, air pollution, types, classification, analysis, control
methods, solid waste management, sources, classification, disposal, pollution control in sugar, fertilizer & petroleum industries, legal aspects.


5. CHEMISTRY (POST GRADUATE LEVEL)

INORGANIC CHEMISTRY:

1. Atomic structure and chemical bonding – structure and bonding in homo and hetero nuclear molecules. Application of VSEPR, Valence Bond and Molecular orbital theories in explaining the structures of simple molecules.

2. Chemistry of main group (I to VII & Noble gases) elements.

3. Chemistry of transition elements and inner transition elements.

4. General principles of metallurgy: Occurrence of metals, Concentration of ores - leavage, magnetic separation, froth floatation, leaching, Extraction of crude metal from concentrated ore-conversion to oxide, reduction of oxide to the metal, Thermodynamic principles of metallurgy-El lingham diagram limitations, applications. Extraction of iron, copper and zinc from their oxides. Electrochemical principles of metallurgy, Oxidation and reduction. Refining of crude metal-distillation, liquation poling, electrolysis, zone refining and vapour phase refining, Uses of aluminium, copper, zinc and iron. Alloys: Inter-metallic compounds


10. Analytical chemistry- Chromatography – General principles involved in separations by Paper, Thin layer, Column Chromatography, GC and HPLC.

PHYSICAL CHEMISTRY:


ORGANIC CHEMISTRY:


2. Classification, preparations and properties of alkane, alkenes, alkynes, cyclo alkanes, aromatic hydrocarbons, halogen compounds, hydroxy compounds, carbonyl compounds, carboxylic acids and its derivatives.


4. Introduction to conformational isomerism, Klyne - Prelog terminology for conformers and torsion angles, dihedral angle, Steric strain and the concept of dynamic stereoisomerism. Study of conformations of acyclic compounds like ethane, butane, dihalobutanes, halohydrin, ethylene glycol, butane-2, 3-diol, amino alcohols and 1,1,2,2-tetrahalobutanes.

5. Nature of bonding in organic molecules and aromaticity, delocalized chemical bonding, conjugation, cross conjugation, resonance, hyperconjugation, tautomerism, Huckel's Rule and the concept of aromaticity-Aromaticity, non-aromaticity and anti aromaticity.


7. Organic reaction mechanism: Mechanism, stereochemistry and energy profile diagram of Addition reactions to polar and non polar double bonds. Substitution reactions: Mechanism, rate law, stereochemistry and factors affecting on aliphatic and aromatic reactions. Elimination reactions- mechanism, rate law, stereochemistry, orientation and factors affecting on E1, E2, E1CB, pyrolytic syn elimination and a-elimination, elimination vs substitution. Detection of reaction mechanism by product isolation, isotopic labelling, chemical trapping and crossover experiments.

8. Oxidation- Swern, Cr (VI) oxidants, Oxidative cleavage of 1,2-diols - Periodic acid and Lead tetra acetate.

9. Reductions - Wilkinson's’s catalytic hydrogenation, LiAIH4, NaBH4, BH3, AlH3 and DiBAL.


13. Pericyclic reactions: Classification, Stereochemistry of pericyclic reactions, Molecular Orbitals and Symmetry of ethelene, 1,3-butadiene, 1,3,5-hexatriene, allylic, 1,3-pentadienyl and 1,3,5-heptatrienyl p- systems. Analysis of pericyclic reactions by PMO, FMO and orbital correlation methods.
14. Basic principles, concepts of UV, IR, H1NMR, C13NMR and Mass spectroscopic methods – structure determination of organic compounds by UV, IR, H1NMR, C13NMR and Mass spectroscopic methods.


6. CIVIL ENGINEERING (DEGREE LEVEL)

1. Building Materials And Construction:

Bricks—Types of Bricks, Indian standard classification, properties; Stones—Types of stones, classification, properties, dressing and polishing of stones; Methods of Quarrying; Cement—Different grades and types of cement, properties and IS specifications; Aggregates—coarse and fine aggregate, properties and IS specifications; Cement Mortar—Proportions of cement mortar for various applications; Concrete—Constituents of Concrete. Different grades of Concrete, mix proportioning using IS Code, Properties of fresh and hardened Concrete; Admixtures—Types of Admixtures.

2. Strength of Materials And Theory of Structures:

Strength of Materials: Simple stresses and strains, elastic constants and relationship between them; Compound bars; Temperature stresses; Shear forces and bending moment diagrams for beams; Principal stresses and Mohr’s circle of stress, Theory of bending and bending stressed; Stress shear stress distribution; Theory of torsion; Springs; Deflections of beams; Thin and thick cylinders; Analysis of trusses, Betti-Maxwell theorem; Shear centre and unsymmetrical bending.

Theory of Structures: Direct and bending stresses; Columns and struts; Strain energy method; Moving loads and influence lines; Arches and suspension bridges; Static and kinematic indeterminacy; Moment distribution, Slope deflection, and Kani’s methods applied to continuous beams and portal frames; matrix methods of analysis.

3. Cement Concrete and Steel Structures:

Concrete Structures: Materials, permissible stresses and IS Specifications; Working stress methods; Limit State Method - Stress Blocks parameters, design of Beams, Slabs, Columns and Footing; Design for Shear and Torsion; Design of Retaining Walls, Water tanks, and T-Beam Slab bridges; Yield line theory.

Steel Structures: Properties of steel sections, permissible stresses, IS Specifications; Riveted and welded joints and connections; Design of simple and compound Beams and Columns, Column bases, Roof trusses, Plate and Gantry Girders; Plate Girder Lattice Girder Railway bridges, and Bearings. Plastic analysis.

Pre-Stressed Concrete: Basic concepts, material for pre-stressing, losses in Pre-stress, classification of pre-stressing system; Analysis of PSC Sections.

4. Fluid Mechanics and Hydraulics:

Fluid Properties; Measurement of Pressure - Manometers; Fluid Kinematics – Classification of Fluids, Stream function and Velocity potential, significance and use of Flownets, Fluid dynamics - Continuity equation, Bernoulli’s equations and Impulse momentum equation; Laminar and Turbulent flow through pipes – significance of Reynolds number, Hagen – Poiseuille’s equation, Darcy – Weisbach equation, Friction factor, Water hammer concepts; Compressible flow – Bernoulli’s equation for Isothermal and Adiabatic conditions, Mach Number, Mach cone, stagnation properties; Steady uniform flow through open channels; Gradually varied flows – significance of Froude number, classification and computation of Flow profiles, Hydraulic jump, Surges; Boundary layer – Laminar and Turbulent Boundary layer, Boundary layer thickness, rough and smooth Boundaries, Boundary layer separation; Dimensional analysis and similarity laws; Hydraulic Turbines – classification, Velocity triangles, principles and design of reaction and impulse turbines; Centrifugal pumps – specific speed, work done and efficiency, characteristic curves.

5. Hydrology and Water Resources Engineering:

Hydrological cycle; Rainfall – types and measurement, network design; Infiltration – index; Runoff – process, factors and determination of runoff, dependable yield; Floods – flood hydrograph, computation of flood peak using rational formula, unit hydrograph method and Gumbel’s extreme value methods; Groundwater – types of aquifer and properties, Darcy’s law, specific yield, steady radial flow to wells in confined and unconfined aquifers; Irrigation – types and advantages, soil water plant relationship, consumptive use, duty, delta, base period, crops and their water requirements; Single and multipurpose projects; Dams – classification, forces and design of Gravity dam and Earth dam; Spillways – types, energy dissipation, stilling basin, Appurtenances; Canals – alignment, Kennedy’s and Lacey’s theories, lining of Canals; Weirs – components, design of vertical drop and sloping glacia weir; Seepage forces – Bligh’s Theory,
Khosla’s theory; Canal falls – types and design principles; Cross drainage works – classification and design principles of aqueducts; Hydropower principles – classification and components of Hydroelectric power plants.

6. Environmental Engineering:
Water supply – objectives, rate of demand, population forecasts; Analysis of water – classification, design of coagulation, sedimentation, filtration, disinfection and softening processes; Methods of layout of distribution pipes – Hardy cross method; Waste water engineering – systems of sewerage, hydraulic formulae and design of sewers, BOD, COD, self purification of natural streams, methods of sewage disposal; Treatment of sewage – principles and design of grit chamber, sedimentation tanks, trickling filters, activated sludge process, sludge digestion tanks, septic tanks; Municipal solid waste – characteristics, collection and transportation of solid wastes; Air Pollution – types and sources of pollutants, air quality standards; Noise pollution – Impacts and permissible limits, measurement and control of noise pollution.

7. Transportation Engineering:
Highway Classification as per IRC; Highway alignment; Engineering Surveys; Geometric Design; Cross sectional elements of road; Gradient; Grade compensation; Traffic Surveys – speed, Volumes, origin and destination; Intersection – at grade and grade separated; Channelization; Rotary intersection; signal design – webstar method, traffic signs, pavement marking; Parking studies, accidental studies, pavement types, Factors considered for pavement design, flexible and rigid pavements design concepts.
Railway Engineering: Permanent way, rails, sleepers, ballast; Creep, coning of wheel, rail fixtures and fastenings, super elevation, cant deficiency, curves, turnout; Points and crossings.
Airport Engineering: Selection of site of Airport, runway orientation and design, wind rose diagram, basic run way length, correction to basic runway length.

8. Soil Mechanics and Foundation Engineering:
Soil Mechanics: Physical properties of soils, Classification and identification, Permeability, Capillarity, Seepage, Compaction, Consolidation, Shear Strength, Mohr’s circle, Earth pressure, Slope stability;
Foundation Engineering: Site investigations, stress distribution in soils, Bearing capacity, Settlement analysis, Types of Foundation, Pile foundations, Foundations on expansive soils; swelling and its preventions; Coffer dams, Caissons, Dewatering, Bracing for excavations, Newmark charts, machine foundations.
Engineering Geology: Mineralogy, Structural Geology, Groundwater Exploration methods; Engineering Geology applications for Tunnels, Dams and Reservoirs; Geological hazards and preventive measures.

9. Estimation, Costing and Construction Management:
Abstract estimate: Detailed estimate – centerline, long & short wall method, various items of Civil Engineering works as per Indian Standard, General Specifications - Earth Work, Brick / Stone Masonry in Cement Mortar, RCC, Plastering in Cement Mortar, Floor finishes, white wash, colour wash; Standard schedule of rates, lead and lift, preparation of lead statement; Computation of earth work – Mid-ordinate, Mean Sectional area, Trapezoidal method, Prismatic Rule; Approximate estimate – Plinth area and cubic rate estimate.

10. Construction Management:
Types of construction projects, Tendering and construction contracts, project planning and network analysis – PERT and CPM.

11. Surveying:
Principle and classification of surveying, chain surveying; Compass surveying; Levelling and contouring; Theodolite surveying; curves; Introduction and Fundamental concepts of electronic measuring instruments – EDM, Total station, components of GPS and basics of GIS.

7. ELECTRICAL AND ELECTRONICS ENGINEERING (DEGREE LEVEL)

1. Electric Circuits and Fields: Network graph, KCL, KVL, node and mesh analysis, transient response of dc and ac networks; sinusoidal steady-state analysis, resonance, basic filter concepts; ideal current and voltage sources, Thevenin's, Norton's, Superposition, Maximum Power Transfer and Reciprocity theorems; two-port networks, three phase circuits; Star, Delta connections, Measurement of power in 3-phase by two-wattmeter method; Fourier, Laplace and Z transforms; Gauss Theorem, electric field and potential due
to point, line, plane and spherical charge distributions; Ampere's and Biot-Savart's laws; inductance; dielectrics; capacitance.

2. Electrical Machines: Single phase transformer - equivalent circuit, phasor diagram, tests, regulation and efficiency; three phase transformers - connections, parallel operation; auto-transformer; energy conversion principles; DC machines - types, windings, generator and motor characteristics, losses and efficiency, armature reaction and commutation, starting and speed control of motors, tests; three phase induction motors - principles, types, performance characteristics, starting and speed control; single phase induction motors; synchronous machines - performance, regulation and parallel operation of alternators, motor starting, characteristics and applications; servo motors.

3. Power Systems: Basic power generation concepts, Economic aspects, Types of Tariffs; transmission line models and performance; cable performance, insulators, Sag and Tension; corona and radio interference; distribution systems; per-unit quantities; bus impedance and admittance matrices; load flow study; voltage control; power factor correction; economic operation; Load Frequency Control; symmetrical components; symmetrical & unsymmetrical fault analysis; principles of over-current, differential and distance protection; Generator protection, Transformer protection, Feeder protection, static relays; circuit breakers; Power system stability concepts, swing equation, power angle curve, solution of swing equation, equal area criterion.

4. Control Systems: Principles of feedback; transfer function; block diagrams; steady-state errors; Routh and Nyquist techniques; Bode plots; root loci; lag, lead and lead-lag compensation; state space model; state transition matrix, controllability and observability.

5. Electrical and Electronic Measurements: DC, AC Bridges, potentiometers; PMMC, moving iron, dynamometer and induction type instruments; measurement of voltage, current, power, energy and power factor; shunts, multipliers; instrument transformers; digital voltmeters, CRO; phase, time and frequency measurements using lissajous patterns; error analysis.

6. Analog and Digital Electronics: Characteristics of p-n junction diode, Zener diode, BJT, FET; amplifiers - biasing, equivalent circuit and frequency response; oscillators and feedback amplifiers; operational amplifiers - characteristics and applications; simple active filters; VCOs and timers; Boolean Algebra, mizimization of switching functions combinational and sequential logic circuits; schmitt trigger, multi vibrators Flip flops, counters and registers, sample and hold circuits; A/D and D/A converters; microprocessor basics.(8085 & 8086), architecture, programming and interfacing, 8051 mc BASICS (Architectures, Addressing modes and instruction set).

7. Power Electronics: Semiconductor power diodes, transistors, thyristors, triacs, GTOs, MOSFETs and IGBTs - static characteristics and principles of operation; triggering circuits commutation circuits; phase control rectifiers; bridge converters - fully controlled and half controlled; dual converters, principles of choppers, inverters, cyclo-converters and ac voltage controllers.

8. Electric Drives: Four quadrant operation, Types of loads, Energy loss during starting and braking of dc and ac motors, Types of braking in dc & ac motors, Basis concepts of converter and chopper fed dc drives; V/f control, static rotor resistance control and slip power recovery scheme of 3-phase induction motor drives.


8. ELECTRONICS & COMMUNICATION ENGINEERING (DEGREE LEVEL)

Section-I

Engineering Mathematics

Linear Algebra: Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.

Calculus: Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series.

Differential Equations: First order equations (Linear and Nonlinear), higher order linear differential equations with constant coefficients, method of variation of parameters, Cauchy's
and Euler’s equations, initial and boundary value problems, partial differential equations and variable separable method.

**Complex Variables:** Analytic functions, Cauchy’s integral formula: Cauchy’s integral theorem, Taylor’s and Laurent’ Series, residue theorem.

**Probability and Statistics:** Probability, Joint and conditional probability, discrete and continuous random variables, probability distribution and density functions. Exponential, Poisson, normal and Binomial Distributions Functions. mean, mean square and standard deviation.

**Numerical Methods:** Solutions of non-Linear equations, single and multi-step methods for differential equations.

**Section-II**

**Networks:**

Network solution methods: Nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton’s, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time-domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.


**Analog Circuits:** Small Signal Equivalent circuits of diodes, BJTs, MOSFETs and analog CMOS. Simple diode circuits, clipping, clamping, rectifier. Biasing and bias stability of transistor and FET amplifiers.


**Section-III**

**Digital circuits:** Boolean algebra, minimization of Boolean functions; logic gates; digital IC families (DTL, TTL, ECL, MOS, CMOS).

**Combinatorial circuits:** arithmetic circuits, code converters, multiplexers, decoders, PROMs and PLAs.

**Sequential circuits:** latches and flip-flops, counters and shift-registers. Sample and hold circuits, ADCs, DACs. Semiconductor memories: ROM, SRAM, DRAM.

**Microprocessor (8085):** architecture, programming, memory and I/O interfacing.

**Signals and Systems:** Definitions and properties of Laplace transform continuous-time and discrete-time Fourier series, continuous-time and discrete-time Fourier Transform, and FFT, z-transform. Sampling theorem.

**Linear Time-Invariant (LTI) Systems:** definitions and properties; causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay. Signal transmission through LTI systems.

**Control Systems:** Basic control system components; block diagrammatic description, reduction of block diagrams. Open loop and closed loop (feedback) systems and stability analysis of these systems. Signal flow graphs and their use in determining transfer functions of systems; transient and steady state analysis of LTI control systems and frequency response.

**Tools and techniques for LTI control system analysis:** root loci, Routh-Hurwitz criterion, Bode and Nyquist plots.

**Section-IV**

**Communications:** Random signals and noise: probability, random variables, probability density and distribution functions, Moments, autocorrelation, power spectral density.

**Analog communication systems:** Amplitude and Angle modulation and demodulation systems, spectral analysis of these operations, superheterodyne receivers; elements of hardware realizations of analog communication systems; signal-to-noise ratio (SNR) calculations for amplitude modulation (AM) and frequency modulation (FM) for low noise conditions. Fundamentals of information theory and channel capacity theorem.

**Digital communication systems:** Pulse Code Modulation (PCM), Differential Pulse Code Modulation (DPCM)
Digital modulation schemes: amplitude, phase and frequency shift keying schemes (ASK, PSK, FSK), QAM, matched filter receivers, bandwidth consideration and probability of error calculations for these schemes. Basics of TDMA, FDMA and CDMA and GSM.


9. ELECTRONICS AND INSTRUMENTATION ENGINEERING (DEGREE LEVEL)


2. Analog Electronics: Characteristics and applications of diode, Zener diode, BJT and MOSFET; small-signal analysis of transistor circuits, feedback amplifiers. Characteristics of ideal and practical operational amplifiers; applications of op-amps: adder, subtractor, integrator, differentiator, difference amplifier, instrumentation amplifier, precision rectifier, active filters, oscillators, signal generators, voltage-controlled oscillators and phase-locked loop.555 timer and applications

3. Digital Electronics: Combinational logic circuits, minimization of Boolean functions. IC families: TTL and CMOS. Arithmetic circuits, comparators, Schmitt trigger, multi-vibrators, sequential circuits, flipflops, shift registers, timers and counters; sample-and-hold circuit, multiplexer, analog-to-digital (successive approximation, integrating, flash and sigma-delta) and digital-to-analog converters (weighted R, R-2R ladder and current steering logic). Characteristics of ADC and DAC (resolution, quantization, significant bits, conversion/settling time); basics of number systems.


8. **Embedded Systems:** Microprocessor and microcontroller applications, memory and input-output interfacing; basics of data acquisition systems, basics of distributed control systems (DCS) and programmable logic controllers (PLC).

10. **FOOT WEAR TECHNOLOGY (DEGREE LEVEL)**

- Classification of Footwear, Leather goods, Garments based on construction, utilization, style-Upper Parts of Footwear, Bottom Parts of Footwear.
- Foot Measurements- Foot drafting – Length and Girth Measurements-Different Footwear Sizing systems- Fittings and Multi Fittings-Conversion from one Sizing system to other system-Functions of the Feet.
- Footwear Designing - 7 Basic Styles of Footwear- Mean form preparation-Footwear Styling-Design and Pattern Development of Sandals, Derby, Oxford, Slip on, Court shoe, Moccasin, Ankle Boot, Calf Boot, Knee boot, Grading – different grading systems – equipment used for grading- Footwear CAD software Packages, Different Functions available in Software.
- Testing – Sampling Position of Leather for Testing- Conditioning of Leather for Testing , Testing of Physical properties like tensile strength - % elongation at break stitch tear,

- Quality Control- Quality points to be inspected after Clicking, Splanting, Skiving, Upper Making, Lasting, Sole attaching, Final Inspection of Footwear Manufacturing.
- Foot wear Machines – Operating Principle of Clicking Machines, Pre Fitting Machines, Closing Machines, Lasting Machines, Bottoming Machines, Finishing Machines.
- Leather Making-Operations involved in making Leather, Classification of Leather Based on Raw Material, Type of Tanning, Type of Finish- Defects in Leather- Selection of Leather for Different Use.

11. GEOLOGY (POST GRADUATE LEVEL)


Field Geology: Toposheet, geological map, field work and sampling, compass, geological mapping procedures. Surveying Principles and methods surveying, chain survey, prismatic survey, plane table survey and theodolite survey. Dumpy’s level.


Earth and solar system, planetary evolution of earth and its internal structure, Heterogeneity of the earth’s crust, Major tectonic features of the oceanic and continental crust, Continental drift, mid oceanic ridges, deep sea trenches, continental shield areas and mountain chains. Paleomagnetism, seafloor spreading and plate tectonics, Island arcs, oceanic islands and volcanic arcs, isostacy, orogeny, geosynclines, and seismic belts of the earth, seismicity and plate movements. Geodynamics of the Indian plate.


Principles of Stratigraphy, geological time scale, modern methods of stratigraphic correlation, Precambrian Stratigraphy of India, Stratigraphy of the Palaeozoic, Mesozoic and Cenozoic formations of India. Gondwana system and Gondwana land, origin of Himalaya and evolution of Siwalik basin, Deccan traps, Quaternary Stratigraphy, rock record, paleoclimates and paleogeography.

5. Igneous Petrology & Geochemistry: Origin of magmas, phase equilibrium in igneous systems, Bowen’s reaction principle, Magmatic evolution and differentiation, Structures and
textures of igneous rocks, Classification of igneous rocks, Magmatism and tectonics, Igneous rock suites- Ultramafic rocks, Basic rocks, Intermediate rocks, Acidic rocks and Alkaline rocks.

Geochemistry, Elements, Meteorites, Primary geochemical differentiation of earth, Goldschmidt’s geochemical classification of elements. Periodic table, Magmatism as geochemical process, Major elemental distribution in igneous rocks. Trace element distribution in igneous rocks, Sedimentation as a geochemical process, Metamorphism as a geochemical process, Isotope geochemistry. Atmospheric geochemistry.

6. Metamorphic Petrology & Thermodynamics: Metamorphism, factors and kinds of metamorphism and metamorphic processes; Classification of metamorphic rocks and nomenclature, Structures and textures, zones, grades, and facies of metamorphism. Phase relations and phase diagrams for metamorphic mineral assemblages, processes and products of Contact, Regional, thermal, dynamo-thermal metamorphisms, metasomatism, granitization, typical Indian rocks.

Objectives of thermodynamics, inter-relationship between petrogenetic processes and thermodynamics, Role of thermodynamics in geochemistry, Phase rule, ‘pressure-temperature-depth relations’ among various metamorphic facies and ultra metamorphism, Paired metamorphic belts, Metapelitic and metabasic minerals and mineral assemblages, First law of thermodynamics, Second law of thermodynamics, P-T diagrams, geothermobarometry, pressure(P)-temperature(T)-time(t) paths.

7. Sedimentology & Petroleum Geology: Sedimentary environments- fluvial, glacial, eolian and lacustrine environments, transitional environments including deltaic, beach and tidal flats, marine environments including shelf (clastic and non-clastic) and deep sea sedimentary environment, Evolution of sedimentary basins, Tectonic setting of sedimentary basins.

Petroleum Geology, Constitution and Genesis of hydrocarbons, conversion of organic matter to petroleum, variety of petroleum hydrocarbons and gas hydrates, Reservoir rocks, Migration and accumulation of oil, structural traps, stratigraphic traps and combination traps, salt domes, methods of Exploration and exploitation of petroleum, Geographic and stratigraphic distribution of oil and gas, global distribution, petroliferous basins in India.

8. Ore Genesis, Mineral Deposits and Mineral economics: Modern concept of ore genesis, principal ore mineral groups, plate tectonics and ore deposits, ore textures, Paragenetic sequences and zoning in metallic ore deposits, ore microscopy, application of geothermobarometry, fluid inclusions in ores, Role and application of stable isotopes in ore genesis, Petrological ore associations with Indian examples, orthomagmatic ores of mafic-ultramafic association, diamonds in kimberlites, REE in carbonatites, chromite in chromitites and basic rocks, PGE in ultramafic and basic rocks, Chemical and elastic sedimentation, stratiform and stratabound ore deposits (Mn, Fe, non-ferrous ores), placer concentrations, Ores related to weathering and weathered surfaces, laterite, bauxite and manganese nodules.

Study of geology, nature of occurrence and the genesis of the following ore deposits with special reference to India- Iron, Chromite, Manganese, Copper, gold, Lead and Zinc, Bauxite, Magnesite, Barites, Mica, Asbestos, decorative stones, Mineral based Industries: Iron and steel; Refractories: Ceramic, electrical and insulators, glass.


11. Mineral Exploration and Fuels: Methods of surface and subsurface exploration, prospecting for economic minerals and fuel drilling, sampling, and assaying. Geophysical techniques, gravity, electrical, magnetic, air borne, and seismic surveys, Instrumental techniques of detection and measurement of radioactivity, Radioactive methods for prospecting and assaying of mineral deposits. Geomorphological and remote sensing techniques,
Geobotanical and geochemical methods. Bore hole logging and survey. Origin of coal, Stratigraphy of coal measures, Fundamentals of coal petrology, peat, lignite, bituminous and anthracite, Industrial application of coal, Indian coal deposits,
Origin, accumulation, migration and entrapment of natural hydrocarbons, characters of reservoir rocks, structural, stratigraphic and mixed traps, geographical and geological distribution of petroliferous basins of India. Gas hydrates and Coal Bed Methane occurrences, Mineralogy and geochemistry of radioactive minerals, distribution of radioactive minerals in India, Radioactive methods in petroleum exploration-well logging techniques, nuclear waste disposal-geological constraints.


13. Photo Geology, Remote Sensing, GIS and GPS: Elementary idea about photogeology; electro-magnetic spectrum, types & geometry of aerial photographs; factors affecting aerial photography; Fundamentals of remote sensing; remote sensing systems; remote sensing sensors; signatures of rocks, minerals and soils. Application of remote sensing in geosciences and geomorphological studies. Types of Indian and Foreign Remote Sensing Satellites, Digital image processing; fundamental steps in image processing; elements of pattern recognition and image classification, Geographic Information System (GIS), components of GIS; product generation in GIS; tools for map analysis; integration of GIS with remote sensing. Geographic positioning system (GPS), scope of GPS, advantages and uses of GPS in different fields.

14. Mining Geology: Alluvial, open- pit and underground mining methods; mine organization and operation; mine hazards. Sampling techniques, drilling methods, estimation of ore reserves, Cost of mining; future costs and profits; life of mine; present value of mine. Environmental issues with mining.

12. LETTER PRESS (PRINTING TECHNOLOGY) (DEGREE LEVEL)

Printing Processes, Paper & Ink Technology
Ink – Ingredients, Manufacturing of Ink, Properties of Ink, Drying Mechanism, Inks used in Different Printing Processes and their Properties, Ink Problems

Offset Process, Gravure Process & their Surface Preparation

Flexography, Screen Printing & their Surface Preparation

Pre-Press Technology

Print Finishing, Packaging & Converting
Packaging & Converting – Functions, Criteria, Types, Role of Designing in Packaging, Carton Making, Manufacturing of Corrugated Boxes, Rigid Boxes, and other Materials used for Packaging, Different Converting Processes, Bar Coding

Specialty Printing Technologies, Advertising & Quality Control


Advertising – Different Medias, Types of Print Media, Advertisement creation and Promotion, Advertising Ethics, Legal Issues, Copy rights, Elements of Marketing, Channel distribution

Quality Control – Objectives, Functions, Benefits – Quality control as Management tool, Quality control in all areas of Printing, Print Quality checking devices, Standards and their tolerances, Different ISO’s.

13. MECHANICAL ENGINEERING (DEGREE LEVEL)

Section I: Applied Mechanics and Design

Engineering Mechanics: Free-body diagrams and equilibrium; Friction, rolling friction, belt – pulley, screw jack, wedge, Trusses and Frames; Virtual work; Kinematics and Dynamics of Particles and Rigid Bodies in Plane Motion; Impulse and Momentum (Linear and Angular) and Energy Formulations; Impact.

Strength of Materials: Stress and Strain, Stress-Strain Relationship and Elastic Constants, Poisson’s Ratio; Mohr’s Circle For Plane Stress and Plane Strain; Thin Cylinders; Shear Force and Bending Moment Diagrams; Bending And Shear Stresses; Deflection Of Beams; Torsion Of Circular Shafts; Euler’s Theory Of Columns; Energy Methods; Thermal Stresses; Testing Of Materials with Universal Testing Machine (UTM); Hardness And Impact Strength.

Theory of Machines: Displacement, Velocity and Acceleration Analysis of Plane Mechanisms; Dynamic Analysis of Slider-Crank Mechanism; Gears and Gear Trains; Flywheels, Gyroscope and Governors; Balancing of Reciprocating and Rotating Masses.

Vibrations: Free and Forced Vibration of Single Degree of Freedom Systems, Effect of Damping; Vibration Isolation; Resonance; Critical Speeds of Shafts.

Machine Design: Design For Static and Dynamic Loading; Failure Theories; Fatigue Strength; S-N Diagram; Design of Machine Elements such as Bolted, Riveted and Welded Joints, Shafts, Spur Gears, Rolling and Sliding Contact Bearings, Springs, Brakes and Clutches.

Section II: Fluid Mechanics and Thermal Sciences


Thermodynamics: Thermodynamic systems and processes; properties of pure substances, behavior of ideal and real gases; zeroth and first laws of thermodynamics, calculation of work and heat in various processes; second law of thermodynamics; thermodynamics property, availability and irreversibility; thermodynamic relations.

Power Engineering: Air compressors-Reciprocating and rotary compressors;Rankine, Brayton Cycles with Regeneration, Inter cooling and Reheat.


Section III: Materials, Manufacturing and Industrial Engineering


Metal Casting: Design of Patterns, Moulds and Cores; Solidification and Cooling; Riser and Gating Design.
Metal Forming: Plastic Deformation and Yield Criteria; Fundamentals of Hot and Cold Working Processes; Load Estimation for Bulk (Forging, Rolling, Extrusion, Drawing) and Sheet (Shearing, Deep Drawing, Bending) Metal Forming Processes; Principles of Powder Metallurgy.


Machining and Machine Tool Operations: Mechanics of Machining; Basic Machine Tools; Single and Multi-Point Cutting Tools, Tool Geometry and Materials, Tool Life and Tool Wear; Economics of Machining; Principles of Non-Traditional Machining Processes; Principles of Work Holding Devices, Principals of Jigs and Fixtures.

Metrology and Inspection: Limits, Fits and Tolerances; Linear and Angular Measurements; Comparators; Gauge; Interferometry; Form and Surface Finish Measurement; Alignment and Testing Methods; Tolerance Analysis in Manufacturing and Assembly.

Computer Integrated Manufacturing: Basic concepts of CAD/CAM and their integration tools.

Production Planning and Control: Forecasting Models, Aggregate Production Planning, Scheduling, Material Requirement Planning.

Inventory Control: Deterministic Models; Safety Stock Inventory Control Systems.

Operations Research: Linear Programming, Simplex Method Transportation, Assignment, Simple Queuing Models, PERT and CPM.

14. METALLURGICAL ENGINEERING (DEGREE LEVEL)

MINERAL PROCESSING AND PRINCIPLES OF EXTRACTIVE METALLURGY:
Ore Dressing, Sampling of ores, Communion: sizing, Concentration operations, Classification, Jiggging, Flotation; Basics of Pyrometallurgy, Hydrometallurgy and Electrometallurgy.

PHYSICAL METALLURGY AND HEAT TREATMENT:
Phase diagrams, Crystal structures, Solidification of metals, Iron carbon diagram, Metallography, Heat treatment process, CCT diagrams, hardenability; Superalloys, shape memory alloys – classification, heat treatment; properties and applications.

METALLURGICAL THERMODYNAMICS:
Thermodynamics: concepts of system, First Law of Thermodynamics, Kirchhoff's equation; Second Law and third law of Thermodynamics, Enthalpy and entropy, Boltzmann equation. Energy Functions: Helmholtz and Gibbs energy change; Application of the Clausius – Clapeyron equation; Solutions: Composition, Concept of chemical potentia, partial moal quantities, Gibb's - Duhem equation; Application of Ellingham diagrams to process metallurgy.

MECHANICAL METALLURGY:
Plastic Deformation in Metals and Alloys: concept of dislocation; slip and twinning, theories of fracture, Griffith’s theory of brittle fracture, ductile fracture; Hardness tests; Tension Test, stress-strain curves, DBTT curve, Fatigue Test, Creep and Stress Rupture.

IRON & STEEL MAKING:
Principles of Iron making, Preparation of iron ores; Iron making through blast furnace, Physical chemistry of Iron making, Control of C, Si, S, P in pig iron. Blast furnace Slags and its properties; Blast furnace operations and difficulties, modern trends in blast furnace; steel making: Principles and types of deoxidation, fundamentals of direct reduction, applications of DRI. Coal based DR processes; Smelting Reduction Processes.

NON FERROUS EXTRACTIVE METALLURGY:
Copper: Matte smelting, converting; Fire refining; Electrolytic refining; Hydro- Metallurgical copper extraction; Zinc production in retort process and Blast furnace; Lead: Blast furnace smelting, Refining of lead bullion. Aluminum: Bayer process, Hall - Heroult process, Anode effect; Magnesium: Production of a hydrous Magnesium chloride from seawater, Pidgeon and Handspring processes; Titanium: Upgrading of ilmenite, chlorination of titanium, Kroll's process; Uranium: Acid and alkali processes for digestion of uranium ores, Purification of crude salt, Production of reactor grade UC2 and uranium.

MECHANICAL WORKING OF METALS:
Stress and Strain Relationship for Elastic Behavior: State of stress in two dimensions. Mohr’s circle of stress in two dimensions, Elements of Theory of Plasticity; Fundamentals of Metal Working; Classification of forming processes; forging: Classification, Forging defects, Rolling of Metals and Extrusion.
POWDER METALLURGY OF METALS:
Importance of powder metallurgy, Characterization of Powders: Compaction, Sintering, Mechanisms of solid state and liquid phase sintering; Testing and quality control, metallic and ceramic P/M components; Applications of P/M products.

NON - METALLIC MATERIALS:
Definition and classification of nonmetallic materials, Ceramics: Introduction, classification, structure, and applications of ceramics; Glasses: Classification and applications; Composites: Manufacturing of Polymer matrix, metal matrix, and ceramic matrix composites.

MATERIAL PROCESSING (CASTING & WELDING):
Types of Foundries, Patterns and allowances, Moulding materials, Moulding Processes, Casting Methods, Melting and Solidification, casting defects; welding processes: Gas Welding, Arc Welding processes, MMAW, GTAW, MIG, SAW and Resistance Welding, Metal Joining Techniques, Weldability, Microstructure of welds.

FURNACE TECHNOLOGY & PYROMETRY:
Steady State Heat Transfer; Furnaces Characteristic features of vertical shaft furnaces, reverberatory furnaces, Electric Arc and Induction furnaces. Pyrometry.

NON DESTRUCTIVE TESTING:
Visual methods; Penetrant flaw detection, Magnetic particle testing, Eddy current testing, ultrasonic testing and Radiographic testing methods.

SUPER ALLOYS:
Classification and selection of superalloys, Relationship of properties to Microstructure in superalloys; Melting of Superalloys: Principles and practices of vacuum Induction Melting and Vacuum Arc melting Forming Methods.

15. PACKAGING TECHNOLOGY (DEGREE LEVEL)

Packaging basics
History and concept of packaging, Ancient Modern History of food packaging – packaging evolution – super market- its Chronological developments, its need and role in society, Physical and Physio-chemical characteristics of a product, functions of packaging, components, various types of hazards, packaging laws and regulations, corrosion prevention in packaging including preventive coating methods.

Product compatibility –Permeability, definition of migration and types of migrations, laws on diffusion, Ficks Law and Barriers law. Plasticizers, their types, functions and applications, Shelf life, its controlling factors, testing procedures and devices.

Packaging materials
Properties, types, conversion processes, applications and quality control of primary packaging materials such as paper, paper board, CFB, plastics and plastic films, elastomers glass, metals, composite containers, laminations, wood and ancillary materials like adhesives, cushioning, labels, labeling including marking & bar codes seals, closures & dispensing devices, cylindrical and rectangular shipping packages, flexible shipping packages, pallets & unit loads.

Testing of packaging materials
Surface, physical, chemical, printability tests, compatibility and shelf life studies, testing methods including identification of plastics, performance testing methods for evaluation of transport packages, mechanical tests - drop test, vibration test - compression test - impact test - rolling test, climate test: rain test - sound and dust tests - salt spray test - fungus resistance tests.

Packaging of pharmaceuticals
Concept of drug, general aspects of drug package, basic terminology, FDA, ampoule, vial, caplet, capsule, DMF, parenteral drug, USP, BP, CRP, classification of pharmaceuticals, preparation of various pharmaceutical products, spoilage mechanisms, various hazards, national and international regulators and pharmacopoeias, labels, leaflets, barcodes, track and trace and anti-counterfeit methods, materials used for pharmaceutical packaging - glass, metals, plastics, plastic films, elastomers, paper and paper board-their properties advantages and various applications, fabrication and filling of various containers, container filling and
sterilization processes. Closure by adhesives, closure by separate devices, cans, bottles, jars, tubes, closure materials for pharmaceutical products, child resistant packaging, testing procedure, various primary and secondary packages used for pharmaceuticals including medical administrative devices, concept of QbD in package development.

**Product packaging**

Packaging of dairy, fresh, frozen and irradiated foods, confectionery, beverages, horticultural crops, engineering goods, electronic goods, soaps and detergents, desired attributes of a soaps & detergents, fertilizers, pesticides, chemicals, textiles and handicrafts, cosmetics and personal care, aerosols, dangerous goods, major factors governing the selection of packaging materials & packages, economics, transport, storage and legal obligations.

**Packaging design**


**Package printing**


**Packaging processes and machines**

Various methods of filling and sealing of liquid, semi liquid and dry products – bottling, canning & machineries involved, wrapping and bundeling, bags manufacture, filling and closing, types of bags -BIB packages, system packaging, selection of appropriate system, salient features of different types of systems, lined carton system, coated and laminated carton system, stand up pouches, aseptic filling and packaging systems. Vacuum packaging, gas packaging, strip, skin and blister packaging machines - blow & injection moulding machines, metallization, thermo forming, and form fill and seal machines.

**Packaging management and economics:** Introduction, importance of economy in production role of packaging in national economy. Packaging in general economy, total packaging cost, transport cost, functional or protective packaging, effect of improvement in packaging design, substitute of resources, recycling resources - Uses of different packaging materials, packaging material cost. Relation of packaging cost and percentage lost in packaging materials - Computation of cost for different packages like CFB aluminum cans, containers etc., Bottles, Closures, Rigid Carton, Folding Carton etc.

**Eco-friendly and export packaging**

16. PHARMACY (DEGREE LEVEL)

i. History of Pharmacy: Code of ethics in Pharmacy, Posology; Principles of dispensing of mixtures, emulsions, powders and suppositories; Different types of Incompatibilities.

ii. Pharmacy Act; Drugs and Cosmetics Act and Rules; Drugs price control order including amendments.

iii. Methods of Sterilization and test for sterility; Preparation of vaccines, Sera and Anti-toxins; Manufacture of Penicillin and Streptomycin.

iv. Methods of classification of crude drugs; Adulteration and evaluation of crude drugs.

v. Introduction to secondary metabolites: Definition, classification, properties and test for identification of Alkaloids, Glycosides, Flavonoids, Tannins, Volatile oil and Resins.

vi. Pharmacognosy of Senna, Digitalis, Ispaghula, Cinchona, Cinnamon, Rauwolfia, Podophyllum, Ergot, Cod liver oil and Gelatin.

vii. Principles, instrumentation and applications of Colorimetry, Spectrophotometry, fluorimetry, gas chromatography and High performance liquid chromatography.


ix. Theory and applications of rheology (Newtonian and Non-Newtonian); Colloidal and interfacial phenomenon and their applications; Coarse dispersion (emulsions and suspensions).

x. Physico-Chemical, formulation and biological factors efecting drug absorption.

xi. Drug discovery and clinical evaluation of new drugs- Drug discovery phase, preclinical evaluation phase, clinical trial phase, phases of clinical trials and pharmaco vigilance.

Preformulation Studies: Introduction to preformulation, goals and objectives, study of physicochemical characteristics of drug substances. BCS classification of drugs & its significance; Application of preformulation; considerations in the development of solid, liquid oral and parenteral dosage forms and its impact on stability of dosage forms.

Formulation, technology and qualify control of tablets, capsules, liquid orals, aerosols, creams and ointments, injectables and sustained release medicaments.

xii. Drug stability: Reaction kinetics; Physical and chemical factors influencing the chemical degradation of pharmaceutical product, specific & general acid base catalysis, Stabilization of medicinal agents against common reactions, Accelerated stability testing, Photolytic degradation and its prevention.


xiv. Structure activity relationship, synthesis, chemical nomenclature and uses of following classes of drugs – Hypnotics and Sedatives; Tranquilizers; Analgesics and Antipyretics; Anti-inflammatory drugs; Diuretics; Anti-hypertensives and Chemotherapeutic Agents.

xv. Pharmacology of Local anaesthetics; Diuretics; Hormones; Hypoglycemic agents; Anti-histaminics; Drugs acting on central nervous system; Adrenergic and Cholinergic drugs and Cardio-vascular agents.

xvi. Pharmacokinetic and Pharmacodynamic drug interactions with suitable examples; Teratogenicity; Drug-induced diseases. Pathophysiology of Diabetes, epilepsy, rheumatoid arthritis, leprosy, cancer, asthma, atherosclerosis.
17. PHYSICS (POST GRADUATE LEVEL)

I. Mathematical Methods of Physics

II. Classical Mechanics

III. Electromagnetic Theory

IV. Quantum mechanics

V. Thermodynamics and statistical Physics

VI. Electronics

VII. Atomic & Molecular Physics

VIII. Condensed Matter Physics

IX. Nuclear and Particle Physics


18. TANNERY ENGINEERING (LEATHER TECHNOLOGY) (DEGREE LEVEL)

A. Skin Proteins and Pre-tannages

3. Chemistry and Principle of different pretanning processes like soaking, liming, deliming, bating and pickling. Different methods of pretanning processes as applied to light, heavy and industrial leathers.

B. Theory of tannages

3. Chemistry and mechanism of Aluminium, Zircoium, titanium, silicate and Phosphate tannages.

C. Leather auxiliaries and post tanning Operations

1) Chemistry of neutralization and bleaching processes.
4) Classification of retanning agents and their application.

D. Practice of Leather Manufacture – i

1) Principles and practices involved in the manufacture of following types of leathers:- E.I. tanning of kips, buffcalf, cowcalf and Goat and Sheep skins. – Vegetable tanned sole leather, Chrome sole leather. Sole leather with improved properties. – Picking band leathers and pickers. – Digressing of E.I. Leathers into different finished leathers such as semichrome glazed kid, lining leathers, ----- leathers and diaphragm leathers. – Kattai and Bunwar leathers. – Specialty leathers for mountaineering shoes, high altitude shoes and pilot gloves.
2) Role of Machinery in Leather Processing.

A. Practice of Leather Manufacture – II

1) Processes and principles involved in manufacture of following types of leather processing of Wetblue leathers – Full Chrome Upper leathers – Upholstry leather Lining leathers – Harness, belting and Saddlery leathers. – Football, Hockey ball, Cricket ball and other sports goods leathers – Chamois leather Fashion garment Leathers – Utility glove leathers.
2) Principle methods and mechanism of drying of leathers.

B. Material Testing & Quality Control
2) Instrumental methods of analysis using potentiometry, spectrophotometry chromatography, ion exchange resins, calorimetry.
3) Analysis of vegetable and mineral tanned leathers- Determination of PCP at azo dyes, (Aryl amine based) in leather.
4) Principles and methods employed in physical testing of leathers.
5) Standards and quality control.

C. Leather Product Technology
1) Footwear: (a) Anatomy of human feet, foot comfort, foot care and their relationship to footwear. Foot and last measurements Shoe sizing and fitting.
   (b) Materials used of footwear – Leather and non-leather materials for upper, -- and components.
   (c) Shoe design and pattern making
   (d) Grading clicking and closing – skiving – stitching – lasting, sole attachment – bending and edge treatments.
   (e) Construction of cemented and welted shoes machines used.
2) Leather goods and garments:- Classification – selection of materials – modern methods of construction and machinery – Hand tools and grinders, zips, linings and fittings – standardization quality control and inventory control.

D. Organisation and Management of Leather manufacture
1. Livestock population of Telangana – availability of hides and skins – marketing of hides/skins
2. Location, lay-out and selection of machinery for tanneries manufacturing different types of leathers – estimates of investment, costing and feasibility.
3. Employment generation – training and training institutes-Telangana state Leather industry Promotion Corporation(TSLIPC),Leather Parks in Telangana- labour laws for tannery occupational health and safety.
5. Type of tannery effluents- characteristic – Different methods of effluent disposal primary and secondary systems – standards and specifications of various type of disposal – soil waste disposal.

19. TEXTILE TECHNOLOGY (DEGREE LEVEL)

I. TEXTILE FIBRES
Basic terms in textiles - classification of textile Fibres --General features natural fibres/fibres – Important varieties and stages in cultivation of natural fibres- Cotton, Wool and Silk. -Physical, microscopic and chemical structure of natural fibres - manufacturing of semi synthetic fibres


II. SPINNING
Methods of Ginning – different methods of yarn manufacture-influence of raw material characteristics on spinning-Blow room - principles of opening, cleaning and mixing - different machines used in blow room and their working principles – transport and control of material flow- Carding - Objectives and principle of carding-various parts of carding machine and their

III. WEAVING


Shuttle-less weaving: Yarn quality requirements for shuttle-less looms- Weft accumulator – classification of shuttleless looms, their featuresand fields of application- types of selvedges– characteristics of fabrics woven on different shuttle less looms –method of weft insertion on Sulzer projectile loom and Rapier loom - types of rapier looms - Dewas system and Gabler system -characteristics features,essential requirements of Air Jet loom- Maxbo Murata Air Jet loom -Traverse aids for maintaining air flow- weft insertionon water jet loom -types and working principle-multi-phase weaving machines-Circular weaving -Terry loom –formation of pile by Terry motion -loom particulars for weaving terry cloth -principle of producing cut pile fabrics - characteristics of yarns used for terry fabrics-representation of basic terry pile structure -working principle and applications of narrow loom-working principle and applications of Tri axial loom.

IV. WOVEN FABRIC DESIGN
Elements of woven fabric design - method of weave representation- procedure of drawing design and constructing draft, denting plan and lifting plan- types of drafts - reed selection in weaving- Classification of weaves -methods of ornamenting fabric,Plain weave and its Derivatives -Design, draft and lifting plan of plain weave-charactersitics of plain weave-ornamenting plain weave - classification of plain cloths - Rib weave and Matt weave designs, draft plan, lifting plan, characteristics and applications- particulars, characteristics and end uses
of standard plain woven fabrics, approximately square plain cloth, warp faced plain cloth, Weft faced plain cloth, Voile fabrics - Twill Weaves - twill weaves- classification- design, draft and lifting plan, characteristic and use products of various classified twill weaves -angle of twill and direction of twill.-factors that determine the prominence of twill weaves- designs of modified twill weaves - twist and twill interaction on appearance of fabric- Compound Weaves-sateen and satin weaves- design, characteristics, quality particulars and end use products of the weaves - Honey comb -Brighton honey comb -Huck – a- back, Mock leno - crepe weaves -methods of producing crepe surface-development of distorted thread effects- Classification, design, Standard quality particulars, end uses, weaving arrangement and loom equipment needed for Bedford cords, Wels and Piques -Principles of colour and weave effects- Extra Threaded, Backed and Double Cloths-methods of increasing weight of fabric -principle and different methods of producing, loom equipment needed for extra thread fabrics -different methods of disposing surplus extra threads -Backed fabrics -steps in construction of backed fabrics - Classification, principles of production and applications of double cloths.

V. CHEMICAL PROCESSING OF TEXTILES

Preparatory for wet processing: Requirements of water for chemical processing of textiles- hard water and soft water - temporary hardness and Permanent hardness - Zeolite process of removing water hardness - mechanism of wetting textile material-functions of soaps and detergents in wet processing- anionic, cationic and nonionic surface active agents-sequence of chemical preparatory treatments for the textiles made by different types of fibres- wet processing of yarns, woven fabrics and knitted fabrics- commonly used chemicals in wet processing of textiles- effect of PH in Chemical processing of textiles -sequestering agents - different methods of singeing, desizing, scouring, bleaching and Mercerising – mercerisation of woven and knitted fabric- evaluation of the chemical preparatory processes.


VI. APPAREL PRODUCTION


Sewing:Stitching machines required for garment industry - lock stitch formation - reasons for thread break, needle break and skip stitch - safety rules for garment sewing machine operator-types of garment stitches - types of stitches for knit fabrics - types of sewing machines - seam - types of seams and their uses - Seam defects and seam quality defects - causes of seam puckering.
Garment accessories, Packing and Finishing: Classification of garment accessories - garment closures - types and functions of interlining-requirements of fusing process - methods of resin coating for fusible interlining - features, scope and working principle of continuous fusing machine-, support materials – stays, lining, interfacing, shoulder pad- Pressing-principles, methods and components of pressing - principle of pleating -information contained in labels - types of labels -meaning of international care labelling codes - packing accessories and their functions. Decorative garment accessories - Features, types and uses of Lace fabrics - types of stays -classification and functions of different trimmings -types and manufacturing process of Ribbon - Bias tape - process of direct —to- Garment printing -garment decoration techniques – Appliques, Bias trimming, Ruffles , Smocking and Faggoting.

Apparel Merchandising: Flow chart of merchandising-activities-qualities and skills of merchandiser -key players in the apparel industry -sourcing of Raw material -types of merchandisers in apparel industry -various items required for production file -Buyer inspection - tracking system for effective merchandising -basic terms of Fashion terminology -Fashion cycle in Garment industry-functions of fashion Merchandiser -steps in marketing of fashion design - qualities of successful fashion designer -variations in fashion adoption -consumer identification with fashion cycles -tasks of Retail Merchandiser -objectives of Visual Merchandising-functions of Visual Merchandiser- essential tools used for Visual Merchandising

VII. TEXTILE TESTING


VIII. STATISTICAL TOOLS AND QUALITY CONTROL

Causes of variation in textiles- calculation of standard deviation, variance, coefficient of variation - control limits and specification limits- control charts-types of control charts- Control charts for averages, range, fraction defective, number of defects -control line, Upper control limit and lower control limit for each chart- chance causes and assignable causes-Process capability- Six sigma - characteristics of normal distribution curve-problems on significance testing for mean and dispersion-correlation - Methods of studying correlation- uses of correlation- calculation of Karl Pearson coefficient of correlation- Concept and importance of quality- definitions of basic terms related to quality-elements of quality management -divisions of cost of quality- quality costs in relation to the garment manufacturing – benefits and importance of standards-sources of standards for textiles-Quality Management Systems - ISO 9000 Standards- TQM- quality improvement program by Kaizen- 5 S quality system- quality circles- Seven tools of quality Improvement-Flow chart, Cause and effect diagram, Pareto diagram, Check sheets, Histogram, Scatter diagram and Run charts.

IX. TEXTILE MATHEMATICS

Micronaire - yarn diameter- problems on direct and Indirect yarn count systems - conversion factors-count of folded yarn – Calculations in Cotton spinning - bale density -blows / inch of a beater - Waste % and cleaning efficiency of a beater and blow room –cleaning efficiency of a card -surface speed - drafts in various departments - creel table draft, break draft, main draft, web draft and total draft - Draft constant and change wheel –hank of delivery sliver – linear density of lap –production and production efficiencies of various machines in spinning-
XI. technical textiles


ANNEXURE – IV

INSTRUCTIONS TO CANDIDATES:

A) GENERAL INSTRUCTIONS TO CANDIDATES

1) Candidates are directed to follow the Commission’s Website (https://www.tspsc.gov.in) regularly to know the latest developments regarding the Recruitment, dates of Examination, calling of candidates for verification of Certificates/ Medical Boards, Results etc.

2) The Hall Ticket must be presented for entry into the examination hall along with one original valid Photo identification card issued by Government i.e., Passport, Pan Card, Voter ID, Adhaar Card, Government Employee ID or Driving License etc., without fail.

3) Candidates are strictly not allowed inside the Examination centre after closing the gate.

4) EDIT OPTION TO THE CANDIDATES: The applicants should follow the TSPSC website regularly to utilize the edit option to rectify the mistakes viz., Biodata particulars/Data corrections / Omissions etc., in the application, if the facility is given by the Commission. If the edit option facility is not utilized by the candidates, the TSPSC is not responsible and the data already available is treated as final. After the due date, Data corrections through Online/Paper representations or Corrections on the Nominal Rolls in the examination hall will not be accepted under any circumstances. No correspondence will be entertained in this matter.

5) There will be a common examination for Paper-I i.e., General Studies as decided by the Commission, whenever required.

6) The candidates must note that his/her admission to the examination is strictly provisional. The mere fact that an Admission to the examination does not imply that his/her candidature has been finally cleared by the Commission or that the entries made by the candidate in his/her application have been accepted by the Commission as true and correct. The candidates have to be found suitable after verification of original certificates; and other eligibility criteria. The Applicants have to upload his/her scanned recent colour passport photo and signature to the Application Form. Failure to produce the same photograph, if required, at the time of verification, may lead to disqualification.

7) The candidates are not allowed to bring any Electronic devices such as Smart / Mobile phones, Calculators, tablets, iPad, Bluetooth, pagers, watches to examination centre. Loaning and interchanging of articles among the candidates is not permitted in the examination hall and any form of malpractice will not be permitted in the exam hall.

8) The candidates are expected to behave in an orderly and disciplined manner while writing the examination. If any candidate takes away Answer Sheet of OMR based examination, the candidature will be rejected. In case of impersonation/ disorder/ rowdy behavior during Examination, cases shall be booked in the Police Station concerned, apart from disqualifying his /her candidature.

9) Candidates trying to use unfair means shall be disqualified from the selection. No correspondence whatsoever will be entertained from the candidates.

10) The Commission is also empowered to invoke the penal provisions of the T.S. Public Examinations (Prevention of Malpractices and Unfair means) Act, 1997 (Act No.25/1997) for matters connected therewith or incidental thereto and as per the Rules of Procedure of TSPSC published in Telangana Gazette No: 60 dated 28/12/2015 in respect of this Notification.

11) (i) The candidates who are totally blind are allowed to write the examination with the help of scribe provided by TSPSC and 20 minutes extra time is permitted to them per hour.

(ii) Scribe will be provided by TSPSC to those candidates who do not have both the upper limbs for Orthopedically Handicapped. However, no extra time will be granted to them.

(iii) Scribe will be provided to the above category of candidates who applied for scribe facility in the online application only.

(iv) An extra time of 20 minutes per hour is also permitted for the candidates with locomotor disability and CEREBRAL PALSY where dominant (writing) extremity is affected for the extent slowing the performance of function (Minimum of 40% impairment). Scribe is allowed to such candidates also.

(v) The scribe should be from an academic discipline other than that of the candidate and
the academic qualification of the scribe should be one grade lower than the stipulated eligibility criteria.

(vi) The candidate as well as the scribe will have to give a suitable undertaking confirming the rules applicable.

B) INSTRUCTIONS TO CANDIDATES REGARDING OMR BASED EXAMINATION

1) The candidates have to report to the examination venue at least 30 minutes before the commencement of examination, to record their Photo Image/thumb impression on Biometric system.

2) The candidate should satisfy the Invigilator of his identity with reference to the Signature and Photograph available on the Nominal Roll and Hall Ticket.

3) The candidates should go through the instructions given on the cover page of test booklet and OMR Answer Sheet which will be provided to him/her in the examination hall and carefully write his/her Hall Ticket Number, Subject / Paper Code, Question Booklet Number, Name of the Examination Centre etc., on the OMR Answer Sheet. The candidates have to USE BALL POINT PEN (BLUE/BLACK) ONLY to fill up relevant columns on the Answer Sheet including MARKING OF THE ANSWERS. Bubbling by Pencil / Ink Pen / Gel Pen is not permitted in the examination.

4) The candidate must write all the relevant columns in the Answer sheet and also encode (bubble) correctly such as Hall Ticket Number, Question Booklet Series and Paper Code on the OMR Answer Sheet carefully and to Sign in the space provided for on Side-1 of the Answer Sheet and ensure the Signature of the Invigilator, etc., on it, failing which the Answer sheet will be rejected. Use of whitener / eraser / chalk-powder etc., is strictly prohibited on the OMR Answer sheet/ Question Paper.

5) Candidate should encode the Hall-Ticket Number and Paper Code first carefully on OMR Answer Sheet. After receiving the Question Paper only, candidate should verify and encode Question Booklet Number on the OMR Answer Sheet.

6) OMR Answer sheets cannot be replaced under any circumstances in case of wrong bubbling.

7) If there is any defect in the Test Booklet or OMR Answer Sheet, please ask the invigilator for replacement immediately.

8) The OMR Answer sheets are to be scanned (valued) with Optical Mark Reader. The Digital copy of OMR Answer Sheets will be made available on the Commission’s website immediately after completion of the image scanning.

9) No candidate should leave the examination hall till expiry of fulltime. After writing the examination the candidate has to handover the OMR Answer sheet to the invigilator in the examination hall. If any candidate takes away the OMR Answer sheet, his/her candidature will be rejected.

10) The Commission would be analyzing the responses of a candidate with other appeared candidates to detect patterns of similarity. If it is suspected that the responses have been shared and the scores obtained are not genuine/ valid, the Commission will invalidate the OMR Answer Sheet and cancel his/ her candidature.

C) INSTRUCTIONS FOR CANDIDATES REGARDING CBRT EXAMINATION

1) Candidates shall report at the venue one hour (60 minutes) before the Commencement of Examination as the candidates have to undergo certain procedural formalities required for CBRT examination.

2) Date and Time of the Examination are mentioned in the Hall-Ticket

3) The examination link with the login screen will already be available on your system. Please inform the invigilator if this is not the case.

4) 10 minutes prior to the exam, you’ll be prompted to login. Please type the Login ID (H T No.) and the Password (Password for Candidate will be given on exam day) to proceed further.

5) Invigilator will announce the password at 09.50 AM and 02.20 PM in cases if Examination is at 10:00 A.M and 2:30 P.M respectively.

6) Copying or noting down questions and/or options is not allowed. Severe action will be taken if any candidate is found noting down the questions and/or options.

7) After logging in, the following will be displayed on your Computer screen:
   - Profile Information - Check the details & click on “I Confirm” or “I Deny”.
   - Detailed exam instructions - Please read and understand thoroughly.
   - Please click on the “I am ready to Begin” button.

8) After reading the instructions, you have to use the mouse to answer the multiple-
choice type questions having FOUR alternative answer choices.

9) To answer any numerical answer type question, you need to use the virtual numeric key pad and the mouse.

10) On the online exam question screen, the timer will display the balance time remaining for the completion of exam.

11) The question numbers are color coded and of different shapes based on the process of recording your response:
   - White (Square) - For un-attempted questions.
   - Red (Inverted Pentagon) - For unanswered questions.
   - Green (Pentagon) - For attempted questions.
   - Violet (Circle) - Question marked by candidate for review to be answered later.
   - Violet (Circle with a Tick mark) - Question answered but marked by candidate for review.

12) After answering a question, click the SAVE & NEXT button to save your response and move onto the next question.

13) Click on Mark for Review & NEXT to mark your question for review, and then go to the next question.

14) To clear any answer chosen for a particular question, please click on the CLEARRESPONSE button.

15) A summary of each section, (i.e. questions answered, not answered, marked for review) is available for each section. You have to place the cursor over the section name for this summary.

16) In case you wish to view a larger font size, please inform the Invigilator. On the Invigilator's confirmation, click on the font size you wish to select. The font size will be visible on the top.

17) You may view INSTRUCTIONS at any point of time during exam, by clicking on the INSTRUCTIONS button on your screen.

18) The SUBMIT button will be activated after 150 Minutes. It will continue for an additional 50 Minutes for PH candidates eligible for compensatory time. Please keep checking the timer on your screen.

19) In case of automatic or emergency log out, all your attempted questions and their responses will be saved. And also, the exam will start from the time where it had stopped.

20) You will be provided a blank sheet for rough work. Do write your Login ID and Password on it. Please ensure that you return it to the invigilator at the end of the exam after tearing ONLY the password from it.

21) Please don’t touch the key board as your exam ID will get locked. If your ID gets locked, please inform your invigilator who will help in unlocking your ID and then you can continue with the exam.

22) Please inform the invigilator in case of any technical issues.

23) Please do not talk to or disturb other candidates.

24) In case you are carrying articles other than the admit card, photo identity proof and pen, please leave them outside the exam room.

25) These are model instructions and candidates have to follow latest instructions issued along with Hall tickets.
LIST OF SCHEDULED CASTES

1. Adi Andhra
2. Adi Dravida
3. Anamuk
4. Aray Mala
5. Arundhatiya
6. Anwa Mala
7. Bariki
8. Bavuri
9. Beda (Budga) Jangam
10. Bindla
11. Byagara, Byagari
12. Chachati
13. Chalavadi
14. Chamar, Mochi, Muchi, Chamar-Ravidas, Chamar- Rohidas
15. Chambhar
16. Chandala
17. Dakkal, Dokkalwar
18. Dandasi
19. Dhor
20. Dom, Dombara, Paidi, Pano
21. Ellamalawar, Yellammalawandlu
22. Ghasi, Haddi, Relli, Chanchandi
23. Godari
24. Gosangi
25. Holeya
26. Holeya Dasari
27. Jaggali
28. Jambuvulu
29. Kolupulvandlu, Pambada, Pambanda, Pambala
30. Madasi Kuruva, Madari Kuruva
31. Madiga
32. Madiga Dasu, Mashteen
33. Mahar
34. Mala, Mala Ayawaru
35. Mala Dasari
36. Mala Dasu
37. Mala Hannai
38. Malajangam
39. Mala Masti
40. Mala Sale, Nethani
41. Mala Sanyasi
42. Mang
43. Mang Garodi
44. Manne
45. Mashti
46. Matangi
47. Mehtar
48. Mitha Ayyalvar
49. Mundala
50. Paky, Moti, Thoti
51. Pamidi
52. Panchama, Pariah
53. Relli
54. Samagara
55. Samban
56. Sapru
57. Sindhollu, Chindollu
58. Yatala
59. Valluvan
LIST OF SCHEDULED TRIBES

1. Andh, Sadhu Andh
2. Bagata
3. Bhil
4. Chenchu
5. Gadabas, Bodo Gadaba, Gutob Gadaba, Kallayi Gadaba, Parangi Gadaba, Kathera Gadaba, Kapu Gadaba
6. Gond, Naikpod, Rajgond, Koitur
7. Goudu (in the Agency tracts)
8. Hill Reddis
9. Jatapus
10. Kammara
11. Kattunayakan
12. Kolam, Kolawar
13. Konda Dhoras, Kubi
14. Konda Kapus
15. Kondareddis
16. Kondhs, Kodi, Kodhu, Desaya Kondhs, Dongria Kondhs, Kuttiya Kondhs, Tikiria Kondhs, Yenity Kondhs, Kuvinga
17. Kotia, Benthoo Oriya, Bartika, Dulia, Holya, Sanrona, Sidhopaiko
18. Koya, Doli Koya, Gutta Koya, Kammara Koya, Musara Koya, Oddi Koya, Pattidi Koya, Rajah, Rasha Koya, Lingadhari Koya (ordinary), Kottu Koya, Bhine Koya, Rajkoya
19. Kulla
20. Manna Dhora
21. Mukha Dhora, Nooka Dhora
22. Nayaks (in the Agency tracts)
23. Pardhan
24. Porja, Parangiperja
25. Reddi Dhoras
26. Rona, Rena
27. Savaras, Kapu Savaras, Maliya Savaras, Khtuto Savaras
28. Sugalis, Lambadis, Banjara
29. Thoti (in Adilabad, Hyderabad, Karimnagar, Khammam, Mahbubnagar, Medak, Nalgonda, Nizamabad and Warangal districts)
30. Yenadis, Chella Yenadi, Kappala Yenadi, Manchi Yenadi, Reddi Yenadi
31. Yerukulas, Koracha, Dabba Yerukula, Kunchapuri Yerukula, Uppu Yerukula
32. Nakkala, Kurvikaran.

LIST OF SOCIALLY AND EDUCATIONALLY BACKWARD CLASSES

As per G.O. Ms. No. 16 Backward Classes Welfare (OP) Department, Dated:11.03.2015 and read with G.O.MS.No. 34, Backward Classes Welfare (OP) Department, Dated: 08/10/2015, G.O. Ms. No. 4 Backward Classes Welfare (OP) Department, Dated: 30/01/2016, G.O.Ms.No. 3 Backward Classes Welfare (B) Department, Dated: 09-09-2020

STATE LIST OF BCs
(List of Backward Classes of Telangana State)

GROUP-A
( Aboriginal Tribes, Vimuktha Jathis, Nomadic and Semi-Nomadic Tribes etc.)

1 Agnikulakshatriya, Palli, Vadabaliya, Bestha, Jalari, Gangavar, Gangaputra, Goondla, Vanyakulakshatriya (Vannekapu, Vannereddi, Pallikapu, Pallireddi) Neyyala, Pattapu.
2 Balasanthu, Bahurupi
3 "Bandara"
4 Budabukkala
5 Rajaka (Chakali, Vannar)
6 Dasari (formerly engaged in Bikhatana i.e., Beggary)
7 Dommara
8 Gangireddivaru
9 Jangam (whose traditional occupation is begging)
10 Jogi
11 Katipapala
12 "Korcha"
13 Lambada or Banjara in Telangana area (deleted and included in ST list vide. G.O.Ms.No.149, SW, Dt.03.05.1978)
14 Medari or Mahendra
15 Mondivaru, Mondibanda, Banda
16 Nayi-Brahmin/Nayee-Brahmin (Mangali), Mangala and Bhajantri
17 Nakkala (deleted vide. G.O.Ms.No.21, BCW (C2) Dept., Dt.20.06.2011, since it is included in the list of Scheduled Tribes at Sl.No.34 vide. Scheduled Castes and Scheduled Tribes Order (Amendment) Act, 2002 (Central Act No.10 of 2003)
18 Vamsha Raj / Pitchigunta
19 Pamala
20 Pardhi (Nirshikari)
21 Pambala
22 Peddammavandlu, Devaravandlu, Yellammavandlu, Mutyalammavandlu, Dammali / Dammala / Dammula / Damala
23 Veeramushti (Nettikotala), Veerabhadreeya
24 Valmiki Boya (Boya, Bedar, Kirataka, Nishadi, Yellapi, Pedda Boya), Talayari, Chunduvallu (Yellapi and Yellapu are one and the same as clarified vide. G.O.Ms.No.61, BCW (M1) Dept., Dt.05.12.1996)
25 Yerukala in Telangana area (deleted and included at Sl.No.31 in the list of STs)
26 Gudula
27 Kanjara – Bhatta
28 *[Kalinga]
29 Keppmare or Reddika
30 Mondepatta
31 Nakkar
32 Pariki Muggula
33 Yata
34 Chopemari
35 Kaikadi
36 Joshinandiwlas
37 Odde (Oddilu, Vaddi, Vaddelu), Vaddera, Vaddabhovu, Vadiyara, Waddera
38 Mandula
39 Mehtar (Muslim)
40 Kunapuli
41 Patra
42 *[Kurakula]
43 *[Pondara]
44 *[Samanthula /Samantha/ Sountia / Sauntia]
45 Pala-Ekari, Ekila, Vyakula, Ekiri, Nayanivaru, Palegaru, Tolagari, Kavali (area confined to Hyderabad and Rangareddy Districts only)
46 Rajannala, Rajannalu (area confined to Karimnagar, Warangal, Nizamabad and Adilabad Districts only)
47 Bukka Ayyavars
48 Gotrala
49 Kasikapadi / Kasikapudi (area confined to Hyderabad, Rangareddy, Nizamabad, Mahaboobnagar and Adilabad Districts only)
50 Siddula
51 Sikligar/ Saikalgar
52 Poosala (included vide. G.O.Ms.No.16, BCW(C2) Dept., Dt.19.02.2009 by deleting from Sl.No.24 under Group-D)
53 *[Asadula / Asadula]
54 *[Keuta / Kevuto / Keviti]
55 Orphan and Destitute Children who have lost their parents before reaching the age of ten and are destitute; and who have nobody else to take care of them either by law or custom; and also who are admitted into any of the schools or orphanages run by the Government or recognised by the Government.
56 Addapuvaru
57 Bagothula/ Bhagavathula
58 Bail Kammara/ Ghisadi/ Gadiya Lohar
59 Enooti/ Venetivallu
60 Ganjikutu/ Ganjikutivaru
61 Gouda Jetti
62 Kakipadagala
63 Patamvaru/ Masaiahlu
64 Odd/ Od/ Oad
65 Sonnayila/ Sannayila/ Sannayollu
66 Sri Kshatriya Ramajogi/ Ramajogi/ Ramajogula
67 Theracheeralu/ Telsoori/ Baikani
68 Tholubommalatavaru/ Boppala
GROUP-B
(Vocational Groups)

1 *[Achukatlavandlu]
2 Aryakshatriya, Chittari, Giniyar, Chitrakara, Nakhas
3 Devanga
4 Goud [Ediga, Gouda (Gamalla), Kalalee, Gounda, [*settibaila of Visakhapatnam, East Godavari, West Godavari and Krishna districts] and Srisayana (Segidi)]
5 Dudekula, Laddaf, Pinjari or Noorbash
6 Gandla, Telikula, Devathilakula
7 Jandra
8 Kummara or Kulala, Salivahana
9 Karikalabahkthulu, Kaikolan or Kaikala (Sengundam or Sengunther)
10 Karnabhakthulu
11 Kuruba or Kuruma
12 *[Nagavaddilu]
13 Neelakanthi
14 Patkar (Khatri)
15 Perika (Perika Balija, Puragiri kshatriya)
16 Nessi or Kurni
17 Padmasali (Sali, Salivan, Pattusali, Senapathulu, Thogata Sali)
18 Srisayana (Segidi) (deleted vide. G.O.Ms.No.63, BCW (M1) Dept., Dt.11.12.1996 and added to Sl.No.4 of Group-B)
19 Swakulasali
20 Thogata, Thogati or Thogataveerakshatriya
21 Viswabrahmin (Ausula, Kamsali, Kammari, Kanchari, Vadla or Vadra or Vadrangi and Silpis), Viswakarma
22 *[Kunchiti / Vakkaliga / Vakkiligara / Kunchitiga]
23 Lodh/ Lodhi/ Lodha (area confined to Hyderabad, Rangareddy, Khammam and Adilabad Districts only)
24 Bondili
25 Are Marathi, Maratha (Non-Brahmins), Arakalies and Surabhi Natakalavallu
26 Neeli (included vide. G.O.Ms.No. 43, BCW (C2) Dept., Dt.07.08.2008 by deleting from Group D at Sl.No.22)
27 Budubunjala / Bhunjwa / Bhadbhunja (area confined to Hyderabad and Rangareddy Districts only)
28 *[Gudia / Gudiya]

GROUP-C

Scheduled Castes converts to Christianity and their progeny

GROUP-D
(Other Classes)

1 *[Agaru]
2 Arekatika, Katika, Are-Suryavamshi
3 *[Atagarar]
4 Bhatraju
5 Chippolu (Mera)
6 *[Gavara]
7 *[Godaba]
8 Hatkar
9 *[Jakkala]
10 Jingar
11 *[Kandra]
12 Koshti
13 Kachi
14 Surya Balija (Kalavanthula), Ganika
15 Krishnabaliya (Dasari, Bukka)
16 *[Koppulavelamas]
17 Mathura
18 Mali (Bare, Barai, Marar and Tamboli)
19 Mudiraj, Mutrasi, Tenugollu
20 Munurukapu
21 *[Nagavasam (Nagavamsa)]
22 Neeli (deleted vide. G.O.Ms.No.43, BCW(C2) Dept., Dt.07.08.2008 and added at Sl.No.26 in Group 'B')
23 *[Polinati Velamas of Srikakulam and Visakhapatnam districts]
24 Poosala caste (deleted vide. G.O.Ms.No.16, BCW(C2) Dept., Dt.19.02.2009 and included at S.No.52 under Group-A)
25 Passi
26 Rangare or Bhavasara Kshatriya
27 Sadhuchetty
28 Satani (Chattadasrivaishnava)
29 Tammali (Non-Brahmins) (Shudra caste) whose traditional occupation is playing musical instruments, vending of flowers and giving assistance in temple service but not Shivarchakars
30 *[Turupukapus or Gajulakapus]
31 Uppara or Sagara
32 Vanjara (Vanjari)
33 Yadava (Golla)
34 Are, Arevallu and Arollu
35 *[Sadara / Sadaru]
36 *[Arava]
37 Ayyaraka (area confined to Khammam and Warangal Districts only)
38 Nagaralu (area confined to Hyderabad and Rangareddy Districts only)
39 Aghamudian, Aghamudiar, Agamudivelalar and Agamudimudaliar (including Thuluva Vellalas) (area confined to Hyderabad and Rangareddy Districts only)
40 *[Beri Vyysya / Beri Chetty]
41 *[Atirasa]
42 Sondi / Sundi
43 Varala
44 Sistakaranam
45 Lakkamarakapu
46 Veerashaiva Lingayat / Lingabaliya
47 Kurmi
48 Aheer/ Aheer Yadav
49 Govili/Govlii/ Gouli/Gavli
50 Kulla Kadagi/ Kulle Kadiqi/ Chittepu
51 Sarollu/Soma Vansha Kshatriya

GROUP-E
(Socially and Educationally Backward Classes of Muslims)
(Subiect to outcome of Civil Appeal No(s).2628-2637/2010 etc., pending before the Hon'ble Supreme Court of India)

1 Achchukattalavandlu, Singali, Singamvallu, Achchupanivallu, Achchukattuvaru, Achchukattavandlu
2 Attar Saibulu, Attarollu
3 Dhobi Muslim/ Muslim Dhobi/ Dhobi Musalman, Turka Chakla or Turka Sakala, Turaka Chakali, Tulukka Vannan, Tsakalas, Sakalas or Chakalas, Muslim Rajakas
4 Faqir, Fhakir Budbudki, Ghanti Fhakir, Ghanta Fhakirlu, Turaka Budbudki, Darvesh, Fakeer
5 Garadi Muslim, Garadi Saibulu, Pamulavallu, Kani-Kattuvallu, Garadollu, Garadiga
6 Gosangi Muslim, Phakeer Sayebulu
7 Guddi Eluguvallu, Elugu Bantuvallu, Musalman Keelu Guralavallu
8 Hajam, Nai, Nai Muslim, Navid
9 Labbi, Labbai, Labbon, Labba
10 Pakereela, Borewale, Deera Phakirlu, Bonthala
11 Qureshi, Kureshi/ Khureshi, Khasab, Marati Khasab, Muslim Katika, Khatik Muslim
12 Shaik/ Sheikh
13 Siddi, Yaba, Habshi, Jasi
14 Turaka Kashia, Kakkukotte Zinka Saibulu, Chakkitakanevalae, Terugadu Gontalavaru, Thirugatigantla, Rollaku Kakk Kottevaru, Pattar Phodulu, Chakketakare, Thuraka Kashia


N.B.: 1) The above list is for information and subject to confirmation with reference to G.O.Ms.No.58, SW(J) Department, dated 12.05.1997 and time to time orders.
2) On account of any reason whatsoever in case of any doubt/ dispute arising in the matter of community status (SC/ST/BC/OC) of any candidate, subject to satisfaction with regard to relevant Rules and Regulations in force the decision of the Commission shall be final in all such cases.
ANNEXURE – VI

List of recognized sports disciplines for Two Percent (2%) reservation in Direct Recruitment in Government Departments / Govt. Institutions as per G.O. Ms. No. 74, Youth Advancement, Tourism & Culture (Sports) Department Dated:09-08-2012

(1) FOOTBALL
(2) HOCKEY
(3) VOLLEYBALL
(4) HANDBALL
(5) BASKET BALL
(6) TENNIS
(7) TABLE TENNIS
(8) SHUTTLE BADMINTON
(9) KABBADI
(10) ATHLETICS
(11) SWIMMING
(12) GYMNASTICS
(13) WEIGHTLIFTING
(14) WRESTLING
(15) BOXING
(16) CYCLING
(17) ROWING
(18) SHOOTING
(19) FENCING
(20) ROLLER SKATING
(21) SAILING / YATCHING
(22) ARCHERY
(23) CRICKET
(24) CHESS
(25) KHO-KHO
(26) JUDO
(27) TEAKWANDO
(28) SOFTBALL
(29) BODY BUILDING (Uniform Services like Police, Excise etc).

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