

ANDHRA PRADESH PUBLIC SERVICE COMMISSION: HYDERABAD

NOTIFICATION NO. 26/2012, Dated: 29/12/2012

**A.P. ENGINEERING RESEARCH LABORATORIES SERVICE
(GENERAL RECRUITMENT)**

PARA – 1:

Recruitment Applications are invited On-line through the proforma Application to be made available on WEBSITE (www.apspsc.gov.in) from **05/02/2013** to **04/03/2013** (Note: **02/03/2013** is the last date for payment of fee) for recruitment to the post of **A.P. Engineering Research Laboratories Service**.

The desirous eligible Candidates may apply ON-LINE by satisfying themselves with the terms and conditions of this recruitment. The details are as follows:-

Post Code	Name of the Post	No. of Vacancies	Age as on 01/07/2012 Min. Max.	Scale of Pay
01	Assistant Research Officer (Engineering)	06	18-34	19050- 45850/-
02	Research Assistant (Engineering)	17		16150- 42590/-
03	Research Assistant (Non- Engineering)	01		16150- 42590/-

(The details of vacancies viz., Community, State Wide and Gender wise (General/Women) may be seen at Annexure-I.)

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. 100/- (RUPEES ONE HUNDRED 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. THE APPLICANTS SHOULD NOT FURNISH ANY PARTICULARS THAT ARE FALSE, TAMPERED, FABRICATED OR SUPPRESS ANY MATERIAL INFORMATION WHILE MAKING AN APPLICATION THROUGH WEBSITE.
6. **IMPORTANT:-** HAND WRITTEN/TYPED/PHOTOSTAT COPIES/PRINTED APPLICATION FORM WILL NOT BE ENTERTAINED.
7. 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.

The following blank formats (Proforma) are available in the Commission's Website (www.apspsc.gov.in) The candidates can use, if required.

- i). Community, Nativity and Date of Birth Certificate
- ii). Declaration by the Un-Employed
- iii). School Study Certificate
- iv). Certificate of Residence
- v). a) Medical Certificate for the Blind
b) Certificate of Hearing Disability and Hearing Assessment
c) Medical Certificate in respect of Orthopedically Handicapped Candidates
- vi). Creamy Layer Certificate

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, G.O. Ms. No. 89, I&CAD (Ser.VIII.I) Dept., Dt. 12/10/2006, G.O. Ms. No. 227, I&CAD (Ser.VIII.A1) Dept., 15/11/2007, Lr. No. G1/337/ERL/2012, Dt, 29/03/2012, G1/337/ERL/2012/150, Dt. 11/05/2012, and other related G.O's, 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. Reservation for local candidate is not applicable. Selection shall be made on statewide merit, in terms of departmental special / adhoc rules.
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/- (Rupees 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 categories 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 of 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 Special Rules.
12. Reservation to BC-E group will be subject to the adjudications of the litigation before the Honorable Courts including final orders in Civil Appeal No: (a) 2628-2637 of 2010 in SLP. No. 7388-97 of 2010, dated. 25/03/2010 and orders from the Government.
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. **B.C. Candidates whose Parent's income is less than 4.00 Lakhs per annum come under Non-Creamy Layer.** In case of failure to produce the same on the day of verification, the Candidature is rejected without further correspondence.

14. The Candidates who have obtained Degrees through Open Universities / Distance Education mode are required to have recognition of Joint Committee i.e., AICTE, UGC, DEC and IGNOU. Unless such Degrees had been recognised by the D.E.C. they will not be accepted for purpose of Educational Qualification. The onus in case of doubt, of Proof of recognition by the D.E.C. that their Degrees / Universities have been recognised, rests with the Candidate.

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.

Post Code	Name of the Post	Educational Qualifications
01	Assistant Research Officer (Engineering)	Must possess a Master's Degree in Civil Engineering (preferably with specialization in Water Resources / Geo Technical / Structures) from any University in India, established or incorporated by or under a Central Act, Provincial Act or a State Act or its equivalent qualification.
02	Research Assistant (Engineering)	Must possess a First Class Bachelor's Degree in Civil Engineering from any University in established or under a Central Act, Provincial Act or a State Act or an Institution recognized by the University Grants Commission or an equivalent qualification.
03	Research Assistant (Non-Engineering)	Must possess First Class Master's Degree in Chemistry from any University in India, established or incorporated by or under a Central Act Provincial Act or an Institution recognized by the University Grants Commission or an equivalent qualification.

PARA-3 AGE: Minimum 18 years & Maximum 34 years as on 01/07/2012.

N.B.: No person shall be eligible if less than 18 years and is more than 34 of years.

NOTE: The upper age limit prescribed above will be 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 maximum 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 relaxation for Ex-Servicemen is applicable for those who have been released from defense otherwise than by way of dismissal, misconduct, and inefficiency.

PARA-4: (a) FEE: (Remittance of Fee) Each applicant must pay **Rs. 100/- (Rupees One Hundred 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. 100/- (Rupees One Hundred 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) 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. Even after making payment of fee, candidate fails to submit the bio-data particulars, such applications shall be rejected without giving any notice.
- V Step:- If any candidate fails to enter "Community" for any reason, they will be treated as an OC without giving any notice.

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

- a) SC, ST, BC, PH & Ex-Service Men.
- b) Families having Household Supply White Card issued by Civil Supplies Department, A.P. Government. (Residents of Andhra Pradesh)
- c) Un employed youth in the age group of 18 to 34 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.
- d) 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 BY WRITTEN EXAMINATION (OBJECTIVE TYPE) FOR ELIGIBLE CANDIDATES.

THE FINAL SELECTION OF THESE POSTS WILL BE BASED ON THE WRITTEN EXAMINATION.

1. The minimum qualifying marks for 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 against vacancies and for the vacancies available.
N.B.: Mere securing minimum qualifying marks does not vest any right in a candidate for being considered for selection.
3. The appearance in all the papers at the Written Examination as per rules is compulsory. Absence in any of the papers 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.
6. The appointment of selected candidates will be subject to their being found medically fit in the appropriate medical classification, and if he/she is of sound health, active habits free from any bodily defect or infirmity.

Para-6: SCHEME OF EXAMINATION: The Scheme and Syllabus for the Written Examination has been shown in Annexure-II.

PARA-7: 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) 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.

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 OF 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-8: RESERVATION TO LOCAL CANDIDATES: - Reservation to the Local candidates is not applicable as the selection made on State Wide Merit.

PARA-9: CENTRES FOR THE WRITTEN EXAMINATION:

1. The Written Examination will be held at **HYDERABAD** only.
2. The Written Examination is likely to be held on the following dates:-

PC. No.	Name of the Post	Date of Written Examination
01	Assistant Research Officer (Engineering)	05.05.2013
02	Research Assistant (Engineering)	09.06.2013
03	Research Assistant (Non-Engineering)	05.05.2013

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. The candidates have to be found suitable after verification of original certificates; and other eligibility criteria. The Applicants have to upload the his/her scanned recent colour passport photo and signature to the Application Form. Failure to produce the same photograph, if required, at the time of 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, Subject / Subject Code, Booklet Series, Name of the Examination 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 BALL POINT PEN (BLUE/BLACK) ONLY FOR MARKING THE ANSWERS. The candidates will be supplied OMR Sheet consists of two copies i.e., the Original Copy (Top Sheet) and Duplicate Copy (Bottom Sheet). The candidate is required to use Ball Point Pen (Blue or Black) for filling the relevant blocks in the OMR Sheet including bubbling the answers. After writing the examination the candidate has to handover the original OMR sheet (Top Sheet) to the invigilator in the examination hall, if any candidate takes away the original OMR Sheet (Top Sheet) his/her candidature will be rejected. However the candidate is permitted to take away the duplicate OMR Sheet (Bottom Sheet) for his/her record. The candidates should bring Ball Point Pen (Blue/Black and smooth writing pad) to fill up relevant columns on the Answer Sheet. The candidate must ensure encoding the Register Number, Subject/Subject Code, Booklet Series, Name of the Examination Centre, Signature of the Candidate and Invigilator, etc., on the O.M.R. Answer sheet correctly, failing which the Answer sheet will be rejected and will not be valued. Use of whitener on OMR Sheet will lead to disqualification.
- 4) The OMR Sheets have to bubble only by Ball Point Pen (Blue/Black). Bubbling by Pencil / Ink Pen / Gel Pen is not permitted in this examination.
- 5) The candidates should satisfy the Invigilator of his identity with reference to the signature and photographs available on the Nominal Rolls and Hall Ticket.
- 6) 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.
- 7) 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 behaviour 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.
- 8) 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.
- 9) 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.
- 10) 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 examination centre and necessary corrections be made in the Nominal Roll, in the Examination Hall against his/her Hall Ticket Number 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 FOR FIVE YEARS 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.
- 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 examination or selection held by the Service Commissions 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 final selections. Such a request must necessarily be accompanied by a Xerox copy of the Hall-ticket. Request for revaluation or recounting will not be undertaken 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 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.

**HYDERABAD,
DATE: 29/12/2012**

**Sd/-
SECRETARY, I/c**

ANNEXURE – II

NOTIFICATION NO. 26/2012

**SCHEME AND SYLLABUS FOR THE POST OF A.P. ENGINEERING RESEARCH
LABORATORIES SERVICE**

**FOR POST CODE NO 01:- SCHEME AND SYLLABUS FOR THE POST OF ASSISTANT
RESEARCH OFFICER (ENGINEERING) IN A.P. ENGINEERING RESEARCH
LABORATORIES SERVICE.**

SCHEME

WRITTEN EXAMINATION (OBJECTIVE TYPE) MASTER'S DEGREE STANDARD

Paper-I : General Studies & Mental Ability	150 Marks	150 Questions	150 Minutes
Paper-II : Civil Engineering : (i) Water Resources or (ii) Geo Technical or (iii) Structural Engg.	300 Marks	150 Questions	150 Minutes
Total	450 Marks		

The candidate should opt one of the above three specialization subjects for Paper-II in which he / she studied M.Tech. (Civil) – P.G. Standard

SYLLABUS

PAPER-1: GENERAL STUDIES AND 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.
7. **DISASTER MANAGEMENT** (Source : CBSE Publications)
 1. Concepts in disaster management and vulnerability profile of India / State of A.P.
 2. Earth quakes / Cyclones / Tsunami / Floods / Drought – causes and effects.
 3. Man made disasters - Prevention strategies.
 4. Mitigation strategies / Mitigation measures.

PAPER-II : CIVIL ENGINEERING : (i) WATER RESOURCES

**SYLLABUS FOR THE RECRUITMENT OF ASST.RESEARCH OFFICER WITH
M.TECH WATER RESOURCES SPECIALIZATION**

Hydrograph Analysis, unit hydrograph theory and its applications, Rainfall - Runoff Analysis, Conceptual Models, Parametric Unit Hydrograph, Synthetic Unit Hydrograph, Frequency Analysis,

Reynolds Transport Theorem, Conservation laws, Potential Flow, Navier - Stokes Equations, Exact and Approximate Solutions, Boundary Layer Theory, Turbulence modelling, Dimensional Analysis, Diffusion and Dispersion of Pollutant in a Fluid Medium.

Free Surface Flow Regimes, Energy and Momentum, Applications, theoretical Concepts of Surface Roughness, Uniform Flow Computation, Gradually Varied Flow Profiles Computation, Practical Problems, Steady Rapidly Varied Flow, Unsteady Rapidly Varied Flow- Dam Break Problem, Surges

Groundwater Modelling, Water Well Design and Drilling, Groundwater Management, Conjunctive Use, Artificial Recharge of Groundwater, Groundwater Quality Modelling.

Design and construction of dams, spillways, Stilling basin Intake works, Tunnels and Penstocks, Gates, Surge tanks, Power house structures

Urban hydrological cycle, Master drainage plans, Estimation of urban storm water quantity, Wastewater collection systems, Design of storm sewer network systems, Storage facilities. Interaction between urban drainage and solid waste management, Storm water Management, Operation and maintenance of urban drainage system.

Properties of sediment, Incipient motion, bed load, Suspended load, Total load, Sediment measurements, Regime concept, bed form Mechanics, Plan form and stream bed variations of rivers, Reservoir sedimentation, Erosion and deposition, Sediment control, Sediment transport in pipes.

OR

PAPER-II : CIVIL ENGINEERING : (ii) GEO TECHNICAL

**SYLLABUS FOR THE RECRUITMENT OF ASST. RESEARCH OFFICER WITH M.TECH
GEOTECHNICAL ENGINEERING SPECIALIZATION**

Exploration Methods, Boring and Sampling, Standard & Cone Penetration Tests, Borehole shear tests, Pressuremeter test, Plate load test, Rock Sampling, Core Recovery, RQD, Laboratory Testing on rocks, Geophysical Exploration.

Primary and secondary consolidation, Shear strength of soils, Significance of pore pressure parameters, direct and triaxial shear tests, Critical void ratio, dilation in soils.

Shallow foundations, bearing capacity, effect of water table, footings with eccentric or Inclined Loads, Foundations on layered soils, Immediate, primary & Secondary Consolidation settlements

Deep foundations, static and dynamic pile formulae, pile load test, uplift resistance, laterally loaded piles, ultimate lateral resistance, negative skin friction, under reamed piles, ultimate capacity of pile groups in compression, pullout & lateral loads, efficiency, settlements of pile groups.
Earth Pressure theories, design of cantilever, gravity retaining walls and sheet pile walls, braced cuts, soil nailing.

Ground Modifications, In situ and laboratory tests to characterize problematic soils, Mechanical, Hydraulic, Physico-chemical, Electrical, Thermal methods and their applications. Geosynthetics, Properties, Functions, applications for soil reinforcement, reinforced earth walls, landfills, highways etc.

Propagation of seismic waves in soil deposits, Attenuation of stress waves, Stress-strain behaviour of cyclically loaded soils, Strength of cyclically loaded soils, Dynamic soil properties - Laboratory and field testing techniques, Elastic constants of soils, Permissible amplitude, Allowable soil pressure for foundation analysis, IS code of practice design procedure for foundations of reciprocating and impact type machines. Vibration isolation and absorption techniques.

Piping through earthen dams, embankment and foundations, Methods of seepage control through embankments and foundations, critical hydraulic gradient, Design Criteria for filters, Treatment of upstream and down stream of slopes, Drainage control, Filter design. Types of Failure: Failure surfaces, Total stress analysis versus effective Stress analysis, Short term and Long term stability in slopes - Taylor Charts, Method of Slices, Effect of Tension Cracks, Bishop's Analysis, Bishop and Morgenstern Analysis, Janbu's Analysis,

Causes of earthquake, Earthquake Intensity and magnitudes, ground motion and ground response, Evaluation of liquefaction by cyclic stress and cyclic strain approaches, Lateral deformation and spreading, Soil improvement for remediation of seismic hazards. Seismic design requirements for foundation, Seismic bearing capacity, Seismic settlement, Design loads. Seismic slope stability analysis - Internal stability and weakening instability, Seismic design of retaining walls, Dynamic response of retaining walls, Seismic displacement of retaining walls.

Electromagnetic spectrum, energy sources and Radiation principle, Energy interactions in the atmosphere, energy interactions with earth surface features – Vegetation, Soil and water, sensors, Radiometric, Geometric corrections, Image enhancement, Spatial data models – Raster and Vector data Models, Topology, Digital elevation data, Applications of soil, water resources, environmental, earthquakes, landslides.

OR

PAPER-II : CIVIL ENGINEERING : (iii) STRUCTURAL ENGINEERING

**SYLLABUS FOR THE RECRUITMENT OF ASSISTANT RESEARCH OFFICER WITH
M.TECH STRUCTURAL ENGINEERING SPECIALISATION**

Elasticity - notation for forces and stress - components of stresses - components of strain - Hooks law. Plane stress and plane strain analysis - plane stress - plane strain - differential equations of equilibrium - boundary conditions - compatibility equations - stress function - boundary condition.

Two dimensional problems in rectangular coordinates - solution by polynomials - Saint- Venants principle - determination of displacements - bending of simple beams -. Two dimensional problems in polar coordinates - stress distribution symmetrical about an axis - pure bending of curved bars - strain components in polar coordinates - displacements for symmetrical stress distributions - simple symmetric and asymmetric problems - general solution of two-dimensional problem in polar coordinates –

Analysis of stress and strain in three dimensions - principal stress - stress ellipsoid - director surface - determination of principal stresses - max shear stresses - homogeneous deformation - principal axes of strain rotation. General Theorems: Differential equations of equilibrium - conditions of compatibility - determination of displacement - equations of equilibrium in terms of displacements - principle of super position - uniqueness of solution - the reciprocal theorem.

Torsion of Prismatic Bars - torsion of prismatic bars - bars with elliptical cross sections - other elementary solution - membrane analogy - torsion of rectangular bars

Structural Analysis

Introduction to matrix methods of analysis - statically indeterminacy and kinematics indeterminacy - degree of freedom - coordinate system - structure idealization stiffness and flexibility matrices - suitability element stiffness equations - elements flexibility equations - mixed force - displacement equations - for truss element, beam element and tensional element.

Transformation of coordinates - element stiffness matrix - and load vector - local and global coordinates.

Assembly of stiffness matrix from element stiffness matrix - direct stiffness method - general procedure - banded matrix - semi bandwidth - computer algorithm for assembly by direct stiffness matrix method.

Shear walls- Necessity - structural behaviour of large frames with and without shear walls - approximate methods of analysis of shear walls.

Beam Columns; Differential equations for beam columns- beam columns with concentrated loads – continuous lateral loads-couples- beam columns with built in ends – continuous beams with axial load – application of trigonometrically series – Effects of initial curvature on deflections – Determination of allowable stresses.

Elastic Buckling of bars and frames; Elastic Buckling of straight columns – Effect of shear stress on buckling – Eccentrically and laterally loaded columns- Buckling of frames-large deflections of buckled bars-Energy methods- Buckling of bars on elastic foundations- Buckle line of bar with intermediate compressive forces - Buckling of bars with change in cross-section – Effect of shear force on critical load- built up columns.

RCC Structures

: Behavior in flexure, Design of singly Reinforced rectangular sections, Design of Doubly Reinforced rectangular sections, Design of flanged beam sections, Design for shear
Limit Analysis of R.C.Structures: Rotation of a plastic hinge, Redistribution of moments, moment rotation characteristics of RC member, I.S. code provisions, applications for fixed and continuous beam. Yield line analysis for slabs: Upper bound and lower bound theorems – yield line criterion – Virtual work and equilibrium methods of analysis – For square and circular slabs with simple and continuous end conditions.

Steps of Designing Deep Beams, Design by IS 456, Checking for Local Failures

Flat slabs: Direct design method – Distribution of moments in column strips and middle strip-moment and shear transfer from slabs to columns – Shear in Flat slabs-Check for one way and two way shears-

Deflections of Reinforced concrete beams and slabs short term deflections and long term deflection estimation of crack width in RCC members, calculation of crack widths, shrinkage and thermal cracking.

Steel Structure

Dead loads, live loads and wind loads on roofs. Design wind speed and pressure, wind pressure on roofs; wind effect on cladding and louvers; Design of angular roof truss, tubular truss, design of knee braced trusses and stanchions. Design of bracings.

PLASTIC DESIGN

Introduction: fundamentals static method of analysis and mechanism method of analysis; applications to the cases of rectangular portal frames. Gable frames,

Prestressing by straight, concentric, eccentric, bent and parabolic tendons – Different methods and systems of prestressing like Hoyer system, Freyssinet system, Magnel Blaton system – Lee-Mc call system. **Losses of Prestress:** Loss of prestress in pre-tensioned and post-tensioned members due to various causes like elastic shortening of concrete, shrinkage of concrete, creep of concrete, relaxation of steel, slip in anchorage, bending of member and frictional loss – Analysis of sections for flexure.

Allowable stresses – Elastic design of simple beams having rectangular and I-section for flexure – kern lines – cable profile and cable layout. **Design of Sections for Shear :** Shear and Principal stresses – Improving shear resistance by different prestressing techniques – horizontal, sloping and vertical prestressing – Analysis of rectangular and I-beam – Design of shear reinforcement – Indian code provisions.

Transfer of Prestress in Pretensioned Members : Transmission of prestressing force by bond – Transmission length – Flexural bond stresses – IS code provisions – Anchorage zone stresses in post tensioned members – stress distribution in End block – Analysis by approximate, Guyon and Magnel methods – Anchorage zone reinforcement.

Theory of vibrations; Introduction - Elements of vibratory system - Degrees of Freedom - Continuous System - Lumped mass idealization - Oscillatory motion - Simple Harmonic motion - Vectorial representation of S.H.M. - Free vibrations of single degree of freedom system - undamped and damped vibrations - critical damping - Logarithmic decrement - Forced vibration of SDOF systems - Harmonic excitation -Dynamic magnification factor – Phase angle – Bandwidth

Introduction to Structural Dynamics : Fundamental objectives of dynamic analysis -Types of prescribed loading - Methods of discretization - Formulation of equations of motion by different methods – Direct equilibration using Newton's law of motion / D'Alembert's principle, Principle of virtual work and Hamilton principle.

Single Degree of Freedom Systems : Formulation and solution of the equation of motion - Free vibration response - Response to Harmonic, Periodic, Impulsive and general dynamic loadings - Duhamel integral.

Introduction to Earthquake Analysis: Introduction - Excitation by rigid base translation - Lumped mass approach - SDOF and MDOF systems - I. S. Code methods of analysis for obtaining response of multi storeyed buildings.

Engineering Seismology: Earthquake phenomenon cause of earthquakes-Faults- Plate tectonics- Seismic waves- Terms associated with earthquakes-Magnitude/Intensity of an earthquake-scales-Energy released-Earthquake measuring instruments-Seismoscope, Seismograph, accelerograph-Characteristics of strong ground motions- Seismic zones of India.

Conceptual design: Introduction-Functional planning-Continuous load path-Overall form-simplicity and symmetry-elongated shapes-stiffness and strength-Horizontal and Vertical members-Twisting of buildings-Ductility-definition-ductility relationships-flexible buildings-

framing systems-choice of construction materials-unconfined concrete-confined concrete-masonry-reinforcing steel. Introduction to earthquake resistant design: Seismic design requirements-regular and irregular configurations-basic assumptions-design earthquake loads-basic load combinations-permissible stresses-seismic methods of analysis-factors in seismic analysis-equivalent lateral force method-dynamic analysis-response spectrum method-Time history method

Reinforced Concrete Buildings: Principles of earthquake resistant design of RC members-Structural models for frame buildings- Seismic methods of analysis- Seismic design methods- IS code based methods for seismic design- Seismic evaluation and retrofitting- Vertical irregularities- Plan configuration problems- Lateral load resisting systems- Determination of design lateral forces- Equivalent lateral force procedure- Lateral distribution of base shear. Masonry Buildings: Introduction- Elastic properties of masonry assemblage- Categories of masonry buildings- Behaviour of unreinforced and reinforced masonry walls- Behaviour of walls- Box action and bands- Behaviour of infill walls- Improving seismic behaviour of masonry buildings- Load combinations and permissible stresses- Seismic design requirements- Lateral load analysis of masonry buildings.

Concrete Technology

High strength concrete – Micro structure – Manufacturing considerations – selection of mix proportions – Design of high strength concrete by Erintroy method –properties of high strength concrete – advantages and applications – ultra high strength concrete.

Self compacting concrete – definition – requirement – manufacturing considerations – tests of fresh and hardened concrete – EFNARC guide lines – design of mix proportions – advantages and applications.

Polymers in concrete – different types – proportioning polymer concrete – tests on polymer concrete – High performance concrete – requirements and characteristics factors controlling performance and mechanism affecting performance – mix design methods

Form work – materials – structural requests – form work systems – connections – specifications – design of form work – shores – removal for forms and shores – reshoring – failure of form work.

Concrete mix design-BIS method – ACI method – DOE method – Light weight aggregate concrete.

Experimental Stress Analysis

Strain Measurement using Strain Gauges: Definition of strain and its relation to Experimental Determinations, properties of strain-gauge systems, Types of strain gauges, Mechanical and Optical strain gauges. Electrical Strain Gauges- Introduction, LVDT - resistance strain gauge - various types - gauge factor, Materials for adhesion base, etc.

Introduction: Requirements of new structural materials, influence of nature of materials in structural form, Nature of structural materials- Homogeneous materials, composite materials

FOR POST CODE NO 02:- SCHEME AND SYLLABUS FOR THE POST OF RESEARCH ASSISTANT (ENGINEERING) IN A.P. ENGINEERING RESEARCH LABORATORIES SERVICE

SCHEME

WRITTEN EXAMINATION (OBJECTIVE TYPE) BACHELOR'S DEGREE STANDARD

Paper-I : General Studies & Mental Ability	150 Marks	150 Questions	150 Minutes
Paper-II : Civil Engineering	300 Marks	150 Questions	150 Minutes
Total	450 Marks		

SYLLABUS

PAPER-1: GENERAL STUDIES AND 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.
7. **DISASTER MANAGEMENT** (Source : CBSE Publications)
 1. Concepts in disaster management and vulnerability profile of India / State of A.P.
 2. Earth quakes / Cyclones / Tsunami / Floods / Drought – causes and effects.
 3. Man made disasters - Prevention strategies.
 4. Mitigation strategies / Mitigation measures.

Paper-II : CIVIL ENGINEERING

PART-A

1. Engineering Mechanics: Units and Dimensions, SI Units, Vectors, Concept of Force, Concept of particle and rigid body. Concurrent, non-concurrent and parallel forces in a plane, moment of force and Varignon's theorem, free body diagram, conditions of equilibrium, Principle of virtual work, equivalent force system.

First and Second Moments of area, Mass moment of Inertia.

Static Friction Inclined plane and bearings.

Kinematics and Kinetics: Kinematics in Cartesian and polar co-ordinates, motion under uniform and non-uniform acceleration, motion under gravity. Kinetics of particle: Momentum and Energy principles, D'Alembert's Principle, Collision of elastic bodies, rotation of rigid bodies, simple harmonic motion.

2. Strength of Materials: Simple Stress and Strain, Elastic constants, axially loaded compression members, Shear force and bending moment, theory of simple bending moment, Shear Stress distribution across cross sections, Beams of uniform strength, Leaf spring, Strain Energy in direct stress, bending and shear.

Deflection of beams: Macaulay's method, Mohr's moment area method, Conjugate beam method, unit load method. Torsion of Shafts, Transmission of power, close coiled helical springs, Elastic stability of columns: Euler's, Rankine's and Secant formulae. Principal Stresses and Strains in two dimension, Mohr's Circle. Theories of Elastic failure, Thin and Thick cylinders: Stresses due to internal and external pressures-Lame's equation.

3. Structural Analysis: Analysis of pin jointed plane trusses, deflection in trusses. Three hinged and two hinged arches, rib shortening, temperature effects, influence lines in arches. Analysis of propped cantilevers, fixed beams, continuous beams and rigid frames. Slope deflection, moment distribution, Kani's method and Matrix method: Force and Displacement methods. Rolling loads and influence lines for determinate beams and pin jointed trusses.

PART-B

Geotechnical Engineering: Types of soil, field identification and classification, phase relationships, consistency limits, particle size distribution, classification of soil, structure and clay mineralogy.

Capillary water and structural water, effective stress and pore water pressure, Darcy's Law, factors affecting permeability, determination of permeability, permeability of stratified soil deposits.

Seepage pressure, quick sand condition, compressibility and consolidation, Terzaghi's theory of one dimensional consolidation, consolidation test. Compaction of soil, optimum moisture content, Proctor Density.

Subsurface exploration, methods of boring, sampling, types of sampler, field tests.

Shear strength of soils, Mohr-Coulomb failure theory, shear tests Earth pressure at rest, active and passive pressures, Rankine's theory, Coulomb's wedge theory, earth pressure on retaining wall.

Bearing capacity, Terzaghi and other important theories, net and gross bearing pressure, immediate and consolidation settlement.

Load carrying capacity of pile groups.

Stability of slope-conventional method of slices, stability numbers.

Transportation Engineering: Highway alignment, choice of layout and capacity of highways, location survey, geometric design of highways-various elements, curves, grade separation and segregation of traffic, inter-section design, highway materials and testing subgrade and pavement components, type of pavements, road drainage, elements of airport engineering.

Railway engineering-elements of permanent track-rails, sleepers, ballast and rail fastenings, tractive resistance, elements of geometric design-gradients and grade compensation on curves, cant transition curves and vertical curves, stresses in railway tracks, points and crossing, signaling and inter-locking, maintenance of railway track. Culverts and small bridges.

PART-C

Fluid Mechanics: fluid properties, fluid statics, forces on plane and curved surfaces, stability of floating and submerged bodies.

Kinematics: Velocity, streamlines, continuity equation, accelerations irrotational and rotational flow, velocity potential and stream functions, flownet, separation.

Dynamics: Euler's equation along streamline, control volume equation, continuity, momentum, energy and moment of momentum equation from control volume equation, applications to pipe flow, moving vanes, moment of momentum, Dimensional analysis.

Boundary layer on a flat plate, drag and lift on bodies. Laminar and Turbulent Flows. Laminar and turbulent flow through pipes, friction factor variation, pipe networks, water hammer and surge tanks.

Open Channel Flow: Energy and momentum correction factors, uniform and non-uniform flows, specific energy and specific force, critical depth, Friction factors and roughness coefficients, flow in transitions, free overfall, weirs, hydraulic jump, surges, gradually varied flow equations, surface profiles, moving hydraulic jump.

PART-D

Environmental Engineering:

Water Supply: Estimation of surface and subsurface water resources, predicting demand for water, impurities of water and their significance, physical, chemical and bacteriological analysis, water borne diseases, standards for potable water.

Intake of water: Pumping and gravity schemes, water treatment; principles of coagulation, flocculation and sedimentation; slow-, rapid-, pressure-, filters; chlorination, softening, removal of taste, odour and salinity.

Water storage and distribution: storage and balancing reservoir types, location and capacity. Distribution systems: layout, hydraulics of pipe lines, pipe fittings, valves including check and pressure reducing valves, meters, analysis of distribution systems, leak detection, maintenance of distribution systems, pumping stations and their operations.

Sewerage systems: Domestic and industrial wastes, storm sewage-separate and combined systems, flow through sewers, design of sewers, sewer appurtenances, manholes, inlets, junctions, siphon. Plumbing in Public buildings.

Sewerage characterization: BOD, COD, solids, dissolved oxygen, nitrogen and TOC. Standards of disposal in normal water course and on land.

Sewage treatment: Working principles, units, chambers, sedimentation tank, trickling filters, oxidation ponds, activated sludge process, septic tank, disposal of sludge, recycling of waste water.

Construction Management: Elements and principles of Activity on Arrow (AOA) and Activity on Node (AON) networks and work breakdown structure. Interfaces. Ladder networks. Activity time. Time computations and works. ATC and PTC trade-off. Work study and sampling. Scheduling principles-material schedules. ABC and EOQ analysis of inventory. Budgeting with bar-charts. Working capital. PERT, probability of completion. Elements of Engineering Economics, methods of appraisal, present worth, annual cost, benefit-cost, incremental analysis. Economy of scale and size. Choosing between alternatives including levels of investments. Project profitability.

FOR POST CODE NO 03:- SCHEME AND SYLLABUS FOR THE POST OF RESEARCH ASSISTANT (NON-ENGINEERING) IN A.P. ENGINEERING RESEARCH LABORATORIES SERVICE

SCHEME

WRITTEN EXAMINATION (OBJECTIVE TYPE) MASTER'S DEGREE STANDARD

Paper-I : General Studies & Mental Ability	150 Marks	150 Questions	150 Minutes
Paper-II : Chemistry	300 Marks	150 Questions	150 Minutes
Total	450 Marks		

SYLLABUS

PAPER-1: GENERAL STUDIES AND 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.
7. **DISASTER MANAGEMENT** (Source : CBSE Publications)
 1. Concepts in disaster management and vulnerability profile of India / State of A.P.
 2. Earth quakes / Cyclones / Tsunami / Floods / Drought – causes and effects.
 3. Man made disasters - Prevention strategies.
 4. Mitigation strategies / Mitigation measures.

Paper-II : CHEMISTRY

Inorganic Chemistry:

1. Atomic structure & Chemical Bonding – Quantum theory Schrodinger – wave equation – Hydrogen atom, Hydrogen molecule – Elements on valence bond – molecular orbital theories.
2. Determination of molecular structure – X – ray and electron diffraction methods.
3. Periodic classification (Classical and modern) periodic functions of elements – atomic volume – atomic radius electronegativity-oxidation states – lattice energy and their applications.
4. Chemistry of d-block elements – Physical and chemical characteristics of the transition elements – Characteristics related to electronic arrangements oxidation states – color magnetic properties – Complex formation – interstitial L-S coupling – Hund's rule. A General study of the first transition series.
5. Chemistry of f-block elements – Lanthanons and Actinons – electronic configurations – oxidation's states – Separation of Lanthanons and Actinons.
6. Chemistry of complex compounds: Jorgenson and werner's views – effective atomic number – valence bond theory – Introductory treatment of crystalfield theory applied to complexes with co-ordination number 6.
7. Isomerism in complexes: Geometrical and optical isomerism of four and six co-ordinated complexes. Pearson's theory of hard and soft acids and bases.
8. Study of the following elements and their modern Chemistry Be, Ti, Zr, Hf, V, Mo, W, U, and Th.
9. Alloys: Intermettallic compounds.

Physical Chemistry:

10. Radio activity: Elementary account of nuclear structure natural and artificial radio activity – characterisation of relations – decay chains-half-life-decay constant and average life. Radio-active series, atomic transmutation – atomic fission and fusion reactions and their applications – nuclear isomers and their separations.
11. Kinetic theory of gases: Equations of state – critical constants – States of aggregation – liquid states – viscosity – physical properties and chemical constitution – collision theory of derivation of the collision – number from Kinetic theory of gases.
12. Chemical Kinetics: order and molecularity of reaction first order and second order reactions – law of mass action – influence of temperature and pressure – thermo-dynamic derivation of Law of mass action – unimolecular reactions Lindemann's theory.
13. Thermodynamics: First law of thermodynamics and its applications to ideal gases, energy and enthalpy changes in gases, heat capacities of gases and their inter-relation. Isothermal and adiabatic processes – Kirchoff's equation and its applications – Vant Hoff's isotherm isochore equilibria in heterogeneous system. Second Law of thermo dynamics (Joules and Joule Thomson experiments). Entropy change in an isolated system for reversible and irreversible processes – Variation on entropy of a system with temperature and pressure.

Organic Chemistry:

14. Heterocyclic compounds and chemistry of neutral products – Importance of heterocyclic compounds – classification based on the nature of heterocetom, size of the ring and II excessive and II deficient nature of the ring.
A general and comparative study of Furan pyrole and thiophene Ring transformations. General comparison with benzenoidd compounds, pyridine, quinotone, Isoquinoline and acridine-fill deficient nature of heterocyclic rings – case of nucleophilic substitution.
15. Methods of synthesis, reactivity and properties of the following polynuclear aromatic compounds: anthracene, Benzanthracene, Phenontherene Chryeneand picene.
16. Benzopyrones : Couamarins and Chromones.
17. Alkaloids: General occurrence, reactions and degradations. Chemical and Physico-Chemical methods for the elucidation of structures-synthesis and structural elucidation of the following alakaloids – atropine – cocaine - quinene – Narcotine – papaverine.
18. Organic reaction mechanism: Structure and reactivity of organic molecules – Factors affecting Electron density in a band-inductive, induct rometric, mesomeric, (reasonance) and electrometric effects, hyperconjugation – Dipole moments-acedic and basic strength of organic Compounds.
Modern concepts of organic reaction mechanisms – Addition, substitution and elimination reactions – simple examples and their mechanism. The intermediate carboniumion formation and its participation in organic reactions. Addition C-C, system-pinocol-picolene rearrange rearrangements. Automatic substitution – Formation and hydrolysis of esters.

19. Some name reactions: Wurtz-Friedel-Crafts, Fries-Gattermann – Perin – Beckmann's rearrangements and Grignard reactions.
20. Carbohydrates: General reactions of monosaccharides – configurational studies on glucose, fructose, sucrose, Recent advances in the Chemistry of cellulose and starch.
21. Proteins – Introduction to proteins – their classification – Nomenclature and distribution in nature simple, amino acids – Isolation and their synthesis.
22. General Ideas regarding the chemistry of vitamins & Hormones nicotine, B-Carotene and Vitamin C.
23. Alicyclic compounds: Synthesis and reactions Bayers strain theory – Factors affecting stability of conformation – terpenes – citral – genniol – limonene – terpinol – pinene and camphor.
24. Stereo Chemistry: Optical and geometric isomerism configuration of saturated molecules – DL and RS configuration of optically active compound-racemic – mixtures – racemisation and resolution.
25. Molecular spectra: NMR, Chemical shift – Spin – Spin coupling – ESR of simple radicals – Rotational Spectra, diatomic molecules, linear triatomic molecules, isotopic substitution – Vibrational and Raman Spectra.

Physical Chemistry:

26. Electro-Chemistry: Equivalent conductance and its measurement. The independent migration of ions – Kohlrausch's Law. Transport number and their determination. Ionic mobilities. Equivalent conductance of weak and strong electrolytes. Inter-ionic attraction theory treated quantitatively-Debye-Huckel-Onsager equation. Determination of solubilities from conductance measurements – Conductometric titration's.
Ionic product of water and its determination from conductance and EMF methods – theories of acids and bases – Hydrogen ion concentration and its measurements from E.M.F. measurements using Hydrogen quin – hydrogen and glass electrodes – Buffer solutions – Henderson's equation potentiometric titration's – Determinations of equilibrium constant and solubilities from E.M.F. measurements – Gibbs – Helmholtz equation and its application to chemical cells.
27. Photo – Chemistry: Laws on absorption of light – Griess – Draper Laws – Einstein's Law in Chain reactions – Hydrogen chlorine reactions – absorption – Laws of absorption.
28. Surface Chemistry and catalysis – Absorption isotherms, surface area determination, heterogeneous catalysis, acid-base and enzyme catalysis.

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
- 27 Holey 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 for 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, Bentho Oriya, 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. Nayaks (in the Agency tracts)
23. Mukha Dhora, Nooka Dhora
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 (Nakkala – A.P. Gazette, Part – III (B) Central Acts ordinance and Regulations Issue No. 05 Dt. 02/10/2003)
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 (Deleted vide G.O. Ms. No. 21, BCW(C2) Dept., Dt. 20/06/2011)
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.
53. Aasadula / Asadula, included vide G.O. Ms. No. 13, Backward Classes Welfare (C2) Dept., Dt. 27/05/2011. The area of operation shall be confined to East Godavari and West Godavari Districts only.
54. Keuta/Kevuto/Keviti, included vide G.O. Ms. No. 15, Backward Classes Welfare (C2) Dept., Dt. 27/05/2011. The area of operation shall be confined to Srikakulam District only.

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 Vishaphapatnam, 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 (Perikabaliya, Puragirikshatriya)
16. Nessi or Kurni
17. Padmasali (Sali, Salivan, Pattusali, Senapathulu, Thogata Sali)
18. Srisayana ((sagidi)- deleted and added to SI.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).
27. Budubunjala/Bhunjwa/Bhadbhunja, included vide G.O.Ms. No. 11, Backward Classes Welfare (C2) Dept., Dt. 27/05/2011. The area of operation shall be confined to Hyderabad and Ranga Reddy District only.

28. Gudia/Gudiya, included vide G.O.Ms. No. 14, Backward Classes Welfare (C2) Dept., Dt. 27/05/2011. The area of operation shall be confined to Srikakulam, Vizianagaram and Vishakhapatnam, district only.

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. Nelli(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 (Non-Brahmins) (Shudra Caste) whose traditional occupation is playing musical instruments, vending of flowers and giving assistance in temple service but not Shivarchakars. Included vide G.O. Ms. No. 7, Backward Classes Welfare (C2) Dept., Dt. 19/02/2011).
30. Turupukapus or Gajula kapus {... the words "of Srikakulam, Vizianagaram and Vishakhapatnam 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. Sistakaranam 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/Lingabaliya, included vide G.O. Ms.No. 22 Backward Classes Welfare (C2) Dept., dt. 28/02/2009.
47. Kurmi, included vide G.O.Ms. No. 12, Backward Classes Welfare (C2) Dept., Dt. 27/05/2011. The area of operation shall be confined to Telangana Region and also Krishna District only.

GROUP – E

(Socially and Educationally Backward Classes of Muslims)

1. Achchukattalavandlu, Singali, Singamvallu, Achchupanivallu, 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, Fhaker Budbudki, Ghanti, Fhaker, Ghanta Fhakirlu, Turaka Budbudki, Derves, Fakeer
5. Garadi Muslim, Garadi Saibulu, Pamulavallu, Kani-Kattuvallu, Garadollu, Garadiga.
6. Gosangi Muslim, Phakeer Sayebulu
7. Guddi Eluguvallu, Elugu Bantuvallu, Musalman Keelu Gurravallu
8. Hajam, Nai, Nai Muslim, Navid
9. Labbi, Labbai, Labbon, Labba
10. Pakeerla, Borewale, Deraphakirlu, 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.