

**ANDHRA PRADESH PUBLIC SERVICE COMMISSION: HYDERABAD**

**SUPPLEMENTAL NOTIFICATION NO. 17/2010 TO NOTIFICATION NO. 36/2008, Dt. 30/12/2008**

**ASSISTANT EXECUTIVE ENGINEERS IN VARIOUS ENGINEERING DEPARTMENTS**

**(General Recruitment)**

**Date of Notification – 22/10/2010**

**PARA – 1:**

Applications are invited On-line through the proforma Application to be made available on WEBSITE ([www.apspsc.gov.in](http://www.apspsc.gov.in)) from **10/11/2010 to 02/12/2010** (Note: **30/11/2010 is the last date for payment of fee**) for recruitment to the post of **Assistant Executive Engineers in various Engineering Departments**.

The Commission has dispensed with the sale of applications through HPOs / Sales Counter of Commission's office. The desirous eligible Candidates may apply ON-LINE by satisfying themselves with the terms and conditions of this recruitment. The details are as follows:-

| <b>Post Code</b>   | <b>Name of the Post</b>                              | <b>No. of Vacancies</b> | <b>Age as on 01/7/2008<br/>Min. Max.</b> | <b>Scale of Pay<br/>Rs.</b> |
|--------------------|--|-------------------------|--|-----------------------------|
| 01                 | AEE in I & CAD in Civil Engg. Branch.                | 798                     | 18-39                                    | Rs. 16,150 – 42,590/-       |
| 02                 | AEE in I & CAD in Mech. Engg. Branch.                | 84                      |  |                             |
| 03                 | AEE in I & CAD in Electrical Engg. Branch.           | 152                     |  |                             |
| 04                 | AEE in I & CAD in Agriculture Engg. Branch           | 47                      |  |                             |
| 05                 | AEE in I & CAD in Instrumentation Engg. Branch       | 30                      |  |                             |
| 06                 | AEE in R & B., in Civil Engg.                        | 82                      |  |                             |
| 07                 | AEE in R & B in Electrical Engg. Branch.(State Wide) | 11                      |  |                             |
| 08                 | AEE in PH & ME Dept., in Civil/Mechanical Engg.      | 20                      |  |                             |
| <b>Grand Total</b> |  | <b>1224</b>             |  |                             |

**(The details of vacancies viz., Community, Zone, State-Wide and Gender wise (G/W) may be seen at Annexure-I.) The candidates are advised refer the Brief Supplemental Recruitment Notification which is made available in the Commission's Website.**

**NOTE:**

1. THE APPLICANTS ARE REQUIRED TO GO THROUGH THE USER GUIDE AND DECIDE THEMSELVES AS TO THEIR ELIGIBILITY FOR THIS RECRUITMENT CAREFULLY BEFORE APPLYING AND ENTER THE PARTICULARS COMPLETELY ONLINE. ALL CANDIDATES HAVE TO PAY RS. 25/- (RUPEES TWENTY FIVE ONLY) TOWARDS APPLICATION PROCESSING FEE AND ALL THOSE WHO ARE NOT EXEMPTED FROM PAYMENT OF FEE HAVE ALSO TO PAY RS. 120/- (RUPEES ONE HUNDRED AND TWENTY ONLY) TOWARDS EXAMINATION FEE.
2. APPLICANT MUST COMPULSORILY FILL-UP ALL RELEVANT COLUMNS OF APPLICATION AND SUBMIT APPLICATION THROUGH WEBSITE ONLY. THE PARTICULARS MADE AVAILABLE IN THE WEBSITE SHALL BE PROCESSED THROUGH COMPUTER AND THE ELIGIBILITY DECIDED IN TERMS OF NOTIFICATION AND CONFIRMED ACCORDINGLY.
3. THE APPLICATIONS RECEIVED ONLINE IN THE PRESCRIBED PROFORMA AVAILABLE IN THE WEBSITE AND WITHIN THE TIME SHALL ONLY BE CONSIDERED AND THE COMMISSION WILL NOT BE HELD RESPONSIBLE FOR ANY KIND OF DISCREPANCY.
4. APPLICANTS MUST COMPULSORILY UPLOAD HIS/HER OWN SCANNED PHOTO AND SIGNATURE THROUGH J.P.G FORMAT.
5. ALL THE ESSENTIAL CERTIFICATES ISSUED BY THE COMPETENT AUTHORITY SHALL COMPULSORILY BE KEPT WITH THE APPLICANTS TO PRODUCE AS AND WHEN REQUIRED, ON THE DAY OF VERIFICATION DATE ITSELF FOR VERIFICATION. IF CANDIDATES FAIL TO PRODUCE THE SAME, THE CANDIDATURE IS REJECTED / DISQUALIFIED WITHOUT ANY FURTHER CORRESPONDENCE.
6. THE APPLICANTS SHOULD NOT FURNISH ANY PARTICULARS THAT ARE FALSE, TAMPERED, FABRICATED OR SUPPRESS ANY MATERIAL INFORMATION WHILE MAKING AN APPLICATION THROUGH WEBSITE.
7. **IMPORTANT:-** HAND WRITTEN/TYPED/PHOTOSTAT COPIES/PRINTED APPLICATION FORM WILL NOT BE ENTERTAINED.

N.B:- 1) The Applicants are advised to pay the fee and submit their applications ON-LINE well in advance of the last dates i.e., **30/11/2010 for payment of fee and 02/12/2010 for submission of Applications.**

2) On **02/12/2010** on-line submission closes by 5.00 P.M.

**IMPORTANT NOTE:** Distribution of vacancies among roster points is subject to variation and confirmation from the Unit Officer/ Appointing authority.

**NOTE ON IMPORTANT LEGAL PROVISIONS GOVERNING THE RECRUITMENT PROCESS:**

1. **Vacancies:** The recruitment will be made to the vacancies notified only. There shall be no waiting list as per G.O.Ms.No. 81 General Administration (Ser.A) Department, Dated 22/02/1997 and Rule 6 of APPSC Rules of procedure. In any case, no cognisance will be taken by Commission of any vacancies arising or reported after the completion of the selection and recruitment process or the last date as decided by the Commission as far as this Notification is concerned, and these will be further dealt with as per G.O. & Rule cited above.
2. 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 and G.O. Ms. No. 32, I&CAD (Services. IX) Dept., dt. 12/04/2010, G.O. Ms. No. 103 T,R&B (S.II), dt. 22/05/1996, G.O.Ms.No. 230, TR&B(Ser.II) Department, dated 02/11/2005, G.O.Ms.No. 171, TR & B (Ser.II) Department, dated 18/09/2006 and G.O.Ms.No. 325, TR & B (Ser.II) Department, dated 24/11/2007, G.O.Ms.No. 168, Municipal Administration, dated 20/02/1965, and as per Government orders issued from time to time, and other related G.Os, Rules etc. applicable in this regard.
3. **Rules:** All are informed that the various conditions and criterion prescribed herein are governed by the General Rules of A.P. State and Subordinate Service Rules, 1996 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 cited as in force.
4. 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(vi) of the APPSC Rules of Procedure read with 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 scrupulously followed. A candidate shall be disqualified for appointment, if he himself 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 this service.
5. **Zonal/Local:** In terms of Para 8 of the G.O., A.P. Public Employment (Organization of Local Cadres and Regulation of Direct Recruitment) Order, 1975 (G.O.Ms.No. 674, G.A. (SPF-A) Dept., dated: 20/10/1975) read with G.O.Ms.No.124, General Administration (SPF-A) Department, dated: 07/03/2002, and other orders/instructions issued by the Government in this regard 60% of posts are to be filled by local cadre candidates and remaining 40% of posts are open for which local and non-local are to be considered on the basis of combined merit list. This clause is applicable for all post codes except Pc. No. 07 as these vacancies cover under GSR 526-E of G.O. Ms. No. 675, Dated: 20/10/1975. The Electrical establishment has been declared as special establishment. Hence no zonal regulation is applicable to these posts as per Para-8 of above said G.O. Selection is based on the Open Competition as per ranking.
6. The persons already in Government Service/ Autonomous bodies/ Government aided institutions etc., whether in permanent or temporary capacity or as work charged employees are however required to inform in writing, their Head of Office/ Department, that they have applied for this recruitment.
7. The Commission is also empowered to invoke the penal provisions of the A.P. Public Examinations (Prevention of Malpractices and Unfair means) Act 25/97 for matters connected therewith or incidental thereto in respect of this Notification.
8. **Caste & Community:** Community Certificate issued by the competent authority in terms of G.O.Ms No. 58, SW (J) Dept., dt: 12/5/97 should be submitted at appropriate time. As per General Rules for State and Subordinate Service Rules, Rule -2(28) Explanation: No person who professes a religion different from Hinduism shall be deemed a member of Schedule Caste. **BCs, SCs & STs belonging to other States are not entitled for reservation. Candidates belonging to other States shall pay the prescribed fee of Rs. 120/- (One hundred and Twenty only) through Challan and upload as indicated at Para-4. Otherwise such applications will not be considered and no correspondence on this will be entertained.**
9. Reservation and eligibility in terms of General Rule 22 & 22 (A) of A.P. State and Subordinate Service Rules are applicable.

10. Reservation to Disabled persons is subject to their eligibility to any of the above category of posts and shall be subject to Special Rules/Adhoc Rules governing the posts. The required extent of deformity and the genuineness of the Medical Certificate and in the case of ambiguity or doubt, the same shall be referred to the Appellate Medical Boards as per the instructions of the Government.
11. The Reservation to Women will apply as per General Rules and/or special rules.
12. Reservation to BC-E group will be subject to the adjudications of the litigation before the Honorable Courts and orders from the Government.
13. Government have issued orders in G.O. Ms. No. 3, Backward Classes Welfare(C-2) Department, dated 4/4/2006, laying down the criteria to determine Creamy Layer among Backward Classes in order to exclude from the provisions of reservations. Government of Andhra Pradesh has adopted all the criteria to determine the Creamy Layer among Backward Classes as fixed by the Government of India. In view of the Government orders, in G.O. Ms. No. 3, Backward Classes Welfare(C-2) Department, dated 4/4/2006, the candidates claiming as belong to Backward Classes have to produce a Certificate regarding their exclusion from the Creamy Layer from the competent authority (Tahasildar). Certificate excluding from Creamy Layer has to be produced at an appropriate time. In case of failure to produce the same on day of verification, the Candidature is rejected without further correspondence.

#### **PARA-2: EDUCATIONAL QUALIFICATIONS:**

Applicants must possess the qualifications from a recognized University as detailed below or equivalent thereto, subject to various specifications in the relevant service rules and as indented by the department as on the date of notification i.e., **22/10/2010.**

| <b>Post Code</b> | <b>Name of the Post</b>                         | <b>Educational Qualifications</b>  |
|------------------|---|--|
| <b>01</b>        | AEE in I & CAD in Civil Engg. Branch.           | Must possess a Bachelor's Degree in Civil Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification.  |
| <b>02</b>        | AEE in I & CAD in Mech. Engg. Branch.           | Must possess a Bachelor's Degree in Mechanical Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification.   |
| <b>03</b>        | AEE in I & CAD in Electrical Engg. Branch.      | Must possess a Bachelor's Degree in Electrical Engineering or Electrical and Electronics Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification.           |
| <b>04</b>        | AEE in I & CAD in Agriculture Engg. Branch      | Must possess a Bachelor's Degree in Agricultural Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification.   |
| <b>05</b>        | AEE in I & CAD in Instrumentation Engg. Branch  | Must possess a Bachelor's Degree in Electronics and Instrumentation Engineering or Instrumentation Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification. |
| <b>06</b>        | AEE in R & B., in Civil Engg.                   | Must possess BE/B.Tech in Civil Engineering of a University or an equivalent qualification   |
| <b>07</b>        | AEE in R & B in Electrical Engg. Branch.        | Must possess a Bachelor's Degree in Electrical Engineering or Electrical and Electronics Engineering (B.E/B.Tech) of a University in India established or incorporated by or under a Central Act, Provincial Act or a State Act or an Institution Recognized by the University Grants Commission / All India Council for Technical Education or an Equivalent qualification.           |
| <b>08</b>        | AEE in PH & ME Dept., in Civil/Mechanical Engg. | Must possess BE/B.Tech in Civil or Mechanical Engineering of a University or B.Sc.(Engg.) of Banaras Hindu University or a Pass in Section A & B of AMIE India Civil Examination or an equivalent qualification.   |

**PARA-3 AGE:** Minimum 18 years & Maximum 39 years as on 01/07/2008.

N.B.: No person shall be eligible if less than 18 years and is more than 39 of years.

**NOTE:** The upper age limit prescribed above is relaxable in the following cases:

| Sl. No. | Category of candidates  | Relaxation of age permissible                             |
|---------|---|---|
| 1       | 2   | 3   |
| 1.      | Retrenched temporary employees in the State Census Department with a minimum service of 6 months.                 | 3 Years   |
| 2.      | A.P. State Government Employees (Employees of APSEB, APSRTC, Corporations, Municipalities etc. are not eligible). | 5 Years based on the length of regular service.           |
| 3.      | Ex-Service men  | 3 years & length of service rendered in the armed forces. |
| 4.      | N.C.C.(who have worked as Instructor in N.C.C.)   | 3 Years & length of service rendered in the N.C.C.        |
| 5.      | SC/ST and BCs   | 5 Years   |
| 6.      | Physically Handicapped persons  | 10 Years  |

**EXPLANATION:**

After provision of the relaxation of Age in Col. No. 3 of table above; the age shall not exceed the maximum age prescribed for the post for the candidates at Sl.No. 3 & 4.

The age relaxations for Ex-Servicemen is applicable for those who have been released from Armed Forces otherwise than by way of dismissal or discharge on account of misconduct or inefficiency.

**PARA-4: (a) FEE:** (Remittance of Fee) Each applicant must pay Rs. 25/- (Rupees Twenty Five Only) towards Application Processing Fee and Examination Fee **RS.120/- (RUPEES ONE HUNDRED AND TWENTY ONLY)** (if Candidates are not exempted from payment of Fee). Payment of Rs. 25/- (Rupees Twenty Five only) towards application processing fee is compulsory for all Applicants.

**b) Mode of Payment of Fee:**

- I Step:- The Candidate has to logon to the WEBSITE ([www.apspsc.gov.in](http://www.apspsc.gov.in)) and enter his/her Basic Personal Details like Name, Father's Name, Date of Birth, and Community.  
 II Step:- Immediately on entering the above details the Applicant will get (downloadable)- Challan Form to pay the Fee at AP Online centers /State Bank of India.  
 III Step:- The Applicant should pay the prescribed Fee in any one of the A.P. Online centers / State Bank of India and obtain Fee paid challan with Journal Number in the first instance.  
 IV Step:- **On the next working day** after payment of Fee the Applicant should again visit WEBSITE and enter the Journal Number to get the format of Application. The applicant has to invariably fill all the columns in the Application and should submit ON-Line.

Last date for payment of Fee at AP Online/SBI is **30/11/2010**

Last date for submission of Application is **02/12/2010.**

**NOTE ON EXEMPTIONS:** The following category of candidates are exempted from payment of fee:

- SC, ST, BC, PH & Ex-Service Men.
- Families having Household Supply White Card issued by Civil Supplies Department, A.P. Government. (Residents of Andhra Pradesh)
- Un employed youth in the age group of 18 to 39 years as per G.O.Ms.No. 439, G.A.(Ser.A) Dept., dated: 18/10/1996 should submit declaration at an appropriate time to the Commission.
- Applicants belonging to the categories mentioned above (except Physically Handicapped Persons & Ex-Service Men) hailing from other States are not entitled for exemption from payment of fee and not entitled for claiming any kind of reservation.

**PARA-5: PROCEDURE OF SELECTION:**

THE SELECTION OF CANDIDATES FOR APPOINTMENT TO THE POSTS WILL BE MADE IN TWO SUCCESSIVE STAGES VIZ.,

- Written Examination (Objective Type)  
And
- Oral Test in the shape of Interview only for those qualified as per rules.

THE FINAL SELECTION OF THESE POSTS WILL BE BASED ON THE WRITTEN AND ORAL MARKS PUT TOGETHER.

1. Only those candidates who qualify in the Written Examination by being ranked high will be called for interview in 1:2 ratio. The minimum qualifying marks for interview / selection are OCs 40%, BCs 35% SCs, STs and PHs 30% or as per rules. The minimum qualifying marks are relaxable in the case of SC/ST/BC/PH on the discretion of the Commission.
2. The candidates will be selected and allotted to Service/ Department as per their rank in the merit list and as per zonal preference for allotment of candidates against vacancies and for the vacancies available.  
N.B.: Mere securing minimum qualifying marks does not vest any right in a candidate for being called for interview.
3. The appearance in all the papers at the Written Examination and also for interview in case called upon, if qualified, as per rules is compulsory. Absence in any of the above tests will automatically render his candidature as disqualified.
4. Candidates have to produce Original documents and other particulars **on the day of verification date itself** for verification as and when required and called for. If **candidate fails to produce the certificates if any one, and** the particulars furnished in the Application do not tally with the Original documents produced by the candidate, the candidature will be rejected/**disqualified without any further correspondence**. As candidature for the recruitment is processed through Computer/Electronic devices based on the particulars furnished in the Application Form, the candidate is advised to fill in all the relevant particulars carefully.
5. While the Commission calls for preference of candidates in respect of posts, zones etc., in the application form, it is hereby clarified that the said preferences are only indicative for being considered to the extent possible but not binding or limiting the Commission's powers enjoyed under Article 315 and 320 of the Constitution of India. Therefore, the Commission has the power to assigning a successful candidate to any of the notified posts for which he is considered by them to be qualified and eligible, subject to fulfilling the selection criterion. Mere claim of preference for any Zone for allotment against vacancy does not confer a right to selection for that Zone in particular or any Zone in general.
6. The appointment of selected candidates will be subject to their being found medically fit in the appropriate medical classification.

**PARA-6: RESERVATION TO LOCAL CANDIDATES:**

**For Pc. No. 07:-** Reservation for local candidates is not applicable, as the post is State Cadre.

**For Pc. No. 01 to 06 & 08 posts:-** Reservation to the Local candidates is applicable as provided in the Rules and as amended from time to time as in force on the date of notification. The candidates claiming reservation as Local candidates should obtain the required Study certificates (from IV Class to X Class or SSC) OR Residence Certificate in the Proforma only for those candidates who have not studied in any Educational Institutions as the case may be. The relevant certificates may be got ready with authorized signature and kept with the candidates to produce as and when required.

**DEFINITION OF LOCAL CANDIDATE:**

- (A) (i) "LOCAL CANDIDATE" means a candidate for direct recruitment to any post in relation to that Local areas where he/she has studied in Educational Institution(s) for not less than four consecutive academic years prior to and including the year in which he/she appeared for S.S.C or its equivalent examination. If however, he/she has not studied in any educational institution during the above four years period, it is enough if he/she has resided in that area which is claimed as his/her local area during the above said period.
- (ii) In case Candidate does not fall within the scope of above then, if he/she has studied for a period of not less than seven years prior to and inclusive of the year in which he/she has studied SSC or its equivalent, he/she will be regarded as local candidate on the basis of the maximum period out of the said period of seven years AND where the period of his/her study in two or more local areas or equal such local area where he/she has studied last in such equal periods will be taken for determining the local candidature. Similarly, if he/she has not studied during the above said period in any Educational Institution(s) the place of residence during the above period will be taken into consideration and local candidature determined with reference to the maximum period of residence or in the case of equal period where he/she has resided last in such equal periods.
- (iii) If the claim for local candidature is based on study, the candidate is required to produce a certificate from the Educational Institution(s) where he/she has studied during the said 4/7-year period. If, however, it is based on residence, a certificate should be obtained from an officer of the Revenue Department not below the rank of a Mandal Revenue Officer in independent charge of a Mandal.

(iv) If, however, a candidate has resided in more than one Mandal during the relevant four/seven years period but within the same District or Zone as the case may be separate certificates from the Mandal Revenue Officers exercising jurisdiction have to be obtained in respect of different areas.

**NOTE:**

- (A) Single certificate, whether of study or residence would suffice for enabling the candidate to apply as a "**LOCAL CANDIDATE**".
- (B) RESIDENCE CERTIFICATE WILL NOT BE ACCEPTED, IF A CANDIDATE HAS STUDIED IN ANY EDUCATIONAL INSTITUTION UPTO S.S.C. OR EQUIVALENT EXAMINATION, SUCH CANDIDATES HAVE TO PRODUCE STUDY CERTIFICATES INVARIABLY. THE CANDIDATES, WHO ACQUIRED DEGREE FROM OPEN UNIVERSITIES WITHOUT STUDYING SSC/ MATRICULATION OR EQUIVALENT IN EDUCATIONAL INSTITUTIONS, HAVE TO SUBMIT RESIDENCE CERTIFICATE ONLY. EDUCATIONAL INSTITUTIONS MEANS A RECOGNIZED INSTITUTION BY THE GOVERNMENT/UNIVERSITY/COMPETENT AUTHORITY.
- (C) Candidates are advised to refer provisions of the PRESIDENTIAL ORDER 1975 in this regard
- (D) Each of the following Zones comprises the Districts mentioned against each Zone.

**Zones:**

1. Srikakulam, Visakhapatnam and Vizianagaram. (SKM, VSP, VZM)
2. East Godavari, West Godavari and Krishna. (EG, WG, KST)
3. Guntur, Prakasam and Nellore. (GNT, PKM, NLR)
4. Chittoor, Cuddapah, Anantapur and Kurnool. (CTR, CDP, ATP, KNL)
5. Adilabad, Karimnagar, Warangal and Khammam. (ADB, KRMN, WGL, KMM)
6. Hyderabad, Ranga Reddy, Nizamabad, Mahaboobnagar, Medak and Nalgonda. (HYD, RRD, NZB, MBNR, MDK, NLG)

City Cadre: City of Hyderabad consists of Hyderabad Division, Secunderabad Division of Municipal Corporation of Hyderabad, Secunderabad Contonment area, O.U.Campus, Fatehnagar, Bowenpally, Macha Bolarum, Malkajgiri, Uppal Khalsa, Alwal, Balanagar, Moosapet, Kukatpally Panchayat Areas and Zamistanpur and Lallaguda villages. (HYD)

NB: Where City Cadre is not organized separately Candidates belonging to City Cadre – City of Hyderabad will be considered under Zone-VI

**PARA-7: SCHEME OF EXAMINATION:-** The Scheme & Syllabus for the examination has been shown in Annexure-II. The Written examination will be followed by the oral test for only those provisionally qualified as per rules for the Oral Test, which will be notified at the appropriate time. For the purpose of writing paper-III the candidate has to choose the branch of Engineering related to the subject of study in the Degree.

**PARA-8: HOW TO APPLY:**

**A) HOW TO UPLOAD THE APPLICATION FORM:**

- i) The Applicants have to read the User Guide for Online Submission of Applications and then proceed further.
- I Step: The Candidate has to logon to the WEBSITE ([www.apspsc.gov.in](http://www.apspsc.gov.in)) and enter his/her Basic Personal Details like Name, Father's Name, Date of Birth, and Community.
- II Step: Immediately on entering the above details the Applicant will get (downloadable)- Challan Form to pay the Fee at AP Online centers /State Bank of India.
- III Step: The Applicant should pay the prescribed Fee in any one of the A.P. Online centers / State Bank of India and obtain Fee paid challan with Journal Number in the first instance.
- IV Step: **On the next working day** after payment of Fee the Applicant should again visit WEBSITE and enter the Journal Number to get and fill the format of Application and should submit ON-LINE.
- V Step: Affix your recent Colour Passport Size Photograph on a White Paper and then sign below the photograph with Black Pen. Scan the above Photo and Signature and Upload in the appropriate space provided (JPG Format) in Application Form.
- VI Step: The applicants have to invariably fill all the relevant columns in the Application and should submit ON-LINE.
- ii) **Hand written/ Typed/ Photostat copies/ outside printed Application Form will not be accepted and liable for rejection.**
- iii) Only applicants willing to serve anywhere in the Andhra Pradesh should apply.
- iv) For any problems related to Online submission and downloading of Hall-Tickets please contact 040-23557455 ((Call Time: 9.30 A.M to 1.00 P.M & 1.30 P.M to 5.30 P.M) or mail to [appschelpdesk@gmail.com](mailto:appschelpdesk@gmail.com).

**NOTE:**

1. The Commission is not responsible, for any discrepancy in submitting through Online. The applicants are therefore, advised to strictly follow the instructions and User guide in their own interest.



2. The particulars furnished by the applicant in the Application Form will be taken as final, and data entry processed, based on these particulars only by Computer. Candidates should, therefore, be very careful in Uploading / Submitting the Application Form Online.
3. INCOMPLETE/INCORRECT APPLICATION FORM WILL BE SUMMARILY REJECTED. THE INFORMATION IF ANY FURNISHED BY THE CANDIDATE SUBSEQUENTLY WILL NOT BE ENTERTAINED BY THE COMMISSION UNDER ANY CIRCUMSTANCES. APPLICANTS SHOULD BE CAREFUL IN FILLING-UP THE APPLICATION FORM AND SUBMISSION. IF ANY LAPSE IS DETECTED DURING THE SCRUTINY, THE CANDIDATURE WILL BE REJECTED EVEN THOUGH HE/SHE COMES THROUGH THE FINAL STAGE OF RECRUITMENT PROCESS OR EVEN AT A LATER STAGE.
4. Before Uploading/Submission Application Form, the Candidates 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.
5. The candidates should carefully decide about the choice for CENTRE for the examination, which is taken as final. If any candidate appears at a centre/ Examination venue other than one allotted by the Commission, the answer sheets of such candidates shall not be valued and liable for invalidation.
6. The Commission reserves the right to create centre(s) for examination and also to call the Candidates for the test at any other centre.

**PARA-9: CENTRES FOR THE WRITTEN EXAMINATION:**

1. The Written Examination will be held at the following Five Centres:
 

|              |                  |               |
|--------------|------------------|---------------|
| 1- HYDERABAD | 2- VISAKHAPATNAM | 3- VIJAYAWADA |
| 4- TIRUPATI  | 5- WARANGAL.     |               |
2. DATES FOR WRITTEN EXAMINATION WILL BE ANNOUNCED LATER THROUGH NEWS PAPERS AND CANDIDATES ARE REQUESTED TO REMAIN ALERT IN THIS REGARD.
3. Applicants should choose only one of the above centres. Centre once chosen shall be final. The Commission however reserves the right to allot candidates to any centre other than centre chosen by the applicant or abolish a centre and/or to create a new centre for administrative reasons.

**PARA-10: INSTRUCTIONS TO CANDIDATES:**

- 1) The candidates must note that his/her admission to the examination is strictly provisional. The mere fact that an Admission has been issued to him/her 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. Candidates are required to upload his / her photo with signature in the prescribed format of Application form. Failure to produce the same photograph, if required, at the time of interview/ verification, may lead to disqualification. Hence the candidates are advised not to change their appearance till the recruitment process is complete.
- 2) The candidates should go through the instructions given on the cover page of test booklet and carefully write his/her Register Number, Centre etc., in the Answer Sheet, which will be provided to him/her in the examination hall.
- 3) Since the answer sheets are to be scanned (valued) with Optical Mark Scanner system, the candidates have to USE H.B. PENCIL ONLY FOR MARKING THE ANSWERS. The candidates should bring H.B. pencil, Eraser, Ball pen, and smooth writing pad to fill up relevant columns on the Answer Sheet. The candidate must ensure encoding the Subject, Register No., etc., on the O.M.R. Answer sheet correctly, failing which the Answer sheet will be rejected and will not be valued.
- 4) The candidates should satisfy the Invigilator of his identity with reference to the signature and photographs.
- 5) The candidates should take their seats 20 minutes before the commencement of the examination and are not to be allowed after 10 minutes of the scheduled time. They should not leave the examination hall till expiry of fulltime. The candidates are allowed to use the calculators in the examination hall (not programmable calculators). Loaning and interchanging of articles among the candidates is not permitted in the examination hall. Cell phones and Pagers are not allowed in the examination hall.
- 6) The candidates are expected to behave in orderly and disciplined manner while writing the examination. If any candidate takes away Answer Sheet, the candidature will be rejected and in case of impersonation/ disorder/ rowdy behavior during Written Examination, necessary F.I.R. for this incident will be lodged with concerned Police Station, apart from disqualifying appointment in future.
 

Merit is the only criteria that decides the selections. Candidates trying to use unfair means shall be disqualified from the selection. No correspondence whatsoever will be entertained from the candidates. The candidature and conditions specified here are subject to latest rules / orders come into force during the process of recruitment.
- 7) 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 reserves the right to cancel his/ her candidature and to invalidate the Answer Sheet.

- 8) Wherever Written Examination is held only those candidates who are totally blind and candidate whose writing speed is affected by CEREBRAL PALSY, can use scribe at the Written Examination. In all such cases where a scribe is used, the following rules will apply.
- (a) 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.
- (b) The candidate as well as the scribe will have to give a suitable undertaking confirming the rules applicable.
- 9) If the candidate noticed any discrepancy printed on Hall ticket as to community, date of birth etc., they may immediately bring to the notice of Commission's officials/Chief Superintendent in the exam centre and necessary corrections be made in the Nominal Roll for being verified by the Commission's Office.

**PARA-11: DEBARMENT:**

- a) Candidates should make sure of their eligibility to the post 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 in-correct 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 summarily rejection of their candidature for this recruitment.
- b) The Penal Provisions of Act 25/97 published in the A.P. Gazette No. 35, Part-IV.B Extraordinary dated: 21/08/1997 shall be invoked if malpractice and unfair means are noticed at any stage of the Recruitment.
- c) The Commission is vested with the constitutional duty of conducting recruitment and selection as per 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 as per decision of the Commission.
- d) Any candidate is or has been found impersonating or procuring impersonation by any person 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 liable to be debarred permanently from any exam or selection held by the Service Commission's in the country.
- e) **MEMORANDUM OF MARKS:** Memorandum of Marks is issued on payment of Rs.25/- (Rupees twenty five only) through crossed Indian Postal Order only drawn in favour of the Secretary, A.P. Public Service Commission, Hyderabad. Request for Memorandum of Marks from candidates, will be entertained within two months from the date of publication of the selections. Such a request must necessarily be accompanied by a Xerox copy of the Hall-ticket. Request for revaluation or recounting will not be under taken under any circumstances. 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.

If any candidate fails to mark the Booklet Series, Roll Number etc., in the OMR Answer Sheet, the Commission reserves the right to invalidate such Answer Sheets as Answer Sheets are valued by Optical Mark Scanner. In case of rejection/ invalidation due to omission on the part of the candidate, the decision of the Commission is final and such request for Memorandum of Marks in such cases will be intimated accordingly. No request for reconsideration of such rejected/invalidated cases will be entertained under any circumstances whatsoever.

**PARA-12: 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 regarding time and conditions laid down in the notification for conducting the various stages up to selection, 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.

**Note: On 27/11/2010 on-line submission closes by 5.00 P.M.**

**HYDERABAD,  
DATE: 22/10/2010**

**Sd/-R. SIVA SANKER,  
PRL. SECRETARY i/c**



## ANNEXURE – I

SUPPLEMENTAL NOTIFICATION NO. 17/2010 TO NOTIFICATION NO. 36/2008, Dt. 30/12/2008

(General Recruitment)

**BREAKUP OF PROVISIONAL VACANCIES FOR THE POST OF ASSISTANT EXECUTIVE ENGINEERS IN VARIOUS ENGINEERING DEPARTMENTS****PC. No. 01 : AEE's in I & CAD in Civil Engineering Branch**

| Zone          | OC  |     | BC-A |    | BC-B |    | BC-C |    | BC-D |    | BC-E |    | SC |    | ST |    | *PH |    | Total |     | Grand Total |
|---------------|-----|-----|------|----|------|----|------|----|------|----|------|----|----|----|----|----|-----|----|-------|-----|-------------|
|               | G   | W   | G    | W  | G    | W  | G    | W  | G    | W  | G    | W  | G  | W  | G  | W  | G   | W  | G     | W   |             |
| I             | 31  | 13  | 4    | 1  | 6    | 3  | -    | 1  | 5    | 1  | 4    | 2  | 8  | 4  | 4  | 4  | 2   | 1  | 64    | 30  | 94          |
| II            | 27  | 10  | 4    | 1  | 5    | 5  | -    | -  | 5    | 1  | 2    | 1  | 9  | 3  | 3  | 4  | 3   | 3  | 58    | 28  | 86          |
| III           | 40  | 20  | 5    | 3  | 5    | 7  | 2    | 1  | 7    | 4  | 4    | 3  | 12 | 5  | 3  | 4  | 4   | 2  | 82    | 49  | 131         |
| IV            | 31  | 15  | 3    | 4  | 8    | 12 | 1    | 2  | 8    | 6  | 4    | 3  | 12 | 5  | 3  | 7  | 5   | 6  | 75    | 60  | 135         |
| V             | 50  | 27  | 7    | 7  | 7    | 13 | 1    | -  | 8    | 7  | 8    | 4  | 13 | 15 | 6  | 9  | 6   | 6  | 106   | 88  | 194         |
| VI            | 50  | 25  | 6    | 3  | 6    | 7  | 1    | 1  | 7    | 3  | 4    | 4  | 13 | 6  | 5  | 6  | 5   | 6  | 97    | 61  | 158         |
| <b>Total:</b> | 229 | 110 | 29   | 19 | 37   | 47 | 5    | 05 | 40   | 22 | 26   | 17 | 67 | 38 | 24 | 34 | 25  | 24 | 482   | 316 | 798         |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | 1  | - | 1  | 1 | -  | - | IV    | 3  | 2 | 2  | 2 | -  | 2 |
| II   | 1  | 1 | 1  | 1 | 1  | 1 | V     | 1  | 2 | 4  | 2 | 1  | 2 |
| III  | 2  | - | 1  | 1 | 1  | 1 | VI    | 2  | 2 | 3  | 2 | -  | 2 |

**PC. No. 02: AEE's in I & CAD in Mechanical Engineering Branch**

| Zone          | OC |    | BC-A |    | BC-B |    | BC-C |    | BC-D |   | BC-E |   | SC |    | ST |    | *PH |    | Total |    | Grand Total |
|---------------|----|----|------|----|------|----|------|----|------|---|------|---|----|----|----|----|-----|----|-------|----|-------------|
|               | G  | W  | G    | W  | G    | W  | G    | W  | G    | W | G    | W | G  | W  | G  | W  | G   | W  | G     | W  |             |
| I             | 4  | 1  | -    | 1  | -    | -  | -    | -  | -    | - | -    | - | 1  | 1  | -  | 1  | -   | 1  | 05    | 05 | 10          |
| II            | 3  | 3  | -    | 1  | -    | -  | -    | -  | -    | - | -    | - | -  | 1  | -  | 1  | 1   | 1  | 04    | 07 | 11          |
| III           | 4  | 1  | -    | 1  | -    | 1  | -    | -  | -    | - | -    | - | 2  | 1  | -  | 1  | -   | 2  | 06    | 07 | 13          |
| IV            | 6  | 1  | 1    | 1  | -    | 1  | -    | -  | -    | - | -    | - | 1  | 1  | -  | 1  | -   | 1  | 08    | 06 | 14          |
| V             | 6  | 2  | -    | 1  | -    | 1  | 1    | 1  | -    | - | -    | - | 1  | 1  | -  | 2  | 1   | 1  | 09    | 09 | 18          |
| VI            | 6  | 1  | 1    | 1  | 1    | 1  | -    | -  | 1    | - | -    | - | 2  | 1  | -  | 1  | 1   | 1  | 12    | 06 | 18          |
| <b>Total:</b> | 29 | 09 | 02   | 06 | 01   | 04 | 01   | 01 | 01   | - | -    | - | 07 | 06 | -  | 07 | 03  | 07 | 44    | 40 | 84          |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | -  | 1 | -  | - | -  | - | IV    | -  | 1 | -  | - | -  | - |
| II   | -  | 1 | 1  | - | -  | - | V     | 1  | 1 | -  | - | -  | - |
| III  | -  | 2 | -  | - | -  | - | VI    | -  | 1 | 1  | - | -  | - |

**PC. No. 03: AEE's in I & CAD in Electrical Engineering Branch**

| Zone          | OC |    | BC-A |    | BC-B |    | BC-C |   | BC-D |    | BC-E |    | SC |    | ST |    | *PH |    | Total |    | Grand Total |
|---------------|----|----|------|----|------|----|------|---|------|----|------|----|----|----|----|----|-----|----|-------|----|-------------|
|               | G  | W  | G    | W  | G    | W  | G    | W | G    | W  | G    | W  | G  | W  | G  | W  | G   | W  | G     | W  |             |
| I             | 5  | 2  | -    | 1  | 2    | 1  | 1    | - | -    | -  | -    | -  | 2  | 1  | -  | 1  | -   | 1  | 10    | 07 | 17          |
| II            | 7  | 2  | -    | 1  | -    | 1  | 1    | - | -    | -  | -    | -  | 1  | 1  | -  | 1  | -   | 1  | 09    | 07 | 16          |
| III           | 6  | 3  | -    | 1  | -    | 1  | 1    | - | -    | 1  | -    | 1  | 2  | 1  | -  | 1  | -   | 1  | 09    | 10 | 19          |
| IV            | 10 | 5  | 2    | 1  | 2    | 1  | 1    | - | -    | 1  | -    | 1  | 3  | 2  | 1  | 1  | 1   | 1  | 20    | 13 | 33          |
| V             | 10 | 5  | 2    | 1  | 1    | 1  | 1    | - | -    | 1  | -    | 1  | 3  | 2  | 1  | 1  | 1   | 1  | 19    | 13 | 32          |
| VI            | 11 | 6  | 2    | 1  | 2    | 1  | 1    | - | 1    | 1  | -    | 1  | 3  | 2  | 1  | 1  | -   | 1  | 21    | 14 | 35          |
| <b>Total:</b> | 49 | 23 | 06   | 06 | 07   | 06 | 06   | - | 01   | 04 | -    | 04 | 14 | 09 | 03 | 06 | 02  | 06 | 88    | 64 | 152         |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | -  | 1 | -  | - | -  | - | IV    | -  | 1 | 1  | - | -  | - |
| II   | -  | 1 | -  | - | -  | - | V     | -  | 1 | 1  | - | -  | - |
| III  | -  | 1 | -  | - | -  | - | VI    | -  | 1 | -  | - | -  | - |

**PC. No. 04: AEE's in I & CAD in Agriculture Engineering Branch**

| Zone          | OC |    | BC-A |    | BC-B |    | BC-C |   | BC-D |    | BC-E |   | SC |    | ST |    | *PH |    | Total |    | Grand Total |
|---------------|----|----|------|----|------|----|------|---|------|----|------|---|----|----|----|----|-----|----|-------|----|-------------|
|               | G  | W  | G    | W  | G    | W  | G    | W | G    | W  | G    | W | G  | W  | G  | W  | G   | W  | G     | W  |             |
| I             | 1  | 1  | -    | 1  | -    | -  | -    | - | -    | -  | -    | - | -  | 1  | -  | -  | -   | -  | 01    | 03 | 04          |
| II            | 1  | 1  | -    | 1  | -    | -  | -    | - | -    | -  | -    | - | -  | 1  | 1  | 1  | -   | -  | 02    | 04 | 06          |
| III           | 2  | 1  | -    | 1  | -    | 1  | -    | - | -    | -  | -    | - | -  | 1  | -  | -  | -   | 1  | 02    | 05 | 07          |
| IV            | 3  | 1  | -    | 1  | -    | -  | -    | - | 1    | -  | -    | - | 1  | 1  | 1  | 1  | -   | 1  | 05    | 06 | 11          |
| V             | 3  | 1  | -    | 1  | -    | -  | 1    | - | -    | 1  | -    | - | 1  | 1  | -  | 1  | -   | 1  | 05    | 06 | 11          |
| VI            | 2  | 1  | -    | 1  | -    | -  | -    | - | -    | -  | -    | - | 1  | 1  | -  | 1  | -   | 1  | 03    | 05 | 08          |
| <b>Total:</b> | 12 | 06 | -    | 06 | -    | 01 | 01   | - | -    | 02 | -    | - | 03 | 06 | 02 | 04 | -   | 04 | 18    | 29 | 47          |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | -  | - | -  | - | -  | - | IV    | -  | 1 | -  | - | -  | - |
| II   | -  | - | -  | - | -  | - | V     | -  | 1 | -  | - | -  | - |
| III  | -  | 1 | -  | - | -  | - | VI    | -  | 1 | -  | - | -  | - |

**PC. No. 05: AEE's in I & CAD in Instrumentation Engineering Branch**

| Zone          | OC |    | BC-A |    | BC-B |   | BC-C |   | BC-D |   | BC-E |   | SC |    | ST |   | *PH |    | Total |    | Grand Total |
|---------------|----|----|------|----|------|---|------|---|------|---|------|---|----|----|----|---|-----|----|-------|----|-------------|
|               | G  | W  | G    | W  | G    | W | G    | W | G    | W | G    | W | G  | W  | G  | W | G   | W  | G     | W  |             |
| I             | 1  | 1  | -    | -  | -    | - | -    | - | -    | - | -    | - | -  | 1  | -  | - | -   | -  | 01    | 02 | 03          |
| II            | 1  | 1  | -    | -  | -    | - | -    | - | -    | - | -    | - | -  | 1  | -  | - | -   | -  | 01    | 02 | 03          |
| III           | 1  | 1  | -    | 1  | -    | - | -    | - | -    | - | -    | - | -  | 1  | -  | - | -   | -  | 01    | 03 | 04          |
| IV            | 2  | 1  | -    | 1  | -    | - | -    | - | -    | - | -    | - | 1  | 1  | -  | - | -   | 1  | 03    | 04 | 07          |
| V             | 2  | 1  | -    | 1  | -    | - | -    | - | -    | - | -    | - | 1  | 1  | -  | - | -   | 1  | 03    | 04 | 07          |
| VI            | 2  | 1  | -    | 1  | -    | - | -    | - | -    | - | -    | - | -  | 1  | -  | - | -   | 1  | 02    | 04 | 06          |
| <b>Total:</b> | 09 | 06 | -    | 04 | -    | - | -    | - | -    | - | -    | - | 02 | 06 | -  | - | -   | 03 | 11    | 19 | 30          |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | -  | - | -  | - | -  | - | IV    | -  | 1 | -  | - | -  | - |
| II   | -  | - | -  | - | -  | - | V     | -  | 1 | -  | - | -  | - |
| III  | -  | - | -  | - | -  | - | VI    | -  | 1 | -  | - | -  | - |

**PC. No. 06: AEE's in R & B in Civil Engineering Branch**

| Zone          | OC |    | BC-A |    | BC-B |    | BC-C |   | BC-D |   | BC-E |    | SC |    | ST |    | *PH |    | Total |    | Grand Total |
|---------------|----|----|------|----|------|----|------|---|------|---|------|----|----|----|----|----|-----|----|-------|----|-------------|
|               | G  | W  | G    | W  | G    | W  | G    | W | G    | W | G    | W  | G  | W  | G  | W  | G   | W  | G     | W  |             |
| I             | -  | 1  | -    | -  | -    | 1  | -    | - | -    | - | -    | -  | -  | -  | 1  | -  | -   | -  | 01    | 02 | 03          |
| II            | 3  | -  | -    | 1  | 1    | -  | 1    | - | -    | - | -    | 1  | 2  | -  | 1  | 1  | -   | 1  | 08    | 04 | 12          |
| III           | -  | -  | -    | -  | 1    | 1  | -    | - | -    | - | -    | -  | 1  | -  | -  | -  | 1   | -  | 03    | 01 | 04          |
| IV            | 9  | 3  | -    | 1  | 2    | 1  | -    | - | 2    | - | 1    | -  | 4  | 2  | -  | 1  | 1   | 1  | 19    | 09 | 28          |
| V             | 5  | 2  | 1    | 1  | -    | -  | -    | - | -    | - | -    | -  | 1  | 1  | -  | 1  | -   | 1  | 07    | 06 | 13          |
| VI            | 5  | 4  | -    | -  | 1    | -  | -    | - | 1    | - | -    | -  | 2  | -  | -  | 1  | 1   | 1  | 10    | 06 | 16          |
| City Cadre    | 3  | -  | -    | -  | -    | 1  | -    | - | -    | - | -    | -  | -  | -  | 1  | 1  | -   | -  | 04    | 02 | 06          |
| <b>Total:</b> | 25 | 10 | 01   | 03 | 05   | 04 | 01   | - | 03   | - | 01   | 01 | 10 | 03 | 03 | 05 | 03  | 04 | 52    | 30 | 82          |

| *PH= physically handicapped vacancies in detailed. |    |   |    |   |    |   |       |    |   |    |   |    |   |
|--|----|---|----|---|----|---|-------|----|---|----|---|----|---|
| ZONES  | VH |   | HH |   | OH |   | ZONES | VH |   | HH |   | OH |   |
|  | G  | W | G  | W | G  | W |       | G  | W | G  | W | G  | W |
| I  | -  | - | -  | - | -  | - | V     | -  | 1 | -  | - | -  | - |
| II   | -  | 1 | -  | - | -  | - | VI    | -  | 1 | 1  | - | -  | - |
| III  | -  | - | -  | - | 1  | - | CC    | -  | - | -  | - | -  | - |
| IV   | -  | 1 | 1  | - | -  | - |       | -  | - | -  | - | -  | - |

**PC. No. 07: AEE's in R & B in Electrical Engineering Branch**

| State wide post | OC |   | BC-A |   | BC-B |   | BC-C |   | BC-D |   | BC-E |   | SC |   | ST |   | PH |    | Total |    | Grand Total |
|-----------------|----|---|------|---|------|---|------|---|------|---|------|---|----|---|----|---|----|----|-------|----|-------------|
|                 | G  | W | G    | W | G    | W | G    | W | G    | W | G    | W | G  | W | G  | W | G  | W  | G     | W  |             |
|                 | 4  | 2 | 2    | - | -    | 1 | -    | - | -    | - | -    | - | -  | - | 1  | - | 1  | HH | -     | 08 |             |
| <b>TOTAL</b>    | 4  | 2 | 2    | - | -    | 1 | -    | - | -    | - | -    | - | -  | 1 | -  | 1 | -  | -  | 08    | 03 | 11          |

**NB:-** Under GSR 526-E of G.O. Ms. No. 674, Dated: 22/10/1975, The Electrical establishment has been declared as special establishment. Hence no zonal regulation is applicable to these posts as per Para-8 of above said G.O. Selection is based on the Open Competition as per ranking.

**PC. No. 08: AEE's in PH & ME Dept., in Civil / Mechanical Engineering Branch**

| Zone          | OC |    | BC-A |   | BC-B |    | BC-C |   | BC-D |   | BC-E |   | SC |   | ST |    | PH |    | Total |    | Grand Total |    |
|---------------|----|----|------|---|------|----|------|---|------|---|------|---|----|---|----|----|----|----|-------|----|-------------|----|
|               | G  | W  | G    | W | G    | W  | G    | W | G    | W | G    | W | G  | W | G  | W  | G  | W  | G     | W  |             |    |
| I             | 3  | -  | -    | - | -    | -  | -    | - | -    | - | -    | - | 1  | - | -  | -  | 1  | HH | -     | 05 | -           | 05 |
| II            | 2  | -  | -    | - | -    | -  | -    | - | -    | - | -    | - | -  | - | 1  | -  | 1  | OH | -     | 03 | 01          | 04 |
| III           | 2  | -  | -    | - | -    | -  | -    | - | -    | - | -    | - | -  | - | 1  | -  | -  | -  | 03    | -  | 03          |    |
| IV            | 2  | -  | -    | - | -    | -  | -    | 1 | -    | - | -    | - | 1  | - | -  | -  | -  | -  | 04    | -  | 04          |    |
| V             | 1  | 1  | -    | - | -    | -  | -    | - | -    | - | -    | - | -  | - | -  | -  | -  | -  | 01    | 01 | 02          |    |
| VI            | -  | 1  | -    | - | -    | 1  | -    | - | -    | - | -    | - | -  | - | -  | -  | -  | -  | -     | 02 | 02          |    |
| <b>Total:</b> | 10 | 02 | -    | - | -    | 01 | -    | - | 01   | - | -    | - | 02 | - | 01 | 01 | 02 | -  | 16    | 04 | 20          |    |

**ANNEXURE – II****SUPPLEMENTAL NOTIFICATION NO. 17/2010 TO NOTIFICATION NO. 36/2008, Dt. 30/12/2008****FOR POST CODE NO'S: 01 TO 08:- SCHEME AND SYLLABUS FOR THE POSTS OF ASSISTANT EXECUTIVE ENGINEERS IN VARIOUS ENGINEERING SERVICES****SCHEME****Degree Standard:**

| <b><u>PART-A WRITTEN (OBJECTIVE TYPE) EXAMINATION</u></b> |  |           |         |             |
|---|--|-----------|---------|-------------|
| <b>Paper -1:</b>  | General Studies & Mental ability   | 150 Marks | 150 Qns | 150 Minutes |
| <b>Paper-2:</b>   | <b>Optional subject:</b><br>Common for Civil and Mechanical Engineering OR Electrical Engineering OR Agricultural Engineering OR Instrumentation Engineering<br><br>N.B: The syllabi and paper for Civil and Mechanical Engineering are common. The syllabus and paper for Electrical Engineering, Agricultural Engineering, Instrumentation Engineering are separate. | 150 Marks | 150 Qns | 150 Minutes |
| <b>Paper-3:</b>   | <b>Optional subject:</b><br>Civil Engineering OR Mechanical Engineering OR Electrical Engineering OR Agricultural Engineering OR Instrumentation Engineering<br><br>N.B: The syllabi and papers are separate for each subject  | 150 Marks | 150 Qns | 150 Minutes |
| <b><u>PART-B: INTERVIEW</u></b>                           |  | 50 Marks  |         |             |

**Note:** Candidates should invariably appear for the optional subject in which he/she has acquired Engineering Degree.

**SYLLABUS****PAPER-1 GENERAL STUDIES & MENTAL ABILITY**

1. General Science – Contemporary developments in Science and Technology and their implications including matters of every day observation and experience, as may be expected of a well-educated person who has not made a special study of any scientific discipline.
2. Current events of national and international importance.
3. History of India – emphasis will be on broad general understanding of the subject in its social, economic, cultural and political aspects with a focus on AP Indian National Movement.
4. World Geography and Geography of India with a focus on AP.
5. Indian polity and Economy – including the country's political system- rural development – Planning and economic reforms in India.
6. Mental ability – reasoning and inferences.

**PAPER-2: COMMON SYLLABUS FOR CIVIL & MECHANICAL ENGINEERING**

**STRENGTH OF MATERIALS:-**

Simple stresses and Strains: Types of stresses and strains - Hook's Law, Stress-strain curve for mild steel working stress and factor of safety Poisson ratio - State of simple shear, complementary - Shear Elastic constants and their relations - Compound bars - Thermal stress.

Compound stresses Mohr's circle of stress - Principal stresses and planes.

Shear force and bending moment diagrams: S.F.D. and B.M.D. for cantilevers, simply supported beams and over hanging beams subjected to point loads and uniformly distributed loads. Relations among load, shear force and bending moment.

Bending and shear stress: Basic equation;  $M/I = F/Y = E/R$  - Distribution of bending and shear stresses across various cross sections such as rectangular, circular, I and T sections, Torsion of Circular shafts - power transmission.

Columns and struts: Euler's theory and Rankine's Theory - Secant and Perry formulae for eccentrically loaded columns.

Deflections and slopes: Slopes and deflections in cantilevers simply supported beams; propped beams and fixed beams subjected to point loads and uniformly distributed loads.

**FLUID MECHANICS AND HYDRAULIC MACHINERY:**

Fluid statics: Hydrostatic force on a plane and curved area Centre of pressure and its applications to lockgates and dams Metacentric height.

Fluid Dynamics: Convective and local acceleration, Euler's equation of motion and its integration, Bernoulli's equation motion and its application, flow in curved path. Free and forced vortex.

Flow measurements: Notches and weirs, venturimeters, pitot tube, nozzle meter, current meter.

Compressible Flow: Velocity of pressure wave, wave velocity for adiabatic and isothermal compression, Basic equations of one-dimensional flow continuity, energy and momentum equations.

Laminar and turbulent flow through pipes: Reynolds experiment significance of Reynold's number, formulae for laminar flow through circular pipes, Turbulent flow-Darcy Weisbach equation, friction factor and Mody's diagram.

Turbines: Classification, specific speed velocity triangles Principles of design of reaction and impulse Turbines, characteristic curves.

Pumps: Centrifugal pumps, velocity triangles, Work done and efficiency minimum starting speed, loss of head; specific speed and characteristic curves for centrifugal pumps.

**PAPER-2: OPTIONAL ONLY FOR ELECTRICAL ENGINEERING**

1. **Electric Circuits:** Active and passive network elements – dependent and independent sources – response of passive elements to arbitrary excitations – energy stored in inductance and capacitance – Kirchoff's laws – formation of mesh and nodal intergo differential equations – their solutions by classical and Laplace transformation methods – Transient and steady state response of RL, RC elements to impulse, step, ramp and sinusoidal inputs – single phase AC circuits – methods of solutions – poly phase circuits – analysis of balanced and unbalanced circuits – measurements of three phase power.
2. **Electrical Measurements and Instruments:** Absolute and secondary instrument types – Principle of operation of different type of instrument – extension of instrument ranges – measurement of voltage, current, power and energy – localization of cable faults – Murray loop and Varley loop tests – Cathode ray Oscilloscope.
3. **Illumination:** Solid angle, luminous flux, luminous intensity – Illumination and candle power – laws of Illumination – flood lighting, street lighting – electric lamps.
4. **DC Generators and Motors:** Types of DC generators – EMF equation – constructional details – characteristics of shunt, series and compound generators – Armature reaction – types of DC motors – Torque developed in a DC motor – speed controls of DC motors and starters.
5. **Transformers:** Constructional details – Principle of operation – vector diagrams on no load and load – regulation and efficiency – equivalent circuits and tests for the determination of parameters of equivalent circuits – types of three phase transformers and their applications – Scott connection of transformers.
6. **3-Phase Induction Motors:** Principle of operation – Cage and Slip ring motors – torque slip characteristics – methods of speed control.
7. **3-Phase Alternators:** Principle of operation and constructional details – types of Alternators – synchronous impedance – voltage regulation – short circuit ratio and its importance – phasor diagrams of round rotor and salient pole machines – synchronization – behavior of an alternator connected to infinite bus – effect of varying excitation current and mechanical torque – power angle curves – control of active and reactive powers.
8. **3-Phase Synchronous Motors:** Principle of operation – torque developed and methods of starting – V and Inverted V curves – effects of variations of excitation – synchronous condensers.
9. **Single phase induction Motors:** Types of single phase motors – Types of Single phase induction motors – characteristics and methods of starting – shaded pole induction motor.



**ONLY FOR AGRICULTURAL ENGINEERING - PAPER-2**

**I. Surveying and Leveling and Theodoliting:** Surveying – objectives, primary divisions, classification, principles of surveying units of measurement, difference between a plan and a map. Scales – representative fraction, types of measuring scales, degree of accuracy. Linear measurements – method of measurement of pacing, chains and their constructional details, chain types, folding and unfolding of chains, measuring tapes, instruments for chain survey. Ranging – chaining on flat and sloping grounds, chain and tape correction. Chain surveying – definitions, method of booking field notes, offsets, layout of off-sets, cross staff survey, obstacles in chaining, problems on errors in chaining. Computation of areas by planimeter. Compass survey – types of traverse, meridians bearing – types, designation of bearings, fore and back bearings, calculation of included angles from bearings. Description of prismatic and surveyor compass – method of using prismatic compass, magnetic declination, determination of true bearings from magnetic bearings, running a compass traverse. Local attraction – problems on correction of local attraction. Plane table survey – accessories of plane table, basic definitions, setting of plane table, orientation, methods of plane tabling.

**Leveling** – basic definitions, methods of leveling, classification of direct leveling. Instruments used in leveling – dumpy level, leveling staff. Temporary adjustments of dumpy level. Bench marks. Booking the staff readings – methods of reducing levels. Leveling difficulties and errors in leveling.

**Theodolite** – components and temporary adjustments of a theodolite – measurement of horizontal angles by direct method, repetition and reiteration method – measurement of vertical and deflection angles. Measurement of deflection angles, magnetic bearings of line – traversing by included angles – traverse computations and volume computations.

**ii. Fluid mechanics and Open Channel Hydraulics:** Fluids – classification, properties and dimensions. Fluid pressure – measurement, manometry, classification of manometers. Fluid static force on submerged surfaces – total force on horizontal, vertical and inclined surfaces, center of pressure and practical applications – kinematics of fluid flow – lines of flow, general types of fluid flow, equation of continuity, flow net boundary layer theory. Dynamic of fluid flow – various forms of energy in fluid flow, frictional loss, general energy equation, Bernoulli's theorem, Euler's equation of motion. Practical applications of Bernoulli's theorem. Venturi meter, Pitot tube, orifice meter. Buoyancy Floatation – meta centric height. Flow through orifices and mouthpieces – vena contracta, hydraulic coefficient and their experimental determination. Flow over weirs and notches – classification, discharge measurement thorough rectangular, triangular, trapezoidal weirs, broad crested weirs, flow through pipes – laws of head in pipes, pipes in series and compound pipes, equivalent size. Open channel hydraulics, classification of open channels and definitions, most economical sections of regular cross sections, specific energy concepts – Critical depth, energy diagrams, velocity and pressure profiles in open channels, hydraulic jump – types.

**iii. Soil Mechanics:** Soil mechanics – definitions and relationships, Classification of soils – particle size distribution, sieve analysis, sedimentation analysis, stokes law. Consistency of soils – determination of liquid, plastic and shrinkage limits. Permeability – Darcy's law, discharge velocity and seepage velocity, coefficient of permeability. Seepage of Soils – flownet properties and uses. Elasticity applied to soils – stress distribution, Bousinesq's stress distribution theory, Isobar and pressure bulb, Vertical Pressure under uniformly loaded rectangular area, Comparison of Bousinesq's theory with linear theory, Westergard's theory. New mark's influence chart, consolidation – process of consolidation relationship between void ratio and pressure, coefficient of volume change, time factor, settlement of soil. Compaction – introduction, factors. Shear strength – definition, Mohr's circle, Mohr Coulomb failure theory, measurement of shear strength. Earth pressure – active and passive earth pressure, Rankine's theory, slip circle method, Coulomb's wedge theory. Design requirements of retaining wall. Stability of slopes – types of failure and remedial measures. Bearing capacity – Rankine's analysis, Terzaghi's analysis, general and local shear failure, plate load test.

**iv. Electronics:** Photoelectricity – photoelectric emission, laws of photoelectric emission, phototube and photo multiplier tube. Thermo electricity – Seebeck effect, Peltier effect, variation of e.m.f. with temperature, laws of thermo electricity, thermo couple, thermometer. Alternating currents – average value, r.m.s. value of A.C. circuits with resistance, inductance and capacitance, L.C.R. circuits resonance circuits, watt meter, A.C. frequency measurement, transformers. Electronics – types of emission, methods of heating, vacuum tubes, diode, space charge, diode characteristics, Child's law of diode, rectifiers, half wave and full wave rectifiers, filter circuit types. Triode – action of grid, triode characteristics, tube constants, inter electrode capacitance, multi-electrode tubes, triode as an amplifier, classification of amplifiers. Metals semi conductors and insulators – N type, P type, germanium, P N junction diodes, junction triode transistors NPN and PNP.

**v. Fundamentals of soil science:** Nature and properties of soil – soil genesis and classification. Soil clay and organic matter. Physical and chemical properties of soils. Soil fertility and its evaluation. Soil water relations. Acidic, saline and alkali soils and their management.

Determinations of the followings: Total soluble salts by EL method, available nitrogens, available P.K. chlorides by mohars method, sulphates, calcium, (ca + mg), sodium, potassium, computation of SAR, RSC.

**vi. Strength of materials:** Introduction – units and dimensions – simple stresses and strains, elastic limit, compressive stress, tensile stress, principle of super position, stresses in bars of uniform tapering circular section, stresses in composite bars, elastic constants, primary secondary strains, poissions's ratio, volumetric strain, bulk modulus, shear modulus, and their relationships. Principal stresses and strains – analytical and graphical methods. Strain energy and impact loading – strain energy stored in a body gradually applied, suddenly impact, shock load, proof resilience. Shear force and bending moment of beams – cantilever, over handing, simply supported, application of point load, uniformly distributed load. Bending stresses in beams – theory of simple bending, neutral axis, moment of resistance, section modulus, bending stress in unsymmetrical sections. Shearing stresses in beams – loaded beam, distribution of shear stresses, different sections. Deflection of simple beams – relation between slope, deflection and radius of curvature. Methods of determination of slope and deflection and radius of curvature. Methods for determination of slope and deflection – double integration. Macaulay's method.

**vii. Soil Physics:** Dynamic properties of soils – bulk density, particle density, porosity, void ratio, volume expansion, soil consistency, soil compaction, soil strength. Soil texture, soil separates, particle size analysis, stoke's law, derivation, it's applicability and limits of validity. Classification of soil types, significance of soil texture, soil structure – definition, genesis, classification, evaluation of soil structure, indices of soil structure – methods of improving soil structure. Soil water, structure of water, properties of water, potential terminology, soil moisture potentials, soil moisture tensions, pF values, soil moisture constants, loss of soil water movement in saturated and unsaturated conditions, general flow equations, water infiltration into soil profile and its redistribution, infiltration equations, seepage and deep percolation losses. Soil temperature – thermal properties of soils, heat transfer in the soils, modifying the thermal regime of soils. Soil air-composition of soil air, movement of gases through soils, influence of aeration on plant growth, measurement of soil aeration. Soil air management. Physically problematic soils and their management.

**viii. Fundamentals of Agronomy:** Agriculture in India – definition of agriculture and agronomy, development of scientific agriculture, important events in Indian agriculture, important national and international institutes.

Agricultural meteorology – introduction, definition of meteorology, weather and climate and their importance in agriculture. Weather aberrations – inadequate and excess rainfall, unseasonal rains, cyclones, depressions, cold and heat waves, frost, hailstorms, hurricanes. Tornado. Drought and their effect on crop production. Weather forecasting – importance, types of forecasting, synoptic charts, weather forecasting organisations. Agroclimatic zones of Andhra Pradesh. Agricultural seasons in the state.

Tillage and tilth – objectives, characteristics of good tilth, types of tillage, preparatory cultivation, intercultivation, aftercultivation and preparatory cultivation for low land rice. Sowing – Methods of sowing – Time and depth or sowing.

Crops and their classification. Manures and fertilizers – method and time of application, relationship between soil moisture and fertilizer application. Weeds – definitions, their influence on crop production, principles of crop weed competition, critical periods of weed competition in different crops, principles of weed management and methods of weed control. Crop water requirements – critical stages of irrigation in important crops, scheduling of irrigation, methods of irrigation and water use efficiency. Cropping systems – definition. Principles of crop rotation and mixed cropping. Problems of dry land agriculture and water shed management.

**ix. Hydrology:** Hydrology – definition, hydrologic cycle and its components. Forms of precipitation – rainfall, measurement and analysis, point rainfall analysis, probability analysis, determination of net effective rainfall, phi index. Runoff – components, factors affecting runoff, estimation of design peak runoff rates, rational method, curve number method, rainfall runoff relations. Hydrographs – components, factors affecting hydrographs, separation of hydrographs for simple and complex storms. Unit hydrographs – concept and derivation, conversion of unit hydrographs, superposition method, S curve method. Synthetic units hydrographs – Necessary and derivation, synder's method and applications, instantaneous unit hydrograph. Flood routing – introduction, basic equations, hydrologic storage routing, modified Pul's method.

**x. Thermodynamics and Heat Engines:** Basic concepts of thermodynamics – thermodynamic equilibrium, energy and forms of energy, heat and work, thermal capacity and specific heat. Ideal gases – introduction, laws of perfect gases. Specific heats of gases. Laws of thermodynamics – zeroth law, first law, thermodynamic processes based on first law, entropy, second law of thermodynamics, refrigerator & heat pump, reversibility and irreversibility, Carnot's theorem. Gas cycles – efficiencies. Air standard cycles – efficiencies. Fuels types, calorific values of fuels,

Bomb calorimeter, Boy's gas calorimeter, properties of fuels, apparatus for determination of fuel properties. Combustion of fuels – combustion equations, carbon analysis, flue gas analysis, Orsat apparatus. Heat engines – E.C. and I.C. engines, classification of I.C. engines, principles of operation, S.I. and C.I. engines, two stroke and four stroke engines, valve timing diagrams. Testing of I.C. engines – IHP, BHP, air consumption, fuel consumption, air-fuel ratio, efficiencies, heat balance sheet. Reciprocating air compressors – working, workdone. Horse power, volumetric efficiency, isothermal efficiency, multistage air compressors, inter cooling, condition for maximum power, P V diagrams. Formation and properties of steam, entropy of steam.

**xi. Electrical Engineering and Farm Electrification:** Basic electrical quantities – specific resistance temperature coefficient. Network theorems – Kirchoff's laws, Maxwell's loop method. Nodal analysis – superposition theorem, Thevenin's theorem. Star delta transformation. D.C. generators – classification, lap and wave wound generators, E.M.F. equation of a generator, losses, condition for maximum efficiency, armature reaction, commutation. D.C. motors – maximum power, armature torque, shaft torque, speed regulation. Motor characteristics – series motors, shunt motors, compound motors. Motors starters.

Farm electrification and load estimation. Transformers – introduction, working principles. A.C. motors – types of motors, starting torque, running torque, starting of induction motors. Types of single-phase motors.

**xii. Computer Programming in 'C':** Computers – introduction, types, generation of computers, input output devices, central processing unit, memory devices, processors, key board, printers, 'C' Language – introduction, importance of 'C' basic structure of 'C' programme, algorithms, flow charts, programming translation. Programming preliminaries and fundamentals – constants, variables, data types, operators and expressions, input and output in 'C' decision making and branching, decision making and looping, arrays, functions, common programming errors. Writing of complete programmes - programme on mean, standard deviation and coefficient of variation, summation of series, quadratic equations, matrices addition, subtraction and multiplication, correlation and linear regression. Application of 'C' language for solving the problems related to agricultural engineering.

**xiii. Engineering Mechanics:** Introduction – units and dimensions. Classification of force system – coplanar, colinear, concurrent, coplanar parallel forces, resolution of forces. Condition of equilibrium - action and reaction, free body diagram. Support reactions – types of supports, types of loading, finding reactions of simply supported, overhanging, roller and hinged beams, analytical and graphical methods. Analysis of perfect frames – types, reaction of supports of a frames – types, reaction of supports of a frame by method of joints, method of sections and graphical method. Center of gravity and moment of inertia – determination by method of moments, theorems of parallel and perpendicular axes, product of inertia. Friction – definitions, types, laws of friction, angle of repose, equilibrium of a body, analysis of ladder and wedge friction. Lifting machines – definitions, law of machine, study of important lifting machines. Virtual work – principle, units and applications.

**xiv. Refrigeration and Air Conditioning:** Principles of refrigeration – units, terminology, production of low temperatures, air refrigerators working on reversed Carnot cycle and bell Coleman cycle. Vapour compression refrigeration – mechanism, PV, PS, PH diagrams, vapour compression cycles, dry and wet compression, superheating and sub cooling, Vapour absorption refrigeration system. Common refrigerants and their properties. Design calculations for refrigeration systems. Cold storage plants.

Air conditioning – factors of human comfort, equipment used in A/C cycle, classification of A/C system, winter, summer and central A/C system, design calculations for air conditioning systems.

**xv. Mechanical Measurements and Instrumentation:** Measurement and its significance – methods of measurement, instruments, classification of instruments, elements of a generalised measurement system, errors in measurement and their uncertainty. Detector transducer elements – introduction, primary and secondary transducers, classification, signal conditioning and data presentation elements, static performance characteristics of instruments. Measurement of pressure – introduction, types of pressure measuring devices, ranges and their application. Measurement of strain – introduction, strain gauge, resistance strain gauge theory, strain gauge circuits, strain gages arrangement for the measurement of axial force, bending force, torque and pressure. Measurement of temperature – introduction, classification of temperature measuring devices, methods of measuring temperature, Measurement of sound – introduction, measurement of sound using microphones. Measurement of vibration – introduction, seismic transducers, types of accelerometers. Study of miscellaneous instruments – tachometers, stroboscope, proving ring, LVDT.

**xvi. Theory of structures:** Theory of structures – introduction, moment, slope, deflection equations and applications of propped, fixed and continuous beams, theorem of three moments. Stresses in thin walled vessels – cylindrical and spherical. Combined bending and axial thrust of columns – Euler's formulae for long struts, practical applications, empirical column formula.

**xvii. Heat and Mass Transfer:** Heat transfer – modes of heat transfer. Heat transfer by conduction – through tubes, composite tube section, plain and composite walls, overall heat transfer coefficient, critical insulation thickness, unsteady state heat conduction with known temperature distribution, with negligible internal thermal resistance, application of Heisler chart heat transfer by convection free and forced convection, determination of Nusselt's number with dimensional analysis. Heat transfer by radiation – black body concept, Planck's law, Stefan Boltzmann's law, gray body, emissive power of gray body, emissivity, Kirchoff's law, combined heat transfer coefficient, fouling factor, LMTD and NTU method of heat exchanger analysis. Mass Transfer – molecular diffusion in gases, liquids and solids, unsteady state diffusion, convective mass transfer coefficients.

**ONLY FOR INSTRUMENTATION ENGINEERING: PAPER-2**

**Unit – I. Transducers and Signal conditioners:**

Introduction to Instrumentation and Measurement systems. General concepts and terminology, measurement systems, Transducers classification, general input-output configuration, methods of correction, performance characteristics - static characteristics of measurement systems, accuracy, precision, sensitivity, other characteristics: linearity, resolution, systematic errors, random errors, dynamic characteristics of measurement systems: zero-order, and second-order measurement systems and response to step, ramp and impulse inputs. Loading effects under dynamic conditions.

Resistive, Inductive, Capacitive, Self-Generating Transducers, Thermal and Radiation Transducers, Photo sensors. Signal Conditioners for Different Transducers. Digital Sensors.

**Unit – II . Instrumentation Components:**

Mechanical Components, Pneumatic Components, Electrical & Electromechanical Components, Electronic Components, Optoelectronic Components.

**Unit – III. Electrical and Electronic Measurements and Instruments:**

Introduction to measurements, Physical measurements, Forms and methods of measurements. Measurements errors. Statistical analysis of measurement data. Probability of errors. Limiting errors.

Standards, Definitions of standard units, Types of standards, Standards for various parameters. Reliability, Testing and calibration, Types of calibration, Calibration of different Equipments. AC and DC Voltage and Current measurements. Bridges and measurements using bridges. HF Bridges. Electrical Instruments, Electronic Instruments, Oscilloscopes, Signal Generators and Analysers, Frequency and Time Measurements. Spectrum Analysers.

**Unit – IV . Electronic Equipment Design:**

Systematic Product Design - Product design methodology, Design concepts and Guidelines, Design morphology, Economic and Technical feasibility, Structure and functions of electronic instrument. Utility concepts in reliability, Mortality curve, MTTF, MTBF, Series, Parallel and standby systems.

Control Panel Design, Electronic Test Equipment (Circuit Design), Instrumental Performance, Printed Circuit Boards – Fabrication Technology, Design of Coils, Transformers and Fabrication Technology.

**Unit – V . Opto-Electronic Instrumentation:**

Optical Fibres and their Properties, Laser Fundamentals, Fiber Optic Sensors, Laser Instrumentation, Holography – Principles, Methods, Holographic interferometers and applications. Medical Applications, Opto-Electronic Components.

**Unit – VI . PC Based Instrumentation:**

Introduction to Computers: Personal Computer, Operating System, I/O Ports, Plug-in-slots, PCI bus, Operators Interface. Computer Interfacing for Data Acquisition and Control – Interfacing Input Signals, Output system with continuous actuators.

Data Acquisition and Control using Standard Cards,

PC Programming Considerations – Using the command line Interface, Assembly language programming, C and C++ Programming, data transfer, Scaling and Linearisation.

Programmable Logic Controller (PLC) basics – Definition , Overview of PLC Systems, Input / Output Modules, Power supplies and Isolators. Basic PLC programming, Basic PLC functions, PLC Intermediate Functions, PLC Advanced Functions. Applications.

### PAPER – 3 : OPTIONAL ONLY FOR CIVIL ENGINEERING

1. BUILDING MATERIALS: Timber: Different types and species of structural timber, density – moisture relationship, strength in different directions, defects, preservations, plywood.  
Bricks: Types, Indian standard classification, absorption, saturation factor, strength in masonry, influence of mortar strength on masonry strength.  
Cement: Compounds of different types, setting times, strength.  
Cement mortar: Ingredients, proportions, water demand, mortars for plastering and masonry.  
Concrete: Importance of w/c ratio, strength, ingredients including admixtures, workability, testing for strength, mix design methods, non-destructive testing.
2. STRUCTURAL ANALYSIS: Analysis of determinate structures – different methods. Analysis of indeterminate skeletal frames – Moment distribution, Slope deflection, Kani's, Stiffness and force methods, Energy methods, Muller Breslan principle and application. Plastic analysis of indeterminate beams and simple portal frames – Shape factors.
3. DESIGN OF STEEL STRUCTURES: Principles of working stress method. Design of connections, Simple members, Built-up sections and Frames, Design of industrial roofs. Principles of ultimate load design. Design of simple members.
4. DESIGN OF CONCRETE AND MASONRY STRUCTURES: Limit state design for bending, Shear, Axial compression and combined forces. Codal provision for slabs, Beams, Columns and footings. Working stress method of design of R.C. members. Principles of pre-stressed concrete design, Materials, Methods of pre-stressing, losses. Design of simple members and determinate structures. Design of brick masonry as per IS codes.
5. CONSTRUCTION PLANNING AND MANAGEMENT: Bar chart, Linked bar chart, Work break down structures, Activity – on – arrow diagrams. Critical path, Probabilistic activity durations, Event based networks. PERT network: Time-cost study, Crashing, Resource allocation.
6. HYDROLOGY AND WATER RESOURCE ENGINEERING: Hydrological cycle, Precipitation and related data analysis, Unit hydrographs, Evaporation and transpiration. Floods and their management, Stream gauging, Routing of floods, Capacity of reservoirs. Multi purpose uses of water: Soil-plant – Water relationships, Irrigation systems. Water demand assessment: Storages and their yields. Ground water yield and well Hydraulics. Water logging and drainage design. Design of rigid boundary canals, Lacey's and tractive force concepts in canal design, Lining of Canals, Sediment transport in canals, Non-overflow and overflow dams and their design, Energy dissipators, Design of head works, Distribution works, Falls, Cross-drainage works, Outlets, River training.
7. ENVIRONMENTAL ENGINEERING:
  - a. Water Supplying Engineering: Sources of supply, Yields, Design of intakes and conductors, Estimation of demand. Water quality standards, Control of water borne diseases. Primary and secondary treatment. Conveyance and distribution systems of treated water, Leakages and control. Rural water supply. Institutional and industrial water supply.
  - b. Waste Water engineering: Urban rain water disposal, Systems of sewage collection and disposal. Design of sewers and sewerage systems, Pumping. Characteristics of sewage and its treatment. Disposal of products of sewage treatment. Plumbing systems. Rural and semi-urban sanitation.
  - c. Solid Waste Management: Sources and effects of air pollution, Monitoring of air pollution, Noise pollution, Standards, Ecological chain and balance. Environmental assessment.
8. SOIL MECHANICS AND FOUNDATION ENGINEERING: Properties and classification of soil, Compaction, Permeability and Seepage, Flow nets, Inverted filters, Compressibility and consolidation. Shearing resistance, Stresses and failure. Soil testing in laboratories and in-situ, Earth pressure theories, Stress distribution in soils, Soil exploration, Samplers, Load tests, Penetration tests. Types of foundations, Selection criteria, Bearing capacity, Settlement, Laboratory and field tests, Types of piles and their design and layout. Foundations on expansive soils, Swelling and its prevention, Foundation on swelling soils.
9. SURVEYING AND TRANSPORT ENGINEERING: Classification of surveys, Scales, Accuracy, Measurement of distances, Direct and indirect methods, Optical and electronic devices, Measurement of directions, Prismatic compass, Local attraction, Theodolites, Types, Measurement of elevations, Spirit and trigonometric leveling, Contours, Digital elevation modeling concept, Establishment of control by triangulations and traversing, Measurement and adjustment of observations, Computation of coordinates, Field astronomy, Concept of global positioning system, Map preparation by plane tabling and by photogrammetry, Remote sensing concepts, Map substitutes. Planning of Highway systems, Alignment and geometric design, Horizontal and vertical curves, Grade separation, Materials and construction methods for different surfaces and maintenance. Principles of pavement design, Drainage. Traffic surveys, Intersections, Signaling, Mass transit systems, Accessibility, Networking.



**PAPER-3 : OPTIONAL ONLY FOR MECHANICAL ENGINEERING**

1. THERMODYNAMICS: Basic concepts, Open and closed systems. Heat and work, Zeroth, First and second law, application to flow and non-flow processes. Entropy, Availability, Irreversibility, T-S relations, Clapeyron and real gas Equations. Properties of ideal gases and vapours. Air standard cycles, Two stage air compressor, CI and SI engines, Valve travel diagram, Pre ignition, Detonation and Diesel knock, Fuel injection, Carburetion, Super charging, Turbo prop and Rocket engines. Cooling, Emission and Control. Measurement of calorific value of fuels. Conventional and Nuclear fuels.
2. HEAT TRANSFER: Modes of heat transfer. One-dimensional steady and unsteady conduction. Composite slab and equivalent resistance. Heat dissipation from extended surfaces. Heat exchangers, Overall heat transfer coefficient, Empirical correlations for heat transfer in laminar and turbulent flow, Heat transfer in free and forced convection. Thermal boundary layer over a flat plate. Fundamentals of diffusive and convective mass transfer. Black body and fundamental concepts of radiation. Shape factor, Network analysis.
3. REFRIGERATION AND AIR CONDITIONING: Heat pump, Refrigeration cycles and systems, Refrigerants, Condensers, Expansion devices, Psychrometry, Charts and application to air conditioning, Sensible heating and cooling. Effective temperature, Comfort indices, Load calculations. Solar refrigeration, Duct design.
4. STEAM GENERATORS AND TURBINES: Fire tube and water tube boilers. Binary vapour system. Flow of steam through nozzles and Diffusers. Dryness fraction, Condensation. Various types of turbines, Compounding, Velocity triangles, Partial admission, Reheat, Regeneration, Efficiency and Governance. Gas Turbines, Role of Mach number.
5. THEORY OF MACHINES: Kinematic and DYNAMIC ANALYSIS OF PLANAR MECHANISMS CAMS Gears and Gear trains. Fly wheels, Governors, Balancing of rotating masses, Balancing of single and multi cylinder engines. Linear Vibrations of mechanical systems, Transmissibility and Vibration Isolation. Critical speeds. Two rotor and Three rotor systems. Automatic controls - Order and Type of system, 2<sup>nd</sup> order system and its characteristics. Frequency analysis. Stability, Routh-Hurwitz criterion, Nyquist criterion.
6. MACHINE DESIGN: Theories of failure, Design of Cotter joint, Keys, Splines, Welded Joints, Threaded fasteners, Bolt of uniform strength, Screw Jack. Design of Bearings, Couplings, Clutches, BELT DRIVES and Spur gear system. Hydrodynamic and Antifriction bearings. Design of shafts for combined loads. Helical and Leaf Springs. Thin and Thick walled pressure vessels.
7. ENGINEERING MATERIALS: Basic concepts of structure of solids. Crystalline Materials. Defects in Crystalline materials. Alloys and Binary Phase diagrams. Structure and properties of common Engineering Materials. Heat treatment of Steels. Plastics, Ceramics and Composite materials. Common applications of various materials.
8. PRODUCTION ENGINEERING: Metal Forming: Basic principles of Forging, Drawing and Extrusion. High energy rate forming. Powder Metallurgy.  
Metal Casting: Die casting, Investment Casting, Shell molding, Centrifugal casting, Gating and Riser design, Melting furnaces.  
Fabrication processes: Principles of Gas, Arc and Shielded Arc welding. Advanced welding processes. Weldability, Metallurgy of Welding.  
Metal cutting: Turning, Methods of Screw production, Drilling, Boring, Milling, Gear Manufacturing, Production of Flat surfaces, Grinding and Finishing processes. Computer controlled manufacturing systems-CNC, DNC, FMS, Automation and Robotics.  
Cutting Tool Materials, Tool geometry, Mechanism of Tool Wear, Tool Life and Machinability. Measurement of Cutting Forces. Economics of Machining. Unconventional Machining processes. Jigs and Fixtures. Fits and Tolerances. Measurement of Surface texture. Comparators Alignment Tests and Reconditioning of Machine Tools.
9. INDUSTRIAL ENGINEERING: Production planning and Control: Forecasting, Moving Averages, Exponential Smoothing, Operations, Scheduling, Assembly line balancing. Product Development, Break-even analysis, Capacity Planning, PERT and CPM.  
Control Operations: Inventory Control, ABC analysis, EOQ model, Material requirement Planning. Job Design, Job standards, Work Measurement, Quality Management, Quality Analysis and Control.  
Operations Research: Linear Programming – Graphical and simplex methods. Transport and Assignment Models. Single server Queuing Model.  
Value Engineering: Value analysis for Cost value.
10. ELEMENTS OF COMPUTATION: Computer Organization, Flow charting, Features of Common Computer Languages – FORTRAN, d Base III, Lotus 1-2-3, C and Elementary Programming.

**PAPER-3 : OPTIONAL ONLY FOR ELECTRICAL ENGINEERING**

- 1. Transmission & Distribution:** Line constants – Inductance and Capacitance calculations – Representation of over head Lines – Short, Medium and Long lines – ABCD constants – Mechanical Design – Sag, Tension Calculations, Tuned Power Lines.
- 2. Over Head Line Insulators:** Types of Insulators – Potential distributions over a string of suspension insulators – string efficiency – Methods of improving string efficiency.
- 3. Underground Cables:** Insulation of cables – Grading of cables – Capacitance Measurement in cables – Testing of Cables – Power frequency withstand tests.
- 4. Fault Calculations:** Balanced Fault calculations on systems – Symmetrical components – Types of faults – Analysis of unbalanced faults.
- 5. Generating Stations:** Location and types, types of hydroelectric power stations, layout of a hydro-power plant, types of turbines used – Pumped storage installations – Layout of thermal electric power stations, types of turbines used, condensers, cooling towers, boiler feed pump; energy flow diagram of steam power plant. Nuclear power generation; nuclear fission – types of nuclear power reactors – Principle of a fast breeder reactor.
- 6. Protection:** Characteristic of Relays – Over current, directional and distance protection of lines. Protection of Alternators against stator faults, rotor faults, loss of excitation, unbalanced loading, overloading, failure of prime-mover. Over speeding and over voltage. Protection of transformers against winding faults, overloads and external short circuits.
- 7. Circuit Breakers:** Air-blast, oil, minimum oil, vacuum – sulphur hexafluoride and d.c. circuit breakers – Relative merits and demerits.
- 8. Economic Aspects:** Generation costs and their classification, load curve, load utilization and plant capacity factors. Load sharing between base load and peak-load stations. Load forecasting. Economical distribution of load between unit within a plant and between plants. Modeling of fuel costs for thermal generation. Optimal operation of an all thermal generating system and of a hydro-thermal system. Consideration of transmission losses.
- 9. Utilization of Electrical Energy:** Industrial drives – Motors for various drives – Estimating and Rating – Testing of D.C. and A.C. motors – Neutral Earthing.

**PAPER-3: OPTIONAL ONLY FOR AGRICULTURAL ENGINEERING**

**I. Agricultural process Engineering (Unit Operations):** Introduction to unit operations – classification, conservation of mass and energy SI system of units, consistency of units. Size reduction – principles of comminution, characteristics, particle size distribution, energy and power requirements, crushing efficiency, Rittinger's, Kick's and Bond's laws of crushing. Size reduction equipments – crushers, hammer mills, attrition mills and ball mills. Mixing – mixing of solids, pastes and liquids, characteristics of mixtures, blending, emulsification, mixing index, mixing and blending equipments. Evaporation – single and multiple effect evaporators steam economy, vacuum evaporation, vapour compression, boiling point elevation. Evaporation equipments – open pan, short and long tube evaporators, forced circulation evaporators. Mechanical separations – filtration filter cake resistance, filtration equipment, sedimentation, gravitational sedimentation of particles in fluid and gas, setting under combined forces, cyclone separator, centrifugal separator. Moisture content – determination methods, equilibrium moisture content. Psychrometry – terms, chart and application. Drying process – theories in drying, methods of drying, classification of dryers. Contact equilibrium separation process – concentrations, extraction, rate of extraction, stage equilibrium extraction. McCabe and Theile plot. Distillation – stage distillation, steam, vacuum and batch distillation, distillation equipment.

**II. Process Engineering for agricultural produce:** Engineering properties of agricultural produce – physical, thermal and aerodynamic properties, force deformation curve of food grains. Principles of threshing – threshing equipment, types, care and maintenance. Principles of winnowing – winnower types. Cleaning and separation – principles, equipment, effectiveness of separation, selection of separating machines. Grading – principles equipment. Rice processing – parboiling of paddy, traditional and modern methods of parboiling, drying equipment, methods of rice milling, rice husk and bran utilisation, layout of modern rice mill, manufacturing process for puffed, flaked and extruded products. Cereal processing – wheat milling, maize shelling, Milling, Degerming. Milling of pulses, Red gram, black gram and green gram. Oil seed processing. Sugarcane crushers. Seed technology – terminology, storage of seeds and treatment. Principles of grain storage – parameters affecting storage, changes occurring during storage, moisture migration, storage insects, pests and their control. Fumigation – principles, properties of fumigants and applications, rodent control. Grain storage structures – bag and bulk storage of grains. Grain handling equipment – bucket elevator, belt, screw and pneumatic conveyors. Quality control – Agmark and BI Standards.

**III. Process Engineering for Horticultural produce:** Engineering properties of horticultural crops – introduction, harvesting indices, methods and equipment. Handling and transportation. Cleaning and grading equipment, Preservation of fruits and vegetables – drying and dehydration, freeze drying, canning, concentration and reverse osmosis techniques, modified atmospheric and control atmospheric storage. Processing and processing machinery of important horticultural produce. Spices and condiments – oleoresins and essential oil extractions from aromatic plants, flowers and spices. Processing of important vegetables. Principles of packaging and packaging materials.

**IV. Vegetable oil technology:** Oils and fats – occurrence and distribution in nature, enzymatic and chemical spoilage, rancidification and its control, emulsions and emulsification. Processing of Oilseeds and other oil bearing materials – pretreatment and equipments, extraction methods, mechanical expression, solvent extraction, supercritical extraction, oil cake utilisation, refining of oils, hydrogenation, quality factors.

**V. Dairy and Food Engineering:** Milk – composition, characteristics, nutritive value, physico – chemical properties of milk, standardization, pasteurization, low temperature long time (LTLT), high temperature short time (HTST), ultra high temperature (UHT), plate heat exchanger, sterilization, homogenization, Manufacture of milk products – milk powder, cream, butter and ice cream. Milk and milk products packaging.

Material and energy balances in food engineering. Reaction kinetics – general principles, effect of time and temperature, Food preservation – principles and methods, causes of food spoilage, radiation preservation of food, properties of ionizing radiation, effects of irradiation on living organisms, technology aspects of irradiation preservation. Freezing of foods – freezing point of foods, freezing point depression, calculation of freezing time.

**VI. Agro Industries and by-product utilisation:** Agro industries – definition, classification, factors responsible for establishment.

Byproducts utilisation – rice husk, rice bran, coconut coir and shell utilisation, mango stone, cashewnut shell, banana pseudo stem, sugarcane bagasse, paper making from agricultural wastes, feed processing plants, layout of feed mills for commercial production. Planning waste management – properties of agricultural waste, waste collection, industrial waste treatment, storage and handling, waste for reuse, briquetting. Establishment of agroprocessing industries in rural areas. Cost benefit ratio for agroprocessing industries. Estimation of BOD, COD, Biological treatment of effluents, trickling filters.

**VII. Biomass energy conversion:** Energy sources – introduction, classification. Biomass – biomass characteristics, utilisation, biodegradation, microbial species, biogas production, parameters affecting gas production, stirring and dilution, types of biogas plants, comparison, merits and demerits, community biogas plants, constructional details, operation and maintenance, safety measures, slurry utilisation, alternate feed stocks. Biogas appliances – biogas lights, biogas run engines. Agricultural wastes – characteristics, principles of combustion, pyrolysis, incineration, thermodynamic concepts, gasification. Gasifiers – principles, types, stability of operation, design. Charcoal making – principle, methods.

**VIII. Solar and Wind Energy:** Solar energy and its importance – heat transfer from solar energy by conduction, convection, radiation, reflectivity, transmissivity. Solar radiation analysis – solar constant, terminology connected with solar radiation, solar time, solar radiation measurement and estimation. Solar collectors – flat plate collectors, principle of conversion of solar radiation into heat, thermal losses, energy balance equation. Solar air heaters – performance and application. Focusing type solar collectors – thermal performance, optical losses. Solar energy storage – solar pond principles, types and applications of solar pond. Solar energy applications – solar furnace, distillation, cooking, grain drying. Photovoltaics – semi conductor principles, cell characteristics, application of photovoltaic systems in pumping.

Nature of wind power – seasonal influence, diurnal variation, characteristics of suitable sites, velocity and direction measuring instruments, anemometer, wind monitor, rotor classification, air foils, comparison of different types, lift and drag characteristics, wind mill components, power transmission, performance of wind mill, application of wind mills.

**IX. Greenhouse Technology:** Greenhouse technology – introduction, importance of greenhouse, greenhouse effect. Factors responsible for plant growth – heat, light, moisture, carbondioxide, nutrients, plant response to greenhouse environment. Solar energy in greenhouse – importance, types of radiation, effect on greenhouse environment, parameters. Design criteria of greenhouse for cooling and heating purposes. Greenhouse equipments – materials of construction for traditional and low cost greenhouse, cost estimation and economic analysis. Typical applications – passive solar greenhouse, hot air greenhouse heating systems, greenhouse drying. Natural ventilation, summer and winter cooling – shadenets, polytunnels.

**X. Design and Costing of Farm Structures:** Farmstead – layout, design and costing of farm structures, farm, house, godowns, threshing and drying yards. Farm roads – types and construction. Farm fencing – types and cost estimation. Dairy barns – types, site selection, design and costing. Types, design and costing of poultry and hog housing. Storage structures – grain pressure theories, design and costing of traditional structures, bag storage structures, grain bins, silos for fodder storage. Design and costing of farm workshop and machinery storage structures.

**XI. Rural water supply, Sanitation and Environmental Engineering:** Rural water supply – water demands, sources of water supply. Collection and distribution of water – storage systems, distribution mains, pipes, joints and fittings, pumps and pumping stations. Quality and treatment of water – sedimentation, filtration, types of filters.

Sanitation – septic tanks, preparation of sanitary projects. Sewage disposal – methods, sewage treatment, sludge disposal and treatment methods. Air-pollution – sources and control measures.

**XII. Wells and Pumps with Special reference to Lift Irrigation:** Water resources – introduction, status of ground water development in India. Types of water bearing formations – ground water replenishment and recharge methods. Ground water investigation methods. Hydraulics of wells – aquifer characteristics influencing yield of wells both under steady state and unsteady state conditions, procedure involved in estimation of aquifer characteristics through pumping tests. Wells - classification of wells, design of open wells in unconsolidated formations, methods for increasing the yield in open wells. Types of tube wells – selection of type of tube well, analysis of particle size distribution of the aquifer, design of tube wells, tube well construction procedures and development and testing of tube wells.

Classification of water lifting devices – manual and animal powered devices. Pumps – reciprocating pumps (single and double acting). Centrifugal pumps – components, principle, characteristic curves, power requirements. Deep well pumps – turbine and submersible pumps, their components, working, principle installation and maintenance. Hydraulic ram – installation, working principle. Jet pumps – components, working principle. Selection of pumps and economic evaluation of pumping.

**XIII. Irrigation Engineering:** Irrigation – necessity, benefits, sources, soil – water – plant relationships kinds of soil water. Types of Irrigation projects. Infiltration – characteristics, measurement and analysis. Evapotranspiration and its measurement. Water requirements of crops – duty and delta of water. Irrigation requirement – depth, interval, and period, irrigation efficiencies. Water application methods – borders, furrows and check basins and their designs. Measurement of irrigation water – different methods, volumetric, area velocity, measuring devices,

weirs, flumes, watermeter. Design of open channels and canals – Lacey's and Kennedy's theories. Design of underground pipeline systems.

**XIV. Soil and Water Engineering:** Importance and phases of soil and water conservation engineering. Soil conservation programmes in India. Erosion – main types of erosion, factors effecting erosion. Water erosion – types of water erosion, control measures. Wind erosion – phases, control measures. Land use capability classification. Measurement of soil loss – universal soil loss equation. Contour and graded bunds – design of bunds, spacing of bunds, determination of height of the contour bund, construction and alignment of bunds, surplus arrangements, contour ditching, area lost under contour bunding. Terracing – types of terraces, planning and design of a terrace system, constructional procedure, equipment needed. Bunch terracing – types, area lost under Bund terracing. Contour trenching – types, alignment and construction. Bed and furrow system. Vegetated waterways – functions, shape of water ways, design of vegetated waterways, maintenance. Gullies – planning for gully control, methods of gully control, temporary gully control structures, permanent gully control structures, phases.

**XV. Watershed Management:** Watershed management – concept and principles – watershed characteristics, watershed protection, analysis, and control measures. Effects of watershed management. Study of watershed management as a multi disciplinary approach – watershed identification, watershed delineation.

**XVI. Drainage Engineering:** Drainage – necessity, benefits, drainage requirements, drainage coefficient, hydraulic conductivity and its measurement, field and lab methods. Types of drainage – surface drainage systems for ponded, flat and slopy areas. Subsurface drainage methods, tile drainage, layout, depth and spacing of drains, steady and unsteady state condition, Hooghoudt's analysis, equivalent depth concept, size, grade and materials for tile drains, envelope materials and types of outlets. Drainage for salinity control – leaching requirements. Loads on conduits – ditch type and projecting type conditions, strength requirements of tile drains.

**XVII. Sprinkler and Drip Irrigation:** Sprinkler irrigation – adaptability, limitations, types, components of the sprinkler system including fertilizer applicator, precipitation profiles and recommended spacings, effect of wind speed on working of the system, design of sprinkler system, lay out, laterals and mains, selection of pump, operation and maintenance of system. Field evaluation of the system – distribution pattern and uniformity coefficient, cost analysis.

Drip irrigation – advantages and limitations, types, components of the system including fertilizer applicator and pressure regulators, distribution network, main lines, laterals, drippers. Planning and design of the drip system – collection of preliminary data, layout, crop water requirements, hydraulic design, selection of components, installation, operation and maintenance, testing and field evaluation of the system.

**XVIII. Land Development Machinery:** Land Clearing – rock blasting, stump pulling. Land development – terminology, methods, cost of material movement. Land development machinery – types, crawler tractors, track versus rubber tyres. Excavators – shovel, hoe, dragline, clamshell, proclaines, rippers. Combined excavation and hauling units – wagons, trucks and front end dumpers, hydraulic trippers. Compaction rollers. Scrapers – types, bulldozers, levelling blades.

**XIX. Farm power and Tractor Systems:** I.C. engines – introduction, principles of operation of I.C. engines, performance characteristics of diesel engine, different components of I.C. engines. Tractor systems – fuel, lubrication, cooling, electrical, transmission, governing, brakes, steering, hydraulic systems, principle and maintenance of storage battery. Chasis mechanism – determination of center of gravity, maximum drawbar pull. Tractor and power tillers – classification, selection, operation, adjustments, common troubles and remedies, maintenance, comfort, safety, power and its measurement, traction theory, tyres.

**XX. Farm machinery and agricultural machine design:** Tillage – introduction, objectives, primary and secondary tillage, animal and tractor drawn implements. Mould board plough – constructional details, terminology, materials of construction, types of plough bottoms, shares, plough accessories, force analysis and design considerations, problems on M.B. Plough operations, victory plough, turn wrest plough. Disc ploughs – advantages, disadvantages, constructional details of various components, accessories, plough adjustments, disc angle and tilt angle, differences between M.B. plough and disc plough, Ploughing methods. Chisel and subsoiler. Secondary tillage implements – harrows, types, constructional details of single action, double action, tandom and offset disc harrows, spike tooth, spring tooth harrows, differences between vertical disc plough and standard disc plough. Cultivators – rigid, spring type cultivator, types of sweeps and shovels. Weeding, manual and power operated equipments. Other implements – bund former, ridger, APAU puddler, clod breaker, rototiller, green manure trampler. Cost of operation of farm implements. Sowing – methods, seed drill functions, calibration procedure, numerical problems, types of metering mechanisms, types of furrow opener, types of planter, construction and working principles of dibbler. Planting equipments – paddy transplanter,

potato planter, sugarcane planter. Manure and fertilizer application – manure applicators spreaders, broadcasters, fertidrill.

Plant protection equipments – importance, types, Sprayers – classification, bucket, knapsack, boom sprayers, parts and accessories, atomizers, agitators, determination of particle size distribution, MMD and SMD/VMD, ultra low volume, low volume, high volume spraying, aerial spraying, orchard sprayers, factors affecting drift. Distlers – types, hand, rotary and power operated sprayers cum dusters. Care and maintenance of plant protection equipment. Crop harvesting machinery – mower, reaper, cutting and driving mechanism, adjustments of mower. Combines – working of combines. Harvesting equipment for cotton, maize, potato, groundnut, fruits and vegetables.

Design process – classification of design work. Working stresses – stress concentration, notch sensitivity. Theories of failure – maximum shear stress theory, maximum strain theory, maximum distortion theory. Limits, fits and tolerances. Design of knuckle joints, cotter joints. Design of hand lever, foot lever, crank lever. Design of springs – flat and leaf springs. Design of shafts – design of belts pullys – keys and key ways. Design of flywheels. Design of couplings – muff, flange couplings. Design of bearings – ball, roller bearing. Design of I.C. engine parts – cylinder, cylinder head, connecting rod.

**XXI. Design and Costing of Soil Conservation and Irrigation Structures:** Introduction to soil and water conservation structures. Design and costing of mechanical structures – contour bund, graded bund, broad based terraces, bench terraces, contour trenches and conservation ditches. Design and costing of gully control structures – drop spillways, drop inlet spillways, chute spillways, check dams. Design and costing of water harvesting structures – farm ponds, percolation tanks. Design and costing of energy dissipaters – stilling basins.

Irrigation engineering structures – design and costing of canal falls, cross drainage works, aqueducts, super passage, inverted syphon aqueduct. Irrigation outlets – non-modular, semi modular, rigid modular outlets, baffle sluice irrigation modules. Regulators – head regulator, cross regulator.



**PAPER:3: ONLY FOR INSTRUMENTATION ENGINEERING**

**Unit – I. Bio-Medical Instrumentation:**

Physiology, Components of Medical instrumentation System. . Bio-Medical Transducers/ Electrodes/ Recorders. Stimulation – Electromyography (EMG). Cardiac Instrumentation, Blood Pressure and Blood flow measurements, Electrocardiography (ECG), Electro Encephalography (EEG). Therapeutic Instruments, Respiratory Instrumentation

**Unit – II. Industrial Instrumentation:**

Metrology, Velocity and Acceleration Measurement, Force and Troque Measurement, Pressure Measurement, Flow Measurement, Density Measurement, Radiation Measurement, Other Measurements.

**Unit – III. Process Control Instrumentation:**

Process Dynamics, Process variables, Load variables, Dynamics of simple pressure, flow level and temperature process , interacting and non-interacting systems , continuous and batch process , self-regulation , Servo and Regulator operation , problems. Control Actions and Controllers, Optimum Controller Settings, Final Control Elements, Multiloop Control System.

**Unit – IV. Power Plant Instrumentation:**

An Overview of Power Generation - Brief survey of methods of power generation – Hydrothermal, Nuclear, Solar, Wind etc. Importance of Instrumentation for power generation – Thermal power plants –Building blocks – Details of the Boller Processes – PI diagram of Boiler – Cogeneration. Electrical and Nonelectrical Parameters and their Measurements. Combustion Control in Boilers. Spray and Gas recirculation Controls. Hot well, deaerator level control, pulverization control. Turbine Monitoring and Control analyzers in Power Plants – different types.

**Unit – V. Analytical Instrumentation:**

pH and Conductivity & Dissolved Component analysers, Gas Analysers, Chromatography, Spectrophotometers, Principle of Nuclear Magnetic Resonance and applications.

**Unit – VI. Virtual Instrumentation:**

Historical perspective, advantages, block diagram and architecture of a virtual instrument, data-flow techniques, graphical programming in data flow, comparison with conventional programming. Development of Virtual Instrument using GUI, Real-time systems, Embedded Controller, OPC, HMI/SCADA software, Active X programming.

Virtual Instrumentation (VI ) Programming Techniques - Data Acquisition Basics, VI Chassis Requirements, Bus Interfaces, Networking Basics for Office & Industrial Applications, VISA and IVI , VI toolsets, Distributed I/O Modules, Simulation of Systems using VI.

## ANNEXURE-III

**LIST OF SCHEDULED CASTES**

(Definition 28 of General Rule - 2)

**SCHEDULE - I**

(Substituted with effect from 27-07-1977 through G.O.Ms.No. 838, G.A.(Services-D) Department, dated 15/12/1977)

- 1 Adi Andhra
- 2 Adi Dravida
- 3 Anamuk
- 4 Aray Mala
- 5 Arundhatiya
- 6 Arwa Mala
- 7 Bariki
- 8 Bavuri
- 9 Beda Jangam, Budga Jangam (In Districts of Hyderabad, Rangareddy, Mahaboobnagar, Adilabad, Nizamabad, Medak, Karimnagar, Warangal, Khammam and Nalgonda)\*
- 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 Ellamalwar, Yellammalawandlu
- 22 Ghasi, Haddi, Relli, Chachandi
- 23 Godagali, Godagula(in the Districts of Srikakulam, Vizianagaram & Vishakapatnam) \*
- 24 Godari
- 25 Gosangi
- 26 Holey a
- 27 Holey a Dasari
- 28 Jaggali
- 29 Jambuwulu
- 30 Kolupulvandlu, Pambada, Pambanda, Pambala \*
- 31 Madasi Kuruva, Madari Kuruva
- 32 Madiga
- 33 Madiga Dasu, Mashteen
- 34 Mahar
- 35 Mala, Mala Ayawaru \*
- 36 Mala Dasari
- 37 Mala Dasu
- 38 Mala Hannai
- 39 Mala Jangam
- 40 Mala Masti
- 41 Mala Sale, Netkani
- 42 Mala Sanyasi
- 43 Mang
- 44 Mang Garodi
- 45 Manne
- 46 Mashti
- 47 Matangi
- 48 Mahter
- 49 Mitha Ayyalvar

|    |   |
|----|---|
| 50 | Mundala   |
| 51 | Paky, Moti, Thoti   |
| 52 | (Omitted)*  |
| 53 | Pamidi  |
| 54 | Panchama, Pariah  |
| 55 | Relli   |
| 56 | Samagara  |
| 57 | Samban  |
| 58 | Sapru   |
| 59 | Sindhollu, Chindollu  |
| 60 | Yatala (Srikakulam Dist. Only) Memo No. 8183/CV-1/2006-10 SW (CV-I) Dept., Dt. 31/03/2008               |
| 61 | Valluvan * (Chittoor and Nellore Dist. Only) Memo No. 8183/CV-1/2006-10 SW (CV-I) Dept., Dt. 31/03/2008 |

\* As per the Constitution (Scheduled Caste) orders (Second Amendment) Act 2002, Act No. 61 of 2002

### LIST OF SCHEDULED TRIBES

1. Andh, Sadhu Andh \*
2. Bagata
3. Bhil
4. Chanchu (Chenchwar omitted) \*
5. Gadabas, Boda 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. Konda Reddis
16. Kondhs, Kodi, Kodhu, Desaya Kondhs, Dongria Kondhs, Kuttiya Konds, Tikiria Khondhs, Yenity Khondhs, Kuvinga \*
17. Kotia, Benthoriya, Bartika, Dulia, Holva, Sanrona, Sidhopaiko (Dhulia, Paiko, Putiya-omitted \*)
18. Koya, Doli Koya, Gutta Koya, Kammara Koya, Musara Koya, Oddi Koya, Pattidi Koya, Rajah, Rasha Koya, Lingadhari Koya (Ordinary), Kottu Koya, Bhine Koya, Raj Koya (Goud-omitted \*)
19. Kulia
20. Malis (excluding Adilabad, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Nizamabad and Warangal District)
21. Manna Dhora
22. Mukha Dhora, Nooka Dhora
23. Nayaks (in the Agency tracts)
24. Pardhan
25. Porja, Parangi Perja
26. Reddi Dhoras
27. Rona, Rena
28. Savaras, Kapu Savaras, Maliya Savaras, Khutto Savaras
29. Sugalis, Lambadis, Banjara \*
30. Thoti (in Adilabad, Hyderabad, Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Nizamabad and Warangal Districts)

31. Valmiki (in the Scheduled Areas of Vishakapatnam, Srikakulam, Vizianagaram, East Godavari and West Godavari Districts \*)
32. Yenadis, Chella Yenadi, Kappala Yenadi, Manchi Yenadi, Reddi Yenadi \*
33. Yerukulas, Koracha, Dabba Yerukula, Kunchapuri Yerukula, Uppu Yerukula \*
34. Nakkala Kurivikaran
35. Dhulia, Paiko, Putiya (in the districts of Vishakapatnam, Vizianagaram \*)

\* As for the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act 2002, Act No. 10 of 2003

**LIST OF SOCIALLY AND EDUCATIONALLY BACKWARD CLASSES**  
(Amended from time to time as on 31/08/2007)

**GROUP-A**

Aboriginal Tribes, Vimuktha Jathis, Nomadic and Semi Nomadic Tribes etc.,

1. Agnikulakshatriya, Palli, Vadabalija, Besta, jalari, Gangavar, Gangaputra, Goondla, Vanyakulakshatriya (Vannekapu, Vannereddi, Pallikapu, Pallireddy Neyyala and Pattapu). (Mudiraj / Mutrasi / Tenugollu. The G.O. Ms.No. 15 BCW(C2) Dept., dt. 19/02/2009 is suspended. Hence the inclusion of Mudiraj / Mutrasi / Tenugollu is suspended) vide Hon'ble A.P. High Court orders in WP No. 2122/2009 dated: 29-04-2009.)
2. Balasanthu, Bahurupi
3. Bandara
4. Budabukkala
5. Rajaka (Chakali Vannar)
6. Dasari (formerly engaged in bikshatana)  
(amended vide G.O.Rt.No. 32, BCW(M1) Department, dated 23/02/1995)
7. Dommara
8. Gangiredlavaru
9. Jangam (whose traditional occupation is begging)
10. Jogi
11. Katipapala
12. Korcha
13. Lambada or Banjara in Telangana Area  
(deleted and included in S.T. list vide G.O.Ms.No. 149, SW, dated 3/5/1978)
14. Medari or Mahendra
15. Mondivaru, Mondibanda, Banda
16. Nayee Brahmin (Mangali), Mangala and Bajantri  
(amended vide G.O.Ms.No. 1, BCW(M1) Department, dated 6/1/1996)
17. Nakkala
18. Vamsha Raj (amended vide G.O.Ms.No. 27, BCW(M1) Department, dated 23/06/1995 deleting the Original name Pitchiguntla)
19. Pamula
20. Pardhi (Mirshikari)
21. Pambala
22. Peddammavandlu, Devaravandlu, Yellammavandlu, Mutyalammavandlu (Dammali, Dammala, Dammula, Damala Castes confined to Srikakulam dist. Vide G.O.Ms. No.: 9 BCW(C2) Dept., Dt. 9/04/2008)
23. Veeramushti (Nettikotala), Veera bhadreeya (Amended vide G.O. Ms. No. 62, BCW (M1) Dept., Dt. 10/12/1996)
24. Valmiki boya (Boya, Bedar, Kirataka, Nishadi, Yellapi, Pedda Boya) Talayari and Chunduvallu  
(G.O.Ms. No. 124, SW, Dt. 24.06.85) Yellapi and Yellapu are one and the same amended vide G.O. Ms. No. 61, BCW(M1) Dept., Dt. 05.12.1996)
25. Yerukalas in Telangana area (deleted and included in the list of S.Ts)
26. Gudala
27. Kanjara - Bhatta
28. Kalinga (Kinthala deleted vide G.O.Ms. No. 53, SW, Dt. 07.03.1980)
29. Kepmare or Reddika
30. Mondipatta
31. Nokkar
32. Pariki Muggula
33. Yata
34. Chopemari
35. Kaikadi
36. Joshinandiwalas
37. Odde (Oddilu, Vaddi, Vaddelu)
38. Mandula (Govt. Memo No. 40-VI/70-1, Edn., Dt. 10.02.1972)
39. Mehator (Muslim) (Govt. Memo No. 234-VI/72-2, Edn., Dt. 05.07.1972).

40. Kunapuli (Govt. Memo No. 1279/P1/74-10, E&SW, Dt. 03.08.1975)
41. Patra (included in G.O. Ms. No. 8, BCW(C2) Dept., Dt. 28.08.2006)
42. kurakula of Srikakulam, Vizianagaram and Visakhapatnam Districts only. Included vide in G.O.MS.No. 26 BC W (C2) Dept., Dt. 4/07/08
43. Pondara of Srikakulam, Vizianagaram, and Visakhapatnam Districts only. Included vide G.O.MS.No. 28 BC W (C2) Dept., Dt. 4/07/08
44. Samanthula, Samantha, sountia, Sauntia of Srikakulam District only. Included vide G.O.MS.No. 29 BC W (C2) Dept., Dt. 4/07/08
45. pala-Ekari, Ekila, Vyakula, Ekiri, Nayanivaru, Palegaru, Tolagari, Kavali of Chittoor, Cuddapah, Kurnool, Anantapur, Nellore, Hyderabad and Rangareddy Districts only. Included Vide G.O. MS. No. 23 B.C. W (C2) Dept., Dt. 4/07/08
46. Rajannala, Rajannalu of Karimnagar, Warangal, Nizamabad and Adilabad Districts only. (included in vide G.O.Ms. No. 44 B.C.W(C2) Dept., Dt.07/08/2008).
47. Bukka Ayyavars, Included vide G.O.Ms.No. 6 Backward Classes Welfare (C2) Dept., dt. 19/02/2009.
48. Gotrala, Included vide G.O.Ms.No. 7 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to Telangana Region only.
49. Kasikapadi / Kasikapudi, Included vide G.O.Ms.No. 8 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to Hyderabad, Rangareddy, Nizamabad, Mahaboobnagar and Adilabad Districts of Telangana Region only.
50. Siddula, Included vide G.O.Ms.No. 9 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to Telangana Region only.
51. Sikligar / Saikalgar, Included vide G.O.Ms.No. 10 Backward Classes Welfare (C2) Dept., dt. 19/02/2009.
52. Poosala included vide G.O. Ms.No. 16 Backward Classes Welfare (C2) Dept., dt. 19/02/2009.

#### **GROUP – B (Vocational)**

1. Achukatlavandlu in the Districts of Visakhapatnam and Guntur confined to Hindus only as amended vide G.O. Ms. No. 8, BCW(C2) Dept., Dt. 29.03.2000
2. Aryakshatriya, Chittari, Giniyar, Chitrakara, Nakshas (Muchi Telugu Speaking deleted vide G.O. Ms. No. 31, BCW (M1) Dept., 11.06.1996)
3. Devanga
4. Goud (Ediga) Gouda (Gamella) Kalalee, Goundla, Settibalija of Vishakhapatnam, East Godavari, West Godavari and Krishna Districts and Srisayana (Segidi) – (amended vide G.O. Ms. No. 16, BCW (A1) Dept., dt. 19.06.1997
5. Dudekula, Laddaf, Pinjari or Noorbash
6. Gandla, Telikula, Devatilakula (Amended vide G.O. Ms. No. 13, BCW(A1) Dept., dt. 20.05.1997)
7. Jandra
8. Kummara or Kulala, Salivahana (Salivahana added vide G.O. Ms. No. 28, BCW(M1) Dept., 24.06.1995)
9. Karikalabhakthulu, Kaikolan or Kaikala (Sengundam or Sengunther)
10. Karnabhakthulu
11. Kuruba or Kuruma
12. Nagavaddilu
13. Neelakanthi
14. Patkar (Khatri)
15. Perika (Perikabalija, Puragirikshatriya)
16. Nessi or Kurni
17. Padmasali (Sali, Salivan, Pattusali, Senapathulu, Thogata Sali)
18. Srisayana ((sagidi)- deleted and added to Sl.No. 4 of Group-B)
19. Swakulasali
20. Thogata, Thogati or Thogataveerakshtriya
21. Viswabrahmin, Viswakarma (Ausula or Kamsali, Kammari, Kanchari Vadla or Vadra or Vadrangi and Silpis)  
(Viswakarma added vide G.O. Ms. No. 59 BCW(M1) Dept., Dt. 06.12.1995)
22. Kunchiti, Vakkaliga, Vakkaligara, Kunchitiga of Anantapur Dist. Only vide G.O. Ms.No. 10 BCW(C-2) Dept., Dt. 9-04-2008
23. Lodh, Lodhi, Lodha of Hyderabad, Rangareddy, Khammam and Adilabad Districts only. Included in Vide G.O.MS.No. 22 BC W (C2) Dept., Dt. 4/07/08
24. Bondili (included in vide G.O.Ms. No. 42, B.C.W(C2) Dept., Dt.07/08/2008)
25. Are Marathi, Maratha(Non-Brahmins), Arakalies and Surabhi Natakavallu. (included in vide G.O.Ms. No. 40, B.C.W(C2) Dept., Dt.07/08/2008)
26. Neeli (included in vide G.O.Ms. No. 43, B.C.W(C2) Dept., Dt.07/08/2008)

#### **GROUP – C**

**Scheduled Castes converts to Christianity and their progeny**  
(Substituted in G.O.Ms.No.159, G.A.(Ser.D) Dept., dt. 02/04/1981)

**GROUP – D (Other Classes)**

1. Agar
2. Are-Katika, Katika, Are-Suryavamsi(Are-Suryavamsi added vide G.O. Ms. No. 39, B.C. W(C2) Dept., Dt. 7/08/08)
3. Atagara
4. Bhatraju
5. Chippolu (Mera)
6. Gavara
7. Godaba
8. Hatkar
9. Jakkala
10. Jingar
11. Kandra
12. Kosthi
13. Kachi
14. Surya Baliya, (Kalavanthulu) Ganika (amended vide G.O.Ms. No. 20, BCW(P2) Dept., Dt. 19.07.1994)
15. Krishanabaliya (Dasari, Bukka)
16. Koppulavelama
17. Mathura
18. Mali (Bare, Barai, Marar and Tamboli of all Districts of Telangana Region added as synonyms vide G.O. Ms. No. 3, BCW(C2) Dept., Dt. 09.01.2004 and G.O. Ms. No. 45, B.C.W(C2) Dept., Dt.07/08/2008)
19. Mudiraj / Mutrasi / Tenugollu
20. Munnurukapu (Telangana)
21. Nagavamsam (Nagavamsa) vide G.O.Ms.No. 53, BC Welfare Dept., dated:19/09/1996
22. . . . (deleted vide G.O.Ms. No. 43, B.C.W(C2) Dept., Dt.07/08/2008).
23. Polinativelmas of Srikakulam and Visakhapatnam districts
24. . . . deleted vide G.O. Ms.No. 16 Backward Classes Welfare (C2) Dept., dt. 19/02/2009
25. Passi
26. Rangrez or Bhavasarakshtriya
27. Sadhuchetty
28. Satani (Chattadasrivaishnava)
29. Tammali (confined to five districts of Nalgonda, Mahaboobnagar, Karimnagar, Nizamabad and Adilabad of Telangana Region only and not to other parts of A.P. as amended vide G.O. Ms. No. 20, BCW(A1) Dept., dt 21.07.1997)
30. Turupukapus or Gajula kapus {... the words "of Srikakulam, Vizianagaram and Vishakapatnam Districts" were deleted vide G.O.Ms.No. 62, Backward Classes Welfare (C2) Dept., dt. 20/12/2008 and G.O. Ms.No. 19 Backward Classes Welfare (C2) Dept., dt. 19/02/2009} who are subject to Social customs or divorce and remarriage among their women (G.O. Ms. No. 65, E&SW, dt. 18.02.1994)
31. Uppara or Sagara
32. Vanjara (Vanjari)
33. Yadava (Golla)
34. Are, Arevalla and Arollu of Telangana District (Included vide G.O.Ms.No. 11, Backward Classes Welfare (C-2) Department, dt. 13/5/2003 and G.O.Ms. No. 41, B.C.W(C2) Dept., Dt.07/08/2008)
35. Sadara, Sadaru of Anantapur Dist. Only vide G.O.Ms.No. 11 BCW (C-2) Dept., Dt. 9-04-2008
36. Arava of Srikakulam District only. Included in vide G.O. MS. No. 24 BC W (C2) Dept., Dt. 4/07/08
37. Ayyaraka, of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Khammam and Warangal Districts only. Included in vide G.O. MS. No. 25 BC W (C2) Dept., Dt. 4/07/08
38. Nagaralu of Srikakulam, Vizianagaram, Visakhapatnam, Krishna, Hyderabad and Rangareddy Districts only. Included in vide G.O. MS. No. 27 BC W (C2) Dept., Dt. 4/07/08
39. Aghamudian, Aghamudiar, Agamudivellalar and Agamudimudaliar including Thuluva Vellalas of Chittoor, Nellore, Kurnool, Anantapur, Hyderabad and Rangareddy Districts only. Included in vide G.O. MS. No. 20 BC W (C2) Dept., Dt. 4/07/08
40. Beri Vysya, Beri Chetty of Chittoor, Nellore and Krishna Districts only. Included in vide G.O. MS. No. 21 BC W (C2) Dept., Dt. 4/07/08
41. Atirasa included vide G.O. Ms.No. 5 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to East Godavari and West Godavari Districts only.
42. Sondi / Sundi included vide G.O. Ms.No. 11 Backward Classes Welfare (C2) Dept., dt. 19/02/2009.
43. Varala included vide G.O. Ms.No. 12 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to Telangana region only.
44. Sistikaranam included vide G.O. Ms.No. 13 Backward Classes Welfare (C2) Dept., dt. 19/02/2009.



45. Lakkamari Kapu included vide G.O. Ms.No. 14 Backward Classes Welfare (C2) Dept., dt. 19/02/2009. The area of operation shall be confined to Telangana region only.
46. Veerashaiva Lingayat/Lingabalija, included vide G.O. Ms.No. 22 Backward Classes Welfare (C2) Dept., dt. 28/02/2009.

### GROUP – E

#### (Socially and Educationally Backward Classes of Muslims)

1. Achchukattalavandlu, Singali, Singamvally, Achchupanivally, Achchukattuvaru, Achukatlavandlu.
2. Attar Saibuli, Attarollu
3. Dhobi Muslim/ Muslim Dhobi/ Dhobi Musalman, Turka Chakla or Turka Sakala, Turaka Chakali, Tulukka Vannan, Tskalas or Chakalas, Muslim Rajakas.
4. Faqir, Fhakhir Budbudki, Ghanti, Fhakhir, Ghanta Fhakhiru, Turaka Budbudki, Derves, Fakeer
5. Garadi Muslim, Garadi Saibulu, Pamulavally, Kani-Kattuvally, Garadollu, Garadiga.
6. Gosangi Muslim, Phakeer Sayebulu
7. Guddi Eluguvally, Elugu Bantuvally, Musalman Keelu Gurrallavally
8. Hajam, Nai, Nai Muslim, Navid
9. Labbi, Labbai, Labbon, Labba
10. Pakeerla, Borewale, Deraphakirly, Bonthala
11. Kureshi/ Khureshi, Khasab, Marati Khasab, Muslim Katika, Khatik Muslim
12. Shaik/ Sheikh
13. Siddi, Yaba, Habshi, Jasi
14. Turaka Kasha, Kakkukotte Zinka Saibulu, chakkitakanevale, Terugadu Gontalavaru, Thirugatiganta, Rollaku Kakku Kottevaru, Pattar Phodulu, Chakketakare, Thuraka Kasha
15. Other Muslim groups excluding  
Syed, Saiyed, Sayyad, Mushaik;  
Mughal, Moghal;  
Pathans;  
Irani;  
Arab;  
Bohara, Bohra;  
Shia Imami Ismaili, Khoja;  
Cutchi-Memon;  
Jamayat;  
Navayat;  
and all the synonyms and sub-groups of the excluded groups; and except those who have been already included in the State List of Backward Classes.

- 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.

**FORM FOR COMMUNITY, NATIVITY AND DATE OF BIRTH CERTIFICATE**

Serial No.

S.C.

Seal of the

District Code:

S.T

Issuing

Mandal Code :

B.C

Office

Village Code :

Certificate No:

**COMMUNITY, NATIVITY AND DATE OF BIRTH CERTIFICATE**

(1) This is to certify that Sri/Smt./Kum. \_\_\_\_\_ Son/Daughter of Sri \_\_\_\_\_ of Village/Town \_\_\_\_\_ Mandal \_\_\_\_\_ District \_\_\_\_\_ of the State of Andhra Pradesh belongs to \_\_\_\_\_ Community which is recognised as (\*) S.C./S.T./B.C. sub-group \_\_\_\_\_

The Constitution (Scheduled Castes) Order, 1950  
The Constitution (Schedule Tribes) Order, 1950

G.O.Ms.No:1793, Education, dated:25.9.1970 as amended from time to time (BCs.) / S.Cs., S.Ts. list (modification) Order, 1956 S.Cs. and S.Ts. (Amendment) Act, 1976.

(2) It is certified that Sri/Smt./Kum. \_\_\_\_\_ is a native of \_\_\_\_\_ Village/Town \_\_\_\_\_ Mandal \_\_\_\_\_ District of Andhra Pradesh.

(3) It is certified that the place of birth of Sri/Smt./Kum. \_\_\_\_\_ is \_\_\_\_\_ Village/Town \_\_\_\_\_ Mandal \_\_\_\_\_ District of Andhra Pradesh.

(4) It is certified that the date of birth of Sri/Smt./Kum. \_\_\_\_\_ is \_\_\_\_\_ Day \_\_\_\_\_ Month \_\_\_\_\_ Year \_\_\_\_\_ (in words) \_\_\_\_\_ as per the declaration given by his/her father/mother/guardian and as entered in the school records where he/she studied.

Signature:

Date:

Name in Capital Letters:

Designation:

(seal)

Explanatory Note:- While mentioning the community, the Competent Authority must mention the sub-caste (in case of Scheduled Castes) and sub-tribe or sub-group (in case of Scheduled Tribes) as listed out in the S.Cs. and S.Ts. (Amendment) Act, 1976.

**DECLARATION BY THE UN-EMPLOYED**  
**who claim fee exemption , in the age group of 18 to 39 years**

1. Name of the Candidate :

2. Father's Name :

3. Date of Birth & Age :

4. Centre for Written Examination

5. Full Postal Address :

I hereby declare that I am not working in any Government Department/ Quasi Government/Public Sector/Private Sector.

I further declare that the information furnished by me is true and correct and my candidature shall be cancelled at any stage if it is found incorrect.

PLACE

DATE

FULL SIGNATURE OF THE CANDIDATE.  
(Declaration not signed by the candidate  
will be rejected)

**SCHOOL STUDY CERTIFICATE**

NOTE: Should be obtained from the Head of Educational Institution(s).

1. Name of the Candidate :

2. Father's Name :

3. Date of Birth & Age :

| <b>Class</b> | <b>Name and Place of School</b> | <b>District</b> | <b>Duration of Study giving month and year</b> |
|--------------|---------------------------------|-----------------|--|
| IV           |                                 |                 |  |
| V            |                                 |                 |  |
| VI           |                                 |                 |  |
| VII          |                                 |                 |  |
| VIII         |                                 |                 |  |
| IX           |                                 |                 |  |
| X or<br>SSC. |                                 |                 |  |

STATION:  
DATE:

Signature of the Head of the  
Educational Institute(s)

**CERTIFICATE OF RESIDENCE**

(To be produced by such candidates who have not studied in any educational Institution during the whole or any part\* of the relevant 4/7 years period but claim to be local candidates by virtue of residence for Post Codes for which there is reservation for Local candidates.

**It is hereby certified.**

(a) \_\_\_\_\_ that  
Sri/Smt./Kum \_\_\_\_\_ S/o.  
W/o. D/o . \_\_\_\_\_ appeared for the first time for the  
Matriculation (S.S.C.) Examination in \_\_\_\_\_(Month)\_\_\_\_\_ (Year).

(b) That he/she has not studied in any educational institution during the whole/or part of the 4/7 consecutive academic years ending with the academic year in which he/she first appeared for the aforesaid examination.

(c) that in the 4/7 years immediately preceding the commencement of the aforesaid examination he/she resided in the following place/places namely;

| SI.No. | Village | Mandal | District | Period |
|--------|---------|--------|----------|--------|
| 1.     |         |        |          |        |
| 2.     |         |        |          |        |
| 3.     |         |        |          |        |
| 4.     |         |        |          |        |
| 5.     |         |        |          |        |

OFFICE SEAL:

STATION:

DATED:

Officer of Revenue Department  
not below the rank of Mandal  
Revenue Officer holding  
independent Charge of a Mandal.

\* STRIKE OFF "WHOLE"/PART AS THE CASE MAY BE.

**GOVERNMENT E.N.T. HOSPITAL, HYDERABAD  
INSTITUTE FOR EAR, NOSE, THROAT AND HEAD & NECK DISEASES**

**CERTIFICATE OF HEARING DISABILITY**

Govt. of India P.W.D.Act., 1995  
Govt. of A.P., G.O.Ms.No.27, WD,CW&DW(DW) Dept., 9.8.2000  
Govt. of A.P., G.O.Ms.No.109, WD,CW & L (WH. Desk) Dt:15.6.1992.

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_  
Date \_\_\_\_\_ O.P. No. \_\_\_\_\_ Diagnosis \_\_\_\_\_  
Father's/Husband's Name \_\_\_\_\_

**Identification Marks:**

1. \_\_\_\_\_
2. \_\_\_\_\_

|  |
|--|
| Pass Port<br>Size<br>Photograph<br>of the<br>Candidate<br>with the<br>Attestation of<br>the Issuing<br>authority |
|--|

**Audiological Findings:**

Pure Tone Threshold of hearing in Conversational Frequencies

Rt. Ear: \_\_\_\_\_ db; Lt. Ear: \_\_\_\_\_ db

Percentage of Disability \_\_\_\_\_ % (in words)

\_\_\_\_\_

Signature/Thumb impression  
of Disabled Person.

Certified that \_\_\_\_\_  
Son/Daughter/Wife of \_\_\_\_\_ has \_\_\_\_\_ % (in  
words) \_\_\_\_\_ of Hearing Disability. He/She belongs to the category  
\_\_\_\_\_ (in words) \_\_\_\_\_ of  
MILD/MODERATE/SEVERE/PROFOUND - Hearing Disability.

**AUDIOLOGIST & SPEECH PATHOLOGIST**

**ENT SURGEON**

**ENT SURGEON**

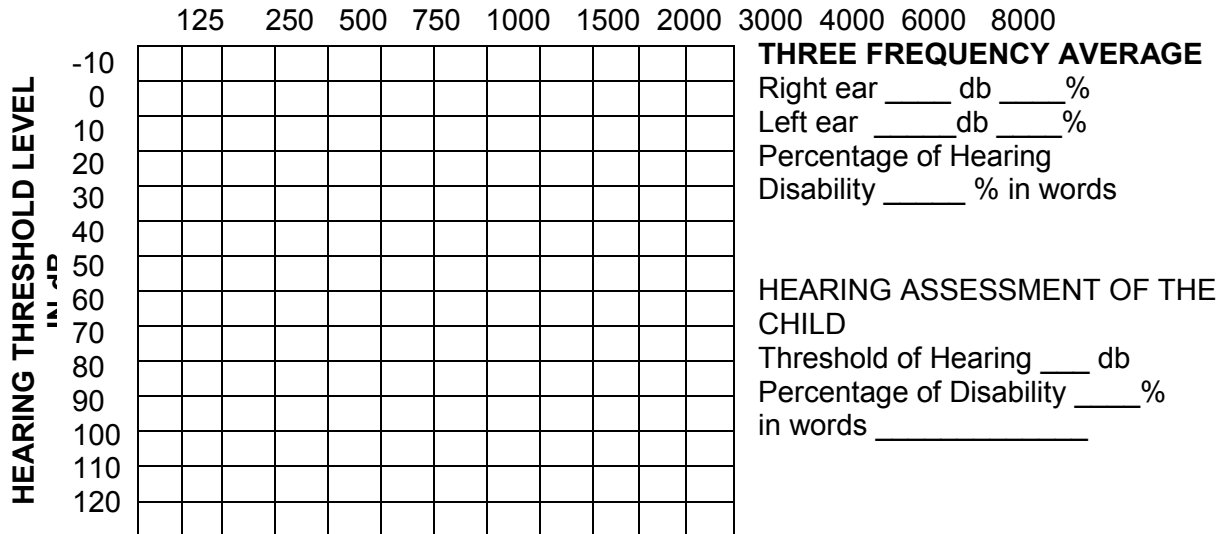
The details of the benefits offered for each category of the disability are available at the back of the Certificate.

**HEARING ASSESSMENT**

Name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_

Date: \_\_\_\_\_ O.P. No. \_\_\_\_\_

**AUDIOGRAM  
FREQUENCY IN HERTZS**



**ASSESSMENT OF SPEECH:**

**BENEFITS OFFERED**

| Category | Disability | Percentage    | Benefits   |
|----------|------------|---------------|--|
| I        | Mild       | Less than 40% | * No special benefits  |
| II       | Moderate   | 40% and above | * Hearing aid at free of cost or concessional rates  |
| III      | Severe     | 75% and above | * Hearing aid at free of cost or concessional rates<br>* Job reservation<br>* Benefit of special employment exchange<br>* Scholarships<br>* Single language formula                      |
| IV       | Profound   | 100%          | * Hearing aids<br>* Facilities of reservation<br>* special employment exchange<br>* Special facilities in Schools like Scholarships, hearing aids<br>* Exemption from 3 language formula |

**MEDICAL CERTIFICATE IN RESPECT OF  
ORTHOPAEDICALLY HANDICAPPED CANDIDATES**

Issued under authority Vide G.O.Ms.No. 109, Women's Development,  
Child Welfare & Labour Department, Dt: 15.6.1992.

For all the purpose of assistance the Orthopaedically Handicapped are those who have physical defect or deformity which cause an interference with the normal functioning of bones, muscles and joints.

Certified that the District Medical Board have this ..... day of .....20.....have examined the applicant whose particulars are given below and that he/she falls within the above definition:

1. Name of Candidate
2. Father's Name
3. Sex
4. Approximate Age
5. Identification Marks

|  |
|--|
| Pass Port<br>Size<br>Photograph<br>of the<br>Candidate<br>with the<br>Attestation of<br>the Issuing<br>authority |
|--|

6.(a) Name of Disability:

Tick the relevant from following list) Post-Polio Paralysis, Hemiplegia, Quadra-Rlegia Malunited fracture, Nerve paralysis, Upper extremity, Lower Extremity Limp Painful shortening, Deformity Congenital Acquired above knee, below knee, Hip Hemipeelvectomy, Symes cheoparts, Writ Fingers, Below elbow, Above elbow, Shoulders, Fore quarter, Unilateral Bilateral

(b) Extent Disability:

Estimate in percentage (Me-Bride-scale) on Anatomical functional, (Patient's Assessment, Examiner's Assessment) Economical Basis mention as percentage (Specific Percentage has to be mentioned)

(c) Use of appliance:

(Tick relevant from following list) Calliper, Crutch, Above knee, Below knee, Prosthesis, Cans, Unilateral, Bilateral Shoulder Dis-Articulation

(d) Any Operation done or indicated:

(e) Photograph (Attested)

To show the nature of disability and Any appliance if used.

7. Any other particulars to clarify the nature And extent of disability that the Surgeon Might like to point out.

SIGNATURE OF APPLICANT

Signature of Orthopedic Surgeon  
(with seal) Medical Board.

SIGNATURE OF MEDICAL  
SUPERINTENDENT, (Seal)  
Medical Board.



**APPLICATION CUM CERTIFICATE TO DECIDE THE CREAMY LAYER STATUS OF A  
PERSON BELONGING TO BC/OBC CATEGORY.**

- 1 Name of the Applicant
- 2 Date of Birth
- 3 Caster and Group  
(Certificate issued by the competent authority should be enclosed)
- 4 Religion
- 5 Address  
a)Present Address

b)Permanent Address

- 6 Occupation of the Applicant
- 7 Name of the Father
- 8 Date of Birth of Father
- 9 PAN No. / TAN No. of the Father
- 10 Name of the Mother
- 11 Date of Birth of Mother
- 12 PAN No. / TAN No. of the Mother

**Occupation / income / wealth status of parents and family**

| Father | Mother |
|--------|--------|
|--------|--------|

**A Constitutional Posts**

i) Holding / held any Constitutional Post

|  |  |
|--|--|
|  |  |
|--|--|

ii) If Yes, Name of the post holding / held

|  |  |
|--|--|
|  |  |
|--|--|

**B Government Employment**

i) Holding / held any Government Employment

|  |  |
|--|--|
|  |  |
|--|--|

ii) If Yes, Employment under Central Govt. / State Govt. / Public Sector Undertaking

|  |  |
|--|--|
|  |  |
|--|--|

iii) Designation of initial appointment

|  |  |
|--|--|
|  |  |
|--|--|

iv) Status of initial appointment  
(Group-I or II or III or IV)

|  |  |
|--|--|
|  |  |
|--|--|

v) Designation of present post held and status of the post

|  |  |
|--|--|
|  |  |
|--|--|

vi) If the initial appointment is of Group-II Category and the individual was promoted to Group-I category, date of promotion and age at which promoted to Group-I category

|  |  |
|--|--|
|  |  |
|--|--|

**C Military / Paramilitary forces**

i) Designation of the post holding or held

|  |  |
|--|--|
|  |  |
|--|--|

ii) Is the post holding or held is equivalent to Colonel or above

|  |  |
|--|--|
|  |  |
|--|--|

**D) Land holdings possessed by the Family (Father, Mother and unmarried Children)**

i) Extent of double crop irrigated land

ii) Extent of single crop irrigated land

iii) Extent of un-irrigated / dry land

iv) Nature of Crops / Plantations raised

(Contd., in next page)

- iv) If the entire land possessed by the family is irrigated land, does the extent of irrigated land exceed 85% of the Ceiling Limit as per Land Ceiling Act.
- V) If the land possessed by the family is both Irrigated and unirrigated land and after conversion of un-irrigated land into irrigated land on the basis of conversion formula, does the extent of irrigated land so obtained exceed 80% of the Ceiling Limit as per Land Ceiling Act.
- VI) If the plantations like Rubber, Coffee, Tea etc., are raised, the annual income from them during last three years.

**E Income from other sources – Private employment, Professional Services, Business, Commerce, Rents etc.**

- i) Sources of Income to the Family with full details of source.  
  
Private employment  
Professional Services  
Business  
Commerce  
Rents  
Others
- ii) The annual income during last three years year-wise (enclose income tax returns)

**F Wealth Tax for having vacant land and / or building(s) in urban areas and urban agglomeration**

- i) Location of property and value
- ii) Details of property
- iii) Use to which it is put
- iv) Whether Wealth Tax is being paid and Tax paid per annum

**Declaration by the Applicant and Parents of the Applicant.**

It is certified that the above mentioned particulars are true to the best of our knowledge and belief.

**Signature of Mother Applicant**

**Signature of the Father**

**Signature of the**

**Certificate by the Issuing Authority**

The particulars mentioned above have been verified and found that

- a) The applicant does not come under creamy layer of BCs / OBCs under any of the categories.
- b) The applicant comes under creamy layer under the category of \_\_\_(A/B/C/D/E/F) mentioned above.

**Signature of the Issuing Authority**

This is for information of the Candidate.