

ANDHRA PRADESH PUBLIC SERVICE COMMISSION: HYDERABAD

NOTIFICATION NO. 43/2011, Dt. 29/12/2011

LECTURERS IN GOVERNMENT DEGREE COLLEGES IN A.P. COLLEGIATE EDUCATION SERVICE

PARA – 1:

Recruitment applications are invited On-line through the proforma Application to be made available on WEBSITE (www.apspsc.gov.in) in from **29/02/2012 to **04/04/2012 (Note: **02/04/2012 is the last date for payment of fee)** for recruitment to the post of **Lecturers in Government Degree Colleges in A.P. Collegiate Education 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:-

PC. No.	Name of the Post	Z-1	Z-2	Z-3	Z-4	Z-5	Z-6	City Cadre	Total Vacancies	Age as on 01.07.2011 Min – Max.	Scale of Pay Rs.
01	English	6	11	10	17	11	14	3	72	18-36*	Rs/- 8,000-13,500 (Revised UGC Scale of 1996)
02	Telugu	4	3	5	7	3	5	-	27		
03	Hindi	-	3	2	4	4	4	-	17		
04	Urdu	-	-	2	5	1	1	-	09		
05	Sanskrit	1	-	-	-	-	1	1	03		
06	Oriya	1	-	-	-	-	-	-	01		
07	Arabic	-	-	-	-	-	-	1	01		
08	Commerce	6	10	4	15	9	12	4	60		
09	Public Administration	-	-	-	-	2	4	1	07		
10	Economics	2	7	1	9	4	3	2	28		
11	History	3	4	2	2	4	3	1	19		
12	Political Science	3	4	5	8	2	5	-	27		
13	Mathematics	3	5	2	4	4	5	1	24		
14	Physics	4	10	2	7	8	9	3	43		
15	Chemistry	3	3	1	3	5	5	1	21		
16	Botany	3	4	4	9	6	6	1	33		
17	Zoology	1	4	2	6	5	5	-	23		
18	Statistics	-	1	1	3	-	-	-	05		
19	Bio-Chemistry	-	-	-	1	2	-	-	03		
20	Bio-Technology	1	2	1	1	2	2	1	10		
21	Micro-Biology	1	1	3	4	-	6	1	16		
22	Computer Applications	4	5	1	18	29	5	11	73		
23	Computer Science	12	25	26	24	29	13	4	133		
24	Geology	-	1	-	-	-	1	-	02		
Grand Total									657		

*Corrigendum, Dated:- 03/01/2012 in terms of G.O. Ms. No. 1, GA (Ser.A), Dept., Dt. 02/01/2012.

**Corrigendum, Dated:- 29/03/2012.

(The details of vacancies viz., Community, Zone, 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. The vacancies are only approximate, subject to variation and confirmation by the Unit Officer, till such time as decided by the Commission and in any case, no cognizance 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. 47 Higher Education (CE.I-1) Department., dt. 14/05/2007 read with G.O. Ms. No. 128, Higher Education(CE-I-1) Dept., dt. 24/08/2010 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 Specific 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 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 endeavoured to enlist for his candidature, extraneous support, whether from official or non-official sources for appointment to this service.
- 5) **Zonal:** In terms of Para 8 of the G.O., A.P. Public Employment (Organisation of Local Cadres and Regulation of Direct Recruitment) Order, 1975 G.O.Ms.No. 674, G.A. (SPF-A) Dept., dated: 28/10/1975, the post is specified Gazetted category and organized into Zones/ City cadre. **Reservation of appointments to local candidates is not applicable.** Hence the candidates may apply even if vacancy is not indicated in any zone.
- 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 and 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 scheduled 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. **G.O.Ms.No. 72, W.D & C.H.W (PH.Desk) department, dated 5/8/1997 for PH is 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 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 by the Distance Education Council, 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 as on the date of notification.

<p>P.C. No. 01 to 24:- Lecturers in Government Degree Colleges in A.P. Education Service</p>	<p>i) Good academic record with a minimum of 55% of the marks or an equivalent Grade of B in the 7 point scale with letter grades O, A, B, C, D, E & F at the Masters Degree level, in the relevant subject, obtained from the Universities recognized in India.</p> <p>ii) Should have passed National Eligibility Test (NET) for lecturers conducted by UGC, CSIR or similar test accredited by the UGC or SLET conducted by the Osmania University in terms of G.O. Ms. No. 19, Higher Education (CE-1-I), Dept., Dt. 24/02/2011. N.B.:1. A relaxation of 5% marks may be provided, from (55% to 50% of marks) at the Master's Level for the SC/ST/PH category.</p> <p>2. A relaxation of 5% marks may be provided, (from 55% to 50% of marks) to the Ph.D., Degree holder who have passed their Master's Degree prior to 19.09.1991.</p> <p>3. "NET/SLET shall remain the minimum eligibility condition for recruitment and appointment of Lecturers in Government Degree Colleges".</p> <p>Provided, however, that candidates who are or have been awarded Ph.D degree in compliance of the University Grants Commission (minimum standards and procedure for award of Ph.D. Degree) Regulation, 2009 shall be exempted from the requirements of the minimum eligibility condition of NET / SLET for recruitments and appointment of Lecturers in Government Degree Colleges. (As per G.O. Ms. No. 47 Higher Education (CE.I-1) Department., dt. 14/05/2007 read with G.O. Ms. No. 128, Higher Education(CE-I-1) Dept., dt. 24/08/2010)</p>
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PARA-3 AGE: Minimum 18 years & Maximum 36* years as on 01/07/2011

N.B.: No person shall be eligible if less than 18 years and is more than 36* 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. **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:

- 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 36* 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.,

- i) Written Examination (Objective Type)
And
ii) 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. Selection shall be made on state wide merit and allotment of zones shall be made as per preference given by candidate against the actual vacancies.

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 for verification as and when required and called for. If the particulars furnished in the application do not tally with the Original documents produced by the candidate, the candidature will be rejected. As candidature for the recruitment is processed through Computer/Electronic devices on the particulars furnished in the application form the candidate is advised to fill in all the particulars carefully.
5. While the Commission calls for preference of candidates in respect of posts, zones/ city cadre 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/ City cadre for allotment against vacancy does not confer a right to selection for that Zone/ City cadre in particular or any Zone/ city cadre in general.
6. The appointment of selected candidates will be subject to their being found medically fit in the appropriate medical classification, and if he is of sound health, active habits free from any bodily defect or infirmity.

Para-6: 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.

PARA-7: ALLOTMENT OF CANDIDATES TO ZONES/ VACANCIES:

Reservation of appointments in favour of local candidates for this recruitment is not applicable as per departmental Special Rules and indent for Notification of vacancies.

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. Ranga Reddy, Nizamabad, Mahaboobnagar, Medak and Nalgonda. Excluding the area under City of Hyderabad. (RRD, NZB, MBNR, MDK, NLG, HYD)

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)

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) 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 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 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. 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.
3. The Written Examination will be held on **06/05/2012**

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: 29/12/2011**

**Sd/-
SECRETARY**

ANNEXURE-I
NOTIFICATION NO:43/2011
PROVISIONAL VACANCY POSITION FOR THE POST OF LECTURERS IN GOVERNMENT
DEGREE COLLEGES IN A.P COLLEGIATE EDUCATION
SERVICE
(GENERAL RECRUITMENT)
STATE WIDE (LOCAL RESERVATION NOT APPLICABLE)

POST CODE-01:- ENGLISH

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		1	1						2	4	6
II	1	2	2							1		1	1	1			1HH		6	5	11
III	1	2	1		1		1			1		1	1	1					5	5	10
IV	3	1	1	1		1			2		1		1	1	2	1	1OH 1HH		12	5	17
V	1	1	2		1					1		1		2			1HH		7	4	11
VI	2	3	2		1				1	1		1		1			1HH		8	6	14
CC												1			1		1HH		2	1	3
TOTAL	8	10	9	1	3	2	1	-	3	5	1	5	4	5	7	2	6		42	30	72

POSTCODE-02:- TELUGU

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							1	3	4
II	1										1	1							2	1	3
III	1		1				1			1		1							3	2	5
IV	2			1					1		1		1				1HH		6	1	7
V		1									1						1HH		1	2	3
VI	2						1				1	1							4	1	5
CC																					-
TOTAL	6	2	1	1	-	-	3	-	1	2	1	5	3	-	-	-	2		17	10	27

POSTCODE-03:- HINDI

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																					-
II	1					1									1				1	2	3
III													1				1VH		1	1	2
IV		1					1			1		1							1	3	4
V			1				1			1		1							2	2	4
VI	1					1									1		1VH		1	3	4
CC																					-
TOTAL	2	1	1	-	-	2	2	-	-	2	-	2	1	-	-	2	-	2	6	11	17

POSTCODE-04:- URDU

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																					-
II																					-
III	1												1						1	1	2
IV	1			1								1			1		1VH		2	3	5
V				1																1	1
VI																	1VH			1	1
CC																					-
TOTAL	2	-	-	2	-	-	-	-	-	-	-	-	1	1	-	1	-	2	3	6	9

POSTCODE-05:- SANSKRIT

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
II																					-
III																					-
IV																					-
V																					-
VI		1																		1	1
CC													1							1	1
TOTAL	1	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2	3	

POSTCODE-06:- ORIYA

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
II																					-
III																					-
IV																					-
V																					-
VI																					-
CC																					-
TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1

POSTCODE-07:- ARABIC

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																					-
II																					-
III																					-
IV																					-
V																					-
VI																					-
CC													1							1	1
TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1

POSTCODE-08:- COMMERCE

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	1			1HH		4	2	6
II	2	1	1	1		1				1		1		1			1HH		7	3	10
III	1										1		1	1					2	2	4
IV	4	1	1		1	1				1	1		2	1	2				11	4	15
V	2	1	1	1		1						1	1				1HH		5	4	9
VI	3	1	1	1		1				1		1	2	1					7	5	12
CC	1		1						1		1								2	2	4
TOTAL	14	5	6	3	1	4	-	-	-	2	3	2	5	6	6	-	3	-	38	22	60

POSTCODE-09:- PUBLIC ADMINISTRATION

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																					-
II																					-
III																					-
IV																					-
V															1		1VH		2		2
VI				1									1			1	1VH	1	3		4(1UM)
CC	1																		1		1
TOTAL	1			1									1			2		2	2	5	7

POSTCODE-10:- ECONOMICS

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									2	2
II	2		1		1						1	1		1					6	1	7
III		1																		1	1
IV	3	2			1				1					1			1HH		7	2	9
V	1		1								1	1							3	1	4(2UM)
VI	1										1			1					2	1	3(2UM)
CC	1																1VH	1	1		2
TOTAL	8	3	2	-	2	-	-	-	1	1	-	4	2	-	3	-	1	1	19	9	28

POSTCODE-11:- HISTORY

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	2	3
II		1	1						1		1								1	3	4
III		1											1						1	1	2
IV	1																1HH		2		2(UM)
V	1		1						1		1								2	2	4(2UM)
VI			1						1		1								1	2	3(2UM)
CC	1																		1		1
TOTAL	4	2	3	-	-	1	-	-	-	3	-	3	1	-	-	1	1	-	9	10	19

POSTCODE-12:- POLITICAL SCIENCE

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		1VH		3	3
II	1	1				1	1												2	2	4
III	2			1									1			1			3	2	5
IV	2	1	1						1		1	1					1HH		5	3	8(1UM)
V	1														1				1	1	2(UM)
VI		1			1				1		1		1						1	4	5(2UM)
CC																					-
TOTAL	6	3	1	2	1	1	1	-	-	2	-	2	2	1	-	3	1	1	12	15	27

POSTCODE-13:- MATHE MATICS

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		1VH	1	2	3	
II			1				1			1		1					1VH	2	3	5	
III						1									1				2	2	
IV			1				1			1			1					2	2	4	
V							1			1					1		1VH	1	3	4	
VI							1			1		1			1		1VH	1	4	5	
CC												1							1	1	
TOTAL	1	-	2	-	-	1	4	-	-	4	-	2	-	2	-	4	-	4	7	17	24

POSTCODE-14:- PHYSICS

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		1VH	1	3	4
II	1	1					1			1		1	1	2			1HH	1VH	5	5	10
III						1												1VH	-	2	2
IV	1	1							1			1		2			1HH		6	1	7
V	1						1			1		1	1	2			1HH		5	3	8
VI	1	1	1				1			1		1	1	1			1HH		5	4	9
CC	1														1			1VH	1	2	3
TOTAL	5	3	1	-	-	2	4	-	1	3	-	3	1	3	7	2	4	4	23	20	43

POSTCODE-15:- CHEMISTRY

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						1VH	1	2	3	
II		1										1						1HH		1	2	3
III												1								1	1	
IV	1	1				1													1	2	3	
V	1	1		1		1												1HH		2	3	5
VI	1								1		1	1						1HH		4	1	5
CC																			1VH		1	1
TOTAL	4	3	-	1	-	2	-	-	1	-	1	4	-	-	-	-	3	2	9	12	21	

POSTCODE-16:- BOTANY

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											1VH	1	2	3	
II		1				1				1								1VH	-	4	4	
III						1	1									1		1VH	1	3	4	
IV	1	1							1			1	1	1	2			1HH		6	3	9
V		1	1									1			2			1HH		4	2	6
VI	1					1				1					2			1HH		4	2	6
CC																			1VH		1	1
TOTAL	2	3	1	-	-	4	2	-	1	2	-	2	1	1	6	1	3	4	16	17	33	

POSTCODE-17:- ZOOLOGY

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																		1VH		1	1	
II		1							1		1				1					4	4	
III															1			1VH		2	2	
IV	1	1							1	1					1			1HH		4	2	6
V										1					2			1HH		3	2	5
VI	1	1													1			1HH		3	2	5
CC																						-
TOTAL	2	3	-	-	-	-	-	-	1	3	-	3	-	-	4	2	3	2	10	13	23	

POSTCODE-18:- STATISTICS

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																						-
II														1							1	1
III														1							1	1
IV							1			1								1VH	1	2	3	
V																						-
VI																						-
CC																						-
TOTAL	-	-	-	-	-	-	1	-	-	1	-	-	-	2	-	-	-	1	1	4	5	

POSTCODE-19:- BIO-CHEMISTRY

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																						-
II																						-
III																						-
IV														1						1	1	
V				1														1VH		2	2	
VI																						-
CC																						-
TOTAL	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	3	3	

POSTCODE-20:- BIO-TECHNOLOGY

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
II	1			1																1	1	2
III	1																			1		1
IV																		1VH		1		1
V	1			1																1	1	2
VI		1											1								2	2
CC		1																			1	1
TOTAL	3	2	-	3	-	-	-	-	-	-	-	-	-	1	-	-	-	1	3	7	10	

POSTCODE-21:- MICRO-BIOLOGY

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
II	1																		1		1
III	1														1		1VH		1	2	3
IV				1									1		1		1VH		-	4	4
V																					-
VI	2			1		1									1		1VH		2	4	6
CC				1																1	1
TOTAL	5	-	-	3	-	1	-	-	-	-	-	-	1	-	3	-	3	5	11	16	

POSTCODE-22:- COMPUTER APPLICATIONS

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						1	3	4
II	2	1		1									1						2	3	5
III		1																	-	1	1
IV	4	3	1	1		1	1			1		1	2	1		1		1VH	8	10	18
V	9	4	2	1	1	1	1			1		1	3	2	1	1		1VH	17	12	29
VI	1	1		1									1					1VH	1	4	5
CC	2	2		1		1	1						1	1		1		1VH	4	7	11
TOTAL	19	13	3	6	1	3	3	-	-	2	-	2	6	7	1	3	-	4	33	40	73

POSTCODE-23:- COMPUTER SCIENCE

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	2		1		1							1	1		1		1VH	5	7	12
II	7	4	1	1	1	1	1			1		1	2	2	1	1		1VH	13	12	25
III	8	3	2	1	1	1	1			1		1	3	1	1	1		1VH	16	10	26
IV	7	3	1	1	1	1	1			1		1	3	1	1	1		1VH	14	10	24
V	9	4	2	1	1	1	1			1		1	3	2	1	1		1VH	17	12	29
VI	5	2		1		1							1	1		1		1VH	6	7	13
CC	1	1		1									1						1	3	4
TOTAL	41	19	6	7	4	6	4	-	-	4	-	4	13	9	4	6	-	6	72	61	133

POSTCODE-24:- GEOLOGY

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																					-
II				1																1	1
III																					-
IV																					-
V																					-
VI													1							1	1
CC																					-
TOTAL	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	2

NOTE: If any variations are noticed in the vacancies with reference to rosters it will be adjusted accordingly.

ANNEXURE-II

NOTIFICATION NO. 43/2011
SCHEME AND SYLLABUS FOR RECRUITMENT TO THE POST OF LECTURERS IN
GOVERNMENT DEGREE COLLEGES IN A.P. COLLEGIATE EDUCATION SERVICE

(P.G. Standard)

Papers	No. of Questions	Duration (Minutes)	Maximum Marks
PART-A: Written Examination (Objective Type)			
Paper-1: General Studies & Mental Ability	150	150	150
Paper-2: Concerned Subject (One only)	150	150	300
PART-B: Interview (Oral Test)			50
TOTAL			500

NB : The Candidates have to choose one of the following subjects relevant to the PG Degree for writing Paper-2:

1. English	2. Telugu	3. Hindi
4. Urdu	5. Sanskrit	6. Oriya
7. Arabic	8. Commerce	9. Public Administration
10. Economics	11. History	12. Political Science
13. Mathematics	14. Physics	15. Chemistry
16. Botany	17. Zoology	18. Statistics
19. Bio Chemistry	20. Bio Technology	21. Micro Biology
22. Computer Applications	23. Computer Science	24. Geology

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 –2**ENGLISH**

Detailed Study of literary age (19th Century) viz.,

The period of English Literature from 1798 to 1900 with special reference to the works of the major writers including Words worth, Coleridge, Byron, Keats, Shelley, Lamb, Hazlitt, Thackeray, Dickens, Tennyson, Browning, Arnold George Eliot, Calyle and Ruskin.

Study of the following Texts:

1. William Shakespeare : 'Macbeth', 'Hamlet', 'Julius Vrsdst', 'Tempest'
2. John Milton : 'Paradise Lost', -Books I & II
3. Alexander Pope : 'The Rape of the Lock'
4. William Wordsworth : 'The Immorality Ode', 'The Tin Tern Abbey'
5. John Keats : 'Ode to a Nightingale'
6. P.B. Shelley : 'Ode to the West Wing'
7. Jane Austen : 'Pride and Prejudice'.
8. Charles Dickens : 'A Tale of Two Cities'
9. Thomas Hardy : 'The mayor of Casterbridge'
10. W.B. Yeats : "Byzantium", 'The Second Coming'.
11. T.S. Eliot : 'The Waste Land'.
12. D.H. Lawrence : 'Sons and Lovers'.
13. Mulk Raj Anand : 'The Big heart'
14. R.K. Narayan : 'The Man eater of Malgudi'

TELUGU**I.**

- a) Study of classical poets – their age and works – particular selections from Nannaya, Tikkana, Errapragada, Salva Poets i.e., (Nannechoda, Mallikarjuna Pandita, Palakuriki Soma), Nachana Somana – Bhaskara Ramayana poets and Ranganatha Ramayana Poet – Srinatha – Pothana – Pillalamarri Pinaveerabhadra – Raurana – Jakkana – Anantamatya – Koravi Goparaju – Nandi Mallaya and Ghanta Singana – Ashta Diggaja Poets – Tallapaka Poets – Krishnadeva Raya – Ponnaganti Telangana – Chemakura Venkataraju – King Poets of Tanjavore – Women Poets – Kuchimanchi Poets – (Jaggana – Timmana).
- b) Vemana, his philosophy – Observations and views on his times – his importance as commentator on contemporary times – his relevance now.

II.

- a) Study of literary trends – Sailer features of the ages, forms etc., Itihasa – Purana Prabhandha – Sataka – Folksong – Yakshagana – Samkertana Literature – Historical poem, Prose works classical and Modern – Novel-short story – Essay - One Act Play, etc.
- b) Classical and Neo-classical trends – Modern Age.

III. Study of Modern Poets – Modern Trends – their works, Gurajada – Rayaprolu – Veereshalingam – Chilakamarthi – Panuganti – Viswanatha, Devulapalli, Basavaraju, Pingali, Katuri, Duvvuri, Puttaparthi, Sri Sri and leading Modern Poets – Trends – Romantic Movement – Progressive Movement – Digambara Poets etc.

IV. Study of Telugu Grammar and General Prosody – Balavyakaranam and Praudha Vyakaranam.

V. Study of History and Evolution of Telugu language – From the early period of Modern period – The place of Telugu among the language families of India in general and the Dravidian family in particular Geographical positions and distribution – dialectal forms etc.

VI. Study of Philology – Linguistics and Semantics – Modern period: Evolution of Telugu through linguistic and literary movements (like the spoken Telugu movements, etc.)

VII. Study of Evolution of Telugu literature from the early period of Modern period covering all the ages.

VIII. Study of Aesthetics and Literary criticism (Eastern and Western outlook)

IX. Study of Sanskrit Grammar and Kavyas: Elementary knowledge of Sanskrit Grammar – Simple and standard texts for prose and poetry – Hitopadesa and Kalidasa's works.

HINDI

- I. Study of the following ten authors and poets:
 1. Kabir
 2. Tusedidas
 3. Bihari
 4. Surdas
 5. Acharya Ramachandra Shukla
 6. Premchand
 7. Prasad
 8. Pant
 9. Nirala
 10. Dinakar

- II. Appreciation of the popular couplets of Tulsī, Kabir, Rahim, Vrinda etc., and a few lines from modern poets of Prasad, Pant etc.

- III. Origin and development of prominent literary genres in modern Hindi, e.g. Novel, Short Story, Drama, Criticism.

- IV. The study of the following eight trends of the history of Hindi Literature.
 1. Gyan Margi Shakha
 2. Prem Margi Shakha
 3. Ram Bhakti Shakha
 4. Krishna Bhakti Shakha
 5. Riti kavya
 6. Chayavada
 7. Pragativada
 8. Nai Kavita

- V. History of various aspects of Hindi Language, eg:
 1. Grammatical and lexical features of Apabhraṅsa, Avahatta and early Hindi.
 2. Evolution of Khari Boli Hindi as literary language during 19th Century
 3. Development of Hindi as Rastra Bhasha during freedom struggle and as official language of Indian Union since Independence.
 4. Major Dialects of Hindi and their inter-relationship
 5. Functional and significant grammatical features of standard Hindi
 6. Origin and development of Devanagari script and its role in standardization of Hindi language.

URDU

01. The study of the following Ten Authors and Poets:

1. Mohammad Quli Qutub Shah	6. Sir Syed.
2. Wali.	7. Hali.
3. Meer.	8. Iqbal.
4. Anees.	9. Premchand.
5. Ghalib.	10. Krishna Chander.

02. Appreciation of couplets of renowned poets.

03. The Study of the following eight trends of the History of Urdu Literature.
 1. Development of Urdu under the Qutubshahis, and the Adil Shahis.
 2. Delhi School.
 3. Lucknow School.
 4. Fort William College.
 5. Aligarh movement.
 6. Iqbal and his Age.
 7. The Contribution of Jamia Osmania.
 8. Impact of progressive movement.

04. Study of various aspects of Language and Literature.

SANSKRIT

1. General introduction to Vedic literature Four Samhitas, Brahmanas, Aranyakas, Upanishads and Vedangas.
2. The Ramayana and Mahabharata - The age of their composition, Social and Political conditions revealed-Their influence on later literature.
3. Study of the following poets, their works and their age Bhasa-Kalidasa-Bharavi-Naga-Sri Harsha-Bhavabuthi-harsha Vardhana-Visakhatatta-Bhattanarayana-Dandin Banabhatta, Sudraka.
4. History of classical sanskrit literature-the origin and development of different types of literary compositions - Mahakavya - Laghukavya -Historical Kavya - Lyric Poetry - Diadactic poetry - Fable - Drama (Basic knowledge of Dasarupakas) - Gadya kavya.
5. Alankaras - Simple definitions and examples of, without varieties upama - rupaka - utpreksha - Atisayokti - Sandeha - Bhrantiman - Samaskoti - Aprastutaprasamsa - Dipaka - Tulya Yogita - Arathantharanyasa Drushtanta - Kavyalingam - Ananvyalankara - Swabhavokti.
6. Grammar - Ajanta Sadharana Sabdas in all genders - Halanta Sadharana Sabdas in all genders - Sarvanama sabdas in all genderspati - Mati - Atman - Rajan - ap.
7. Conjugations - I, IV, VI and X conjugations in (1) Lat (present tense) (2) Lit (Past perfect), (3) Lrit (Second future), Lot (imperative mood) (5) Lang (past perfect), (6) Vidhiling (potential mood).
8. Samasas - Tatpurusha - Karmadharaya - Dvandva - Ekasesh - Dvigu - Bahu vrihi - Avyavibhava.
9. Sandhi's :
 - a) Ach-sandhi-Guna-Vridhi-Savarnadirgha-Prakrutibhava-Purvarupa-Pararupa-Ayavayava-Yanadesa.
 - b) Halsandhi-Schutva-Shtutva-Jastva-Anunasiktva-Chartva-Anuswara.
 - c) Visargasandhi.
10. Philology : Origin of the language - Classification of languages into various groups - Indo European group - Satam and Kentum - languages - Phonetic changes and their causes - Samantic changes and their causes.
11. Chandas-Vrattas (I) Vamsastham (ii) Indra Vajra (iii) Upendra Vajra (iv) Bhujanga Prayatam (v) Manda Kranta (vi) Sardulavikriditam (vii) Sikharini (viii) Sragdhara (ix) Vasantatilakam (x) Anustup.

ORJYA

ଓଡ଼ିଆ ପାଠ୍ୟକ୍ରମ

‘କ’ ବିଭାଗ

(ଓଡ଼ିଆ ଭାଷା ସମ୍ବନ୍ଧୀୟ)

ପ୍ରତ୍ୟେକ ବିଭାଗରୁ ପାଞ୍ଚଗୋଟି ପ୍ରଶ୍ନ ଦିଆଯିବ ।

- * ଓଡ଼ିଆ ଭାଷାର ଉତ୍ପତ୍ତି ଓ କ୍ରମ ବିକାଶ
- * ଓଡ଼ିଆ ଭାଷାର ଉପରେ ଇଂରେଜୀ, ଯାବନିକ ଓ ଦ୍ରାବିଡ଼ ଭାଷାର ପ୍ରଭାବ
- * କୃବନ୍ତୁ ଓ ତତ୍ତ୍ୱ
- * କାରକ ଓ ବିଭକ୍ତି
- * ସମାସ ଓ ସମୋଚ୍ଚାରିତ ଶବ୍ଦ
- * ସହ
- * ଓଡ଼ିଆ ଶବ୍ଦ ଭଣ୍ଡାର
- * ଧ୍ୱନି ପରିଚର୍ଚ୍ଚନ କାରଣ
- * ଓଡ଼ିଆ ସ୍ୱଭାଷଣ

‘ଖ’ ବିଭାଗ

(ଓଡ଼ିଆ ସାହିତ୍ୟ ସମ୍ବନ୍ଧୀୟ)

[*]ବିହିତ ପ୍ରତ୍ୟେକ ବିଭାଗରୁ ଦଶଗୋଟି ପ୍ରଶ୍ନ ଦିଆଯିବ ।

- * ବର୍ଯ୍ୟା ଗୀତିକା
- * ସାରଳା ସାହିତ୍ୟ
- * ଓଡ଼ିଆ ପୁରାଣ ଓ ସବୁ ସାହିତ୍ୟ
- * ଓଡ଼ିଆ ରୀତି ସାହିତ୍ୟ
- * ବଉଦିଶା, କୋଇଲି ଓ ଓଡ଼ିଆ ପଦାବଳୀ ସାହିତ୍ୟ
- * ଜନବିଶ୍ୱ ଶତକ ଓଡ଼ିଆ ସାହିତ୍ୟ (ଗଦ୍ୟ ସାହିତ୍ୟ, ପଦ୍ୟ ସାହିତ୍ୟ ଓ ସାହିତ୍ୟ ପତ୍ରିକା)
- * ସତ୍ୟବାଦୀ ସାହିତ୍ୟ
- * ସବୁଜ ସାହିତ୍ୟ ଓ ପ୍ରଗତିଶୀଳ ଓଡ଼ିଆ ସାହିତ୍ୟ
- * ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡ଼ିଆ ଗଦ୍ୟ ସାହିତ୍ୟ (ଗଳ୍ପ, ଉପନ୍ୟାସ, ପ୍ରବନ୍ଧ)
- * ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡ଼ିଆ କବିତା

ARABIC

- I Grammar - i) Syntax –
- ii) Morphology -
- II Rhetoric - Ilm al Bayan, Ilm al Badee, Ilm-al-Maani
- III Literary History of Arabic Language - From Jahili period to Modern Period
- IV Translation - i) From English to Arabic (from unseen passages)
ii) From Arabic to English (from unseen passages)

COMMERCE

Financial Management:

Corporation Finance – Economic and Managerial Aspects – Finance Education
 Financial Plan – Operating and Financial leverage – Capital Structure determinants
 Internal Financial Control – Ratio Analysis – Break-even Analysis – Sources and uses of funds statements
 Concepts of valuation and cost of capital – Cost of Debt-Cost of preference capital – Cost of Equity Capital – Cost of retained earnings – Weighted Cost of Capital.
 Fundamentals of capital Budgeting – Evaluation of Investment opportunities – Pay back Accounting, Rate of return – Discounted cash Flow Techniques.
 Concepts of over and under capitalization – Working Capital Management – Management of Inventories – Receivables and cash
 Economics and Income retention – dividend policy - Financial aspects of expansion, reconstruction and recognition

Industrial Organisation:

Concepts of Industry, Firm and Plant
 Size of Units – Optimum firm and representation firm – Size in private and Public Sectors in India- Problems and Policy implications – Multi-plant units – Multi Plant units in private and public sectors – Economic problems and Policy size and efficiency.
 Location – Concepts of location and localization – Location criteria – Factors influencing localization – Measures of localization – Localisation pattern in Indian industry – Balanced Regional Development – Location development of managers – Performance appraisal
 State and Industry – Operational Control over Private Industry
 Labour Economics and Industrial Relations.
 Labour in Industrial Society – Man power problems of under-developed countries
 Economics of the Labour Market – factors affecting supply and demand for labour – Concepts of full employment, unemployment – different types of unemployment – Causes – Effects and remedial measures, labour mobility – Absenteeism and turnover.
 Social security and Labour welfare – Problems of Social security in a developing economy– Social Security in India; Settlement of Industrial disputes – Machinery for the same
 Collective bargaining – Objectives and methods – Issues in Bargaining
 Tripartite bodies in Industrial Relations

Management:

Organisation concept – different approaches to the study of Organisation. Constraints over organisational and managerial performance. Principles of organisation
 Planning – Business Objectives – Social responsibilities of business
 Authority, Power, Influence and the art of delegation, Span of Supervision
 Line and Staff relationships
 Bases and problems of departmentation
 Centralisation and Decentralisation
 Bureaucracy-Committee management
 Top management functions and the role of the Board
 Control functions in organisations
 Group dynamics
 Communication -Leadership – Motivation – Morale – Training and Development of managers – Performance appraisal.

PUBLIC ADMINISTRATION

1. Meaning and scope of Public Administration – Its relations with other Social Sciences – The Art and Science of Public Administration
2. Theories of Administration – Classical, Human Relations, Ecological, Systems approach – Decision-making
3. Concept of Development - Administration and Comparative Administration
4. Concept of Administration: Hierarchy, Span of Control, Co-ordination, Unity of Command, Centralisation and Decentralisation, Authority and responsibility, Formal and Informal Organisation, Decision making, Leadership, Administrative Planning, Communication, Work motivation, Management Information system.
5. Types of Organisation: Departments, Corporations, Independent Regulatory Commissions.
6. Administrative adjudications, Delegated Legislation
7. Controls over Administration – Legislative, Executive, Judicial
8. Personnel Administration – Recruitment, Promotion, All India Services, Political Rights of Civil Servants – Right to strike – Negotiating Machinery – Generalist versus Specialists – Controversy, Citizens Grievances – Lok Ayukta and Lokpal; the A.P. Administrative Tribunal.
9. Financial Administration – Principles of Budgeting, Performance Budgeting, PPBS, Budgeting in India, Organisation and Role of Finance Ministry
10. Centre- State and State-Local Relations in India
11. Planning in India – Planning Commission, Planning Process at National and State levels – Concept of Block Planning
12. State Administration – Organisation, Secretariat, Minister – Civil Servant relations – Directorates – Boards of Revenue, Functional Commissioners, Regional Administration, Divisional Commissioners, District Administration
13. Local Government; Theories of Local Government – Organisation, Process, Functions and working of Panchayat Raj Institutions in Andhra Pradesh, Municipal Administration in Andhra Pradesh; Urban Development Authorities; Official – Non-Official relations in local Government relations.

ECONOMICS

- I
 - 1.. National Economic Accounting, National Income Analysis Generation and Distribution of Income and related aggregates: Gross National Product, Net National Product, Gross Domestic Product & Net Domestic Product (at market prices and factor costs): at constant and current prices.
 2. Price Theory: Law of Demand: Utility analysis and Indifference Curve techniques, Consumer equilibrium, Cost curves and their relationships; equilibrium of a firm under different market structures; pricing of factors of Production.
 3. Money and Banking: Definitions and functions of money (M1, M2 M3): Credit creation; Credit; Sources, Costs and availability; theories of the Demand for money.
 4. International Trade: The theory of comparative costs; Recardian Hockseher Ohlin; the balance of payments and the adjustment mechanism. Trade theory and economic growth and development.
 5. Economic growth and development; Meaning and measurement; characteristics of under development; rate and pattern, Modern Growth; Sources of growth distribution and growth-problems of growth of developing economics.
- II. Indian Economy-India's economy since Independence; trends in population growth since 1951, Population and poverty; general trends in National Income and related aggregates; Planning in India Objectives, Strategy and rate and pattern of growth; problems of Industrialization strategy; Agricultural growth since Independence with special reference to food-grains; unemployment; nature of the problem and possible solution, Public Finance and Economic Policy.
- III. Identification of backward regions and the problems of regional development with special reference to Andhra Pradesh.

HISTORY

Ancient India:

1. Harappan Civilisation -- Extent, major cities, Characteristic features, social and economic conditions, script, religious practices, causes for the decline.
2. Vedic Age: Importance of Vedic literature, political, social and economic conditions in the early and later Vedic age.
3. India in the 6th Century B.C.: Social and economic conditions, Rise and spread of Jainism and Buddhism.
4. Mauryan Age: political history of the Mauryans, Ashoka, Mauryan Administration, Social and economic conditions, decline of the Mauryan empire.
5. The Satavahanas: political history, administration, contribution to the culture.
6. Gupta period: Political history, administration, social and economic conditions, growth of culture, decline of the empire.
7. India in the 7th Century A.D.: Harsha Vardhana, Pallavas and Chalukyas, their political history and their contribution to culture.

Medieval India:

8. India between 650 and 1200 A.D. -- political, Social and economic conditions, Chola administration and culture, Sankaracharya.
9. Age of the Delhi Sultanate: (1206-1526), Military and Administrative organisation. Changes in Society and economy, Bhakti movement.
10. The Vijayanagar Empire: Origin, History, Krishnadevaraya, Social and economic conditions, growth of culture, decline.
11. Mughal Age (1556-1707): political history, Akbar, Administration, Social and Economic conditions, culture, decline of the Mughal empire, Maharattas and Shivaji.

Modern India (1757-1947):

12. Historical forces and factors which led to the establishment of the British power in India - Early resistance to the British power in India - Hyder Ali, Tipu Sultan, causes for their failure.
13. Evolution of British paramountcy in India: Policies of Wellesley and Dalhousie.
14. Socio-religious reform movements Rajaram Mohan Roy, Dayananda Saraswati and others.
15. Revolt of 1857: Causes, results, significance.
16. Rise and growth of the Indian National Movement: Birth of the Indian National Congress, the national movement from 1885 to 1905; movement from 1905 to 1920. Role of Tilak and Annie Besant; The movement from 1920 to 1947; Emergence of Gandhi; Non-cooperation movement, Salt Satyagraha and the Quit India Movement.
Freedom movement in Andhra Pradesh with special reference to the role of Alluri Sitharama Raju and Tanguturi Prakasam, Revolt against the Nizam's rule in Telengana.

Modern world:

17. Industrial Revolution - Significance and results.
18. American war of Independence courses, significance and results.
19. French Revolution - Courses, significance and effects.
20. National Liberation movements in Italy and Germany in the 19th Century - Mazzini, Cavour, Garibaldi, Bismark.
21. I World War - Causes and effects.
22. The Russian Revolution of 1917 - Causes, importance and results.
23. The World between the two world wars - Nazism in Germany, Fascism in Italy. Turkey under Mustafa Kamal Pasha
24. Developments in China 1911-1949 – Nationalist Revolution of 1911 – Communist Revolution of 1948
25. II World War -- Causes and effects.

POLITICAL SCIENCE

1. State: Theories of origin of State. Rights and Duties, Law, Liberty and Equality. Nation & Nationality – Forms of Government Press – Pressure Groups and parties
2. Ideologies: Utilitarianism – Individualism – Idealism. Theories of Socialism – Gandhian philosophy
3. Theories of Decision making – Behaviouralism – System Theory, Elite Theory – Structural functional decision-making and Game Theory.
4. Nature of Indian Constitution – Fundamental Rights – Directive Principles of state policy legislature – Executive and Judiciary – Judicial Review – Centre-State relations – Problems of National Integration.
5. United Nations and Collective Security – Concept of power in International Relations – Balance of Power, Cold-wars détente. Arms Control and Disarmament.
6. Problems of Third World. New Colonialism – Non-alignment India's role in world affairs.

MATHEMATICS

Real Analysis: Continuity and differentiability of real functions.; Uniform continuity, Sequences and series of functions. Uniform convergence. Functions of bounded variation. Riemann integration.

Complex Analysis: Analytic functions. Cauchy's theorem Cauchy's integral formula. Laurent's series. Singularities. Theory of residues – Conformal mapping.

Abstract Algebra: Groups – Sub-groups – normal subgroups Quotient group Homomorphism – Fundamental theorem of Homomorphism, Permutation groups: Cayley's theorem – Rings – Subrings – Ideals – Fields – Polynomial rings.

Linear Algebra: Vector spaces – Basis and dimension – Linear transformations – Matrices – Characteristic roots and characteristic vectors – systems of linear equations – Canonical forms – Cayley – Hamilton theorem.

Differential Equations: First order ordinary differential equations (O.D.E) and their solutions – Singular solutions. Initial value problems for first order O.D.E. General theory of homogeneous and non-homogeneous linear differential equations, variation of parameters. Elements of first order partial differential equations (PDE).

Co-ordinate Geometry of Three Dimensions: The Plane – The straight-line – Sphere and cone.

PHYSICS

I. Mathematical Physics:

Vectors: Vector operators like DCI & grad, div. & curl. Surface and volume integrals – Theorems of Gauss, Stokes, & Green.

Matrices: Quality, addition and subtraction, multiplication of matrices, inverse of a matrices, similarity and unitary transformation Characteristic equation of a matrix Eigen values – Eigen vectors Square, diagonal, unit, symmetric, and skewmatrix-Hermitian and unitary matrix.

Tensors: Tensors of any order –Transformation relation Covariant & Contra-variant tensors-Christoffel symbols.

Fourier Analysis: Trigonometric Fourier series – Evaluation of coefficients – Exponential Fourier series.

II. Classical Mechanics:

General Theorems of mechanics of mass points – Principales of Virtual work – De-Alembert's principle – Lagrange's equation of motion – Hamilton's principle – Hamilton's Equation of motion – Principle of least action – Canonical transformations = Poisson bracket. Rigid body motion – Euler's theorem on rigid body motion – moment of inertia-tensor – heavy Symmetrical top.

III. Electromagnetic Theory:

Generalisation of Ampere's Law – Derivation of Maxwells equation – Pointing theorem – Transverse nature of Electromagnetic waves – propagation & Conducting and non-conducting media – metallic reflection – Propagation of light in crystalline media – Fresnel's Theory of double refraction.

IV. Special Theory of Relativity:

Galilean Transformation – Newtonians Relativity – Michelson's Morley Experiment – Postulates of special theory of relativity Lorentz's transformation – Relativistic particle mechanics Equivalence of mass & energy – Covariance of Maxwell's equation.

V. Statistical Mechanics:

Generalised coordinates & momenta-phase space, Liowellies Theorems – Maxwell Boltzman statistics – Distribution of velocities and energy in ideal gas – Equipartition of energy – Vibrational, rotational, and electronic partition functions for diatomic gas – specific heats of gas – Ortho and para hydrogen's – Bose Einstein & Fermi Dirac statistics – Bose Einstein gas and application to radiation – liquid helium – Free electrons in metals.

VI. Quantum Mechanics:

Schrodinger's wave equation – Born interpretation of wave functions – Expectations values of dynamical variables – Ehrenfest's Theorem - Uncertainty Principle – Application of Schrodinger's equation to (a) One dimensional squarewell potential (b) Simple harmonic Oscillator (c) Hydrogen atom.

Perturbation theory – First order and second order theories for non degenerate & degenerate systems – Application to normal helium atom – Time dependent & time independent perturbation theory – Application for each. Relativistic quantum mechanics – Klein Gordon equation Dirac's equation Solution for a free particle meaning of negative energy states – Quantum theory of scattering – Born approximation.

VII. Electronics:

Vacuum: Tubes and semiconductor diodes – Principle and working of rectifier and power supply – Ripple factor L and T section filters voltage stabilisation in power supplies characteristics of triode and pentode and junction transistors their static characteristics – Voltage amplifiers – R.C. coupled amplifiers – and its frequency response Negative feed back in amplifiers – Advantages of – Ve feed back – condition for sinusoidal oscillations in transistor circuits Hartley and Colpitts oscillators – multi vibrators A stable – Monostable and bi-stable type – Pulse generator – Saw tooth voltage generator Cathode – ray oscilloscope (C.R.O).

VIII. Solid State Physics:

Crystallography – Classification of solids – Point group and space group – Crystal systems – Specification of planes and directions – Elements of X-ray diffraction – Various crystal bindings – Metallic, ionic, co-valent molecular and hydrogen bonded crystals – Band theory of solids – motion of electrons in periodic potential Bloch's theorem Kronig's penny model – energy bands – Brillouin zones – distinction between insulators – Metals and Semi-conductors on band theory.

IX. Nuclear Physics:

Radioactivity, Chain dis-integration, transient and secular equilibrium – Age of rocks and Radio carbon dating – alpha decay or Gamow's theory – Beta decay and neutrino Interaction of gamma rays with matter – Selection rules – nuclear models – Liquid drop model – semi empirical mass formula – criteria for stability against spontaneous decay – Shell model – nuclear detectors – Ionisation – Chambers – G.M. counters – Proportional counters – bubble and spark chambers – Semi-conductor detectors.

X. Spectroscopy:

Bohr – Sommerfield theory of Hydrogen atoms – Space quantisation – fine structure of spectral lines – Alkali spectra – Zeeman effect Vector atom model of one electron system – Paschen – Back effect – Stark effect in Hydrogen atoms – Band spectra – Types of band spectra-I.R. and Raman effect. Isotope effect – Franck – Condon Principle.

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 heteroatom, size of the ring and its excessive and its deficient nature of the ring.
A general and comparative study of Furan, pyrrole and thiophene Ring transformations. General comparison with benzenoid compounds, pyridine, quinoline, Isoquinoline and acridine – deficient nature of heterocyclic rings – case of nucleophilic substitution.
15. Methods of synthesis, reactivity and properties of the following polynuclear aromatic compounds: anthracene, Benzanthracene, Phenanthrene, Chrysenes and picene.
16. Benzopyrones: Coumarins 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 alkaloids – atropine – cocaine – quinine – Narcotine – papaverine.
18. Organic reaction mechanism: Structure and reactivity of organic molecules – Factors affecting Electron density in a bond – inductive, inductive, mesomeric, (resonance) and electromeric effects, hyperconjugation – Dipole moments – acidic and basic strength of organic Compounds.
Modern concepts of organic reaction mechanisms – Addition, substitution and elimination reactions – simple examples and their mechanism. The intermediate carbonium ion formation and its participation in organic reactions. Addition C-C, system-pinacol-pinacolene 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 – geraniol – 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.

BOTANY

I. Bacteria and Viruses:

1. General Account of viruses. Definition, Characterisation, Chemistry, Ultrastructure, Composition, replication, Bacteriophages, transmission of plant viruses, Importance.
2. General account of bacteria – Characteristics, shape, ultrastructure of the cell, nutrition, reproduction, classification and importance.

II. Plant Pathology:

1. Disease symptoms produced by Bacteria, Fungi, and Viruses.

2. A general account of important diseases of crop plants and their control:
 - a) Late blight of potato
 - b) Smuts (Wheat, Jowar)
 - c) Rust of wheat
 - d) Leaf spot of groundnut.
 - e) Paddy blast.
 - f) Leaf spot of rice.
 - g) Citrus cancer
 - h) Bacterial blight of paddy.
 - i) Angular leaf spot of cotton.
 - j) Mosaic of Tobacco.
3. Mycoplasma.
4. Control of plant diseases (A general account)

III. Algae (Phycology)

1. Introduction and general classification of Algae.
2. Criteria for the classification.
3. Thallus organization in Algae.
4. Economic importance of Algae.
5. General characters, structure, Reproduction, pigments, phylogeny, life cycles etc., of main groups in Algae with reference to Genera Given:
 - (a) Cyanophyceae (Nostoc, Scytonema, Oscillatoria).
 - (b) Chlorophyceae (Chlamydomonas, Volvox, Cladeopora, Oedogonium, Coleochaete, Chara).
 - (c) Bacillariophyceae – General Account.
 - (d) Xanthophyceae – Vautheria]
 - (e) Phaeophyceae (Ectocarpus, Laminaria)
 - (f) Rhedophyceae (Polysiphonia, Gracillaria)

IV. Fungi (Mycology):

1. General Characters of fungi. Occurrence and thallus structure of fungi. Nutritional aspects of Fungi (Saprophytism, parasitism, Symbiosis). Modes of reproduction (Sexual and Asexual). Life cycle in fungi. Criteria for classification of fungi. Classificatory systems.
2. General characters, morphology, reproduction, phylogeny, affinities etc., of the following : main groups with special reference to Genera given below:
 - a) Mytomycetes (stemonites).
 - b) Plasmodiophoromycetes (Plasmodiphora).
 - c) Mastigormycotina (Saprolegnia, Phytopthera).
 - d) Zygomycotina (Mucor).
 - e) Ascomycotina (Taphnina Eurotium, Erysiphe, Pleospora Neuropora).
 - f) Basidiomycotina (Puccinia, Agaricus).
 - g) Deuteromycotina (Cercospora, Colletotrichum, Phoma).
3. Economic importance of Fungi.

V. Bryophyta:

1. General characters of Bryophyta.
2. Sporophyte evolution in Bryophytes.
3. Classification of Bryophytes.
4. General account of the following main groups.
 - a) Hepaticopsida, (b) Anthocerotopsida, (c) Bryopsida.
5. Structure, reproduction and systematics of the following genera:
 - a) Marchantia, (b) Anthoceros, (c) Sphagnum (d) Funaria.

VI. Pteridophyta:

1. General characters of pteridophytes.
2. Classification of pteridophytes.
3. General characters of the following main groups:
 - a) Psilopsida; b) Lycopsida; c) Sphenopsida (Eusporangiate and Leptosporangiates):
4. Morphology, anatomy, reproduction and affinities of the following genera:
 - a) Psilotum; b) Lycopodium; c) Selaginella; d) Ophioglostum; e) Marsilea; f) Pteris.

VII. Palaeobotany:

1. Fossil pteridophytes .
2. Origin and evolution of land plants.
3. Homospory, Heterospory and Origin of Seed.
4. Telome theory and origin of sporophyte.
5. General account of the following fossil Gymnosperms.
 - a) Pteridosperms; b) Bennittitales; c) Cordaitales; d) Pentoxylales.

VIII. Gymnosperms:

1. Gymnosperms.
2. Comparative account of morphology, life history, Affinities etc. of the following:
 - a) Cycadophyta – Cycas, Zarnia,
 - b) Coniferophyta – Pinus.
 - c) Ginkgophyta – Gintgo.
 - d) Chlamydospermatophyta : Ephedra, Welwetschia, Gnetum.
3. Classification of Gymnosperms.

IX. Taxonomy of Angiosperms:

1. Systems of classification: - Hutchinson, Takhtajan, Bessey, Engler and Prantl, Bentham and Hooker.
2. Principles of taxonomy:- Criteria of classification, categories of classification, Diversity of Phyletic concepts.
3. International code of Botanical nomenclature, principles, Typification, Citation and authority.
4. Recent trends in Taxonomy:
 - a) Biosystematics; b) Chemataxonomy; c) Serodiagnostic test and classification,
 - d) Numerical taxonomy.
5. Study of the following families with reference to their characteristics, economic importance, attributes etc.,

a) Ranunculaceae,	e) Malvaceae,	i) Apocynaceae,	m) Solanaceae,
b) Caryophyllaceae,	f) Tiliaceae,	j) Asclepiadaceae,	n) Euphorbiaceae,
c) Sterculiaceae,	g) Rubiaceae,	k) Boraginaceae,	o) Poaceae.
d) Sapotaceae,	h) Compositae,	l) Convolvulaceae,	

X. Anatomy and Cell Biology:

1. Ultra structure of the cell and cell organelles along with their functions.
2. Cell wall structure.
3. Tissue and Tissue systems.
4. Meristems – Shoot and root apices.
5. Normal and anomolom Secondary growth.

XI. Embryology:

1. Concept of primitive flower.
2. Development of anther and ovule.
3. General account of Embryosac and types of Embryo.
4. Fertilization.
5. Endosperm morphology and types.
6. Polyembryony and apomixis.

XII. Cytology, Genetics and Evolution:

1. Mitosis and Meiosis.
2. Chromosome (Morphology, Structures importance etc.).
3. Concept of gene, laws of inheritance gene action.
4. Genetic code.
5. Linkage and crossing over.
6. Parasexuality.
7. General account of Mutations
8. Polyploidy and its role in crop improvement.
9. Origin of life.

XIII. Ecology and Phytogeography :

1. Ecosystem: - Concept, boitic and abiotic components, ecological pyramids, productivity.
2. Geo-chemical cycles.
(Carbon, Nitrogen, Sulphur, Phosphorous cycles).
3. Plant succession – Xerosere and Hydrosere.
4. Floristic regions of the world.
5. Floristic zones of India.

XIV. Physiology:

1. Absorption and translocation of water.
2. Transpiration and stomatal behaviour.
3. Absorption and uptake of Ions, Donnan's equilibrium.
4. Role of micronutrients in plant growth.
5. Translocation of solutes.

6. Respiration (Glycolysis, pentose phosphate shunt, structure and role of mitochondria, Krebs cycle, Oxidative phosphorylation, Photorespiration, Respiratory quotient, Fermentation, Pasteur effect Factors affecting).
7. Photosynthesis: - light and dark reaction, Red drop, Emerson effect, Two pigment systems, Mechanism of Hydrogen transfer, Calvin cycle, Enzymes of CO₂ reduction, Hatch a slack cycle C₄ cycle, CAM Pathway, Factors affecting photosynthesis, Pigments.
8. The enzymes: Nomenclature and classification, structure and composition, Mode of enzyme action, Factors affecting.
9. Nitroge, Metabolism and bio, synthesis of proteins Nitrogen fixation, Nitrogen cycle, (Physical and biological) Nitrogen assimilation Amino acid, metabolism, Biosynthesis of proteins.
10. Plant hormones Auxins, Gibberellins, Cytokinins, Abscissic acid (General account).

XV. Economic Botany:

1. Cultivation, economic importance, systematic position and morphology of the following plants.

(a) Rice	(e) Sugarcane	(l) Coffee	(m) Rauwolfia
(b) Wheat	(f) Groundnut	(j) Tea	(n) Pigeon pea
(c) Jowar	(g) Sun flower	(k) Jute	(o) Pearl millet.
(d) Cotton	(h) Castor	(l) Cardamom	

XVI. Recent Aspects of Botany:

1. Modern techniques

a) Electron microscopy,	e) Electrophoresis
b) Phase contrast microscopy	f) The tracer technique
c) Spectro photometry	g) Auto radiography
d) Chromatography	h) Sero-diagnostic methods.
2. Genetic engineering.
3. Plant tissue culture.
4. Alternative sources of Energy.
5. Social forestry.
6. Microorganisms as tools in understanding biological systems.
7. Environmental pollution (Water, soil, air) health hazards and control.

ZOOLOGY

Non-chordata and Chordata:

Non-Chordata:

1. Protozoa-Classification of protozoa (Honigberg), Locomotion in Protozoa, Nutrition in protozoa, Reproduction in protozoa, Diseases of Protozoa, Economic importance of Protozoa.
2. Porifera: Canal system in porifera, skeleton in porifera, Reproduction in sponges.
3. Coelenterata : Polymorphism in coelenteratas, Metagenesis coral formation, etenophora.
4. Hemlinths: Common Helminthic parasites of Man – Taenia solium, Schistosoma sp., Ascaris, Ancylostoma, Oxyuris Loa, Trichinella, Strongyloides – their life cycles, Parasitism.
5. Annelida: Excretory system in Annelida, Coelome formation.
6. Arthropoda: Mouthparts of Insects, crustacean larvae, parasitism in crustacea, useful and harmful insects, Metamorphosis in insects. Apiculture and sericulture in India.
7. Mollusca: Respiration in Mollusca, Torsion and Detorsion, pearl formation and Pearl industry.
8. Echinodermata: Echinoderm larvae.

CHORDATA:

Origin of Chordata, phylogeny and affinities of Hemichordata Retrogressive metamorphosis, Comparative account of Respiratory, Circulatory, Excretory and Reproductive systems of Vertebrates. Pisciculture in India, Common edible fishes of A.P., Origin and classification of Amphibia, Paedogenesis.

Temporal fossae in Reptilia, Important snakes of India, Dinosaurs.

Adaptations of flight in birds, Migration of birds. Poultry in India.

Adaptive radiation in Mammals, Aquatic Mammals, useful Mammals, Dentition in Mammals.

Evolution of placentalia.

Cell Biology Genetics, Physiology, Evolution, Embryology, Histology, Ecology.

Cell Biology: Ultra structure of the Cell-Plasma membrane – Mitochondria, Golgibodies, Nucleus, Endoplasmic reticulum, ribosomes. Chromosomes and their fine structure. Mitosis and meiosis-D.N.A. & R.N.A. and geneic code, Protein synthesis.

Genetics: Mendel's law of inheritance – Critical review. Linkage, crossing over, Sex linked inheritance, Mutations, Inborn errors of Metabolism, Human genetics.

Physiology: Vitamins; Enzymes; Carbohydrate, protein and lipid metabolism; Osmoregulation, Thermoregulation; Excretion in Vertebrates; Muscle contraction; Nerve Impulse; vertebrate harmones and Mammalian reproduction.

Evolution: Origin of life – Modern concepts, theories of Evolution, Isolation, Speciation, Natural Selection, Hardy weinberg" Law, Population genetics and evolution, Adaptations, Evolution of Man. Zoogeographical realms of the world.

Embryology: Cleavage patterns; Gastrulation and its significance in development of vertebrates; Formation and functions of Foetal membranes, Types of placenta, organisers, Regeneration, genetic control of development organogenesis of central nervous system, sense organs, heart and kidney of vertebrate embryos.

Histology: Histology of Mammalian tissues and organs – Epithelial, connective, blood, bone, cartilage, skin, stomach, intestine, liver, pancreas, kidney, Testis and ovary.

Ecology: Concept of Ecosystem, Biogeochemical cycles, influence of environmental factors on animals, energy flow in Ecosystem, food chains & Tropic levels, community ecology. Ecological Succession, Environmental Pollution – Air, water, land, Noise, Radioactive, thermal and Visual, Effects of Pollution on ecosystem, Prevention of Pollution.

Wild life in India – Conservation.

Man & Biosphere Programme – Chipko movement.

STATISTICS

01. PROBABILITY AND STATISTICS:

Sample space, events: Classical, Axiomatic and statistical definition of probability of an event. Addition and multiplication theorems of probability; conditional probability and Bayes theorem.

Random variables: Distribution function and its properties marginal and conditional distributions. Mathematical expectations, mathematical expectation of sum and product of random variables, Moments, variance and covariance. Characteristic function and its simple properties.

Bionomial, Poisson, Geometric and Negative binomial distributions and their simple properties (such as mean, variance, characteristic function inter-relationship if any)

Normal, exponential, gamma and beta distributions and sampling distributions, Chi-square, T & F distributions; their inter-relationships and their simple properties.

Collection, classification and analysis of statistical data. Measures of location and dispersion, moments-raw and central. Correlation and regression; regression lines.

Curve fitting by the method of least squares, for the types:

(i) $Y=a+bx^2$; (ii) $Y = a+bx+cx^2$; (iii) $Yx=ab$; and (iv) $Yb=axb$

02. INFERENCE:

Conceptual introduction to sufficient statistics unbiased estimators and consistent estimators, Maximum likelihood estimators. Estimatio of parameters in Binomial, Poisson normal distributions.

Test of significance, statistical hypohthesis, types of errors, level of significance, power of a test, large sample tests for means and proportions (one sample and two sample case). Small sample tests (t-test for one and two sample case). Chi-square tests-testing of goodness of fit, testing independence of attributes.

Run test for randomness, Sign test for location, Wilcoxin-Mamn Whitney test and Kolmogorov-Smirnov test.

References: 1) Hogg & Graig: (1972) Introduction to Mathematical statistics 3rd edition, Amerind Publishing Co. Pvt. Ltd., New Delhi, Bombay, Calcutta,; 2) Saxena and Surendran (1973) Statistical Inference, S. Chand & Company, New Delhi; 3) Fisz M. Probability theory and Mathematical Statistics (3rd edition) John Wiley; 4) Kendall and

Stuart. The advanced theory of Statistics (Vol. I Charles Griffin & Co., Ltd., London); 5)
Gupta and Kapur Fundamental of Mathematical Statistics (1971) S. Chand & Sons.

03. SAMPLING TECHNIQUES:

Simple Random Sampling: Estimates of population mean and population total; Variance of the estimates; estimation of standard error, confidence limits. Sampling for proportions and percentages variances of estimates. Estimation of sample size.

Stratified Random Sampling: Estimates of population mean and population total. Variations of the estimates. Confidence limits. Optimum allocation. Relative precision of stratified Random sampling and Simple Random Sampling. Estimation of sample size. Stratified, sampling for proportion.

Regression Estimators: Regression estimates with preassigned value of b. estimates when b. is computed from sample estimate of variance. Linear regression estimator under a linear regression model.

Regression estimates in stratified sampling Regression coefficient estimated from sample.

Text: William G. Cochran. Sampling Techniques (3rd edition) Willey Eastern Ltd., New Delhi, Bombay, Calcutta (1977)

Sections: Ch. 2:2.1 to 2.8
Ch. 3:3.1 to 3.2
Ch. 4:4.4 to 4.6
Ch. 5:5.1 to 5.12
Ch. 7:7.1 to 7.4
Ch. 7:8 to 7.10

04. EXPERIMENTAL DESIGNS:

Advantages, disadvantage; layout of the design analysis of the design and missing experimental unit analysis (where applicable) in case of the following design:

Completely Randomised design, Randomised Block design, Latin square design and the Factorial design (22 and 23 factorial designs only)

Text: Walter T. Federer (1974) Experimental Design Theory and Application, Oxford & IBH publishing Co., New Delhi, Bombay, Calcutta.

Chapter IV : IV-1-1 to IV-1-5
Chapter V : V-1-1 to V-1-4, V-1-6-1
Chapter VI : VI-1-1 to VI-6, VI-1-9-1
Chapter VII : 4-1, VII-1-2

BIO-CHEMISTRY

1. CHEMISTRY, METABOLISM OF PROTEINS AND LIPIDS

Chemistry of Amino Acids, Peptides and Proteins. Metabolism of Amino Acids, Peptides and Proteins. Chemistry of Lipids and Porphyrins. Metabolism of Lipids and Porphyrins.

2. CHEMISTRY, METABOLISM OF CARBOHYDRATES AND NUCLEIC ACIDS

Chemistry of Carbohydrates. Metabolism of Carbohydrates. Chemistry and Metabolism of Nucleic Acids. Chemistry and Metabolism of Vitamins.

3. BIOANALYTICAL TECHNIQUES

Spectroscopy, Chromatography, Centrifugation and Electrophoresis, Microscopy and Tracer Techniques

4. BIOENERGETICS AND CELL BIOLOGY

Bioenergetics, Cell Structure of Prokaryotes, Cell Structure of Eukaryotes, Methods of Cell Study

5. ENZYMOLOGY

Enzymes and coenzymes, Enzyme Kinetics, Catalytic mechanisms, Enzyme regulation

6. MOLECULAR BIOLOGY

DNA replication, DNA repair, Transcription and Translation, Protein sorting, targeting and degradation

7. BIOCHEMICAL GENETICS & MODEL ORGANISMS

Mendelian Genetics, Linkage and Mapping, Bacterial Genetics, Model Organisms

8. CELL – CELL COMMUNICATION

Extracellular matrix and cell surface, Cell signaling, Signal transduction and cancer, Signal transduction in bacteria and plants

9. REGULATION OF GENE EXPRESSION & RECOMBINANT DNA TECHNOLOGY

Gene Regulation in prokaryotes and viruses, Gene Regulation in eukaryotes, Recombinant DNA technology, Genetic engineering

10. IMMUNOLOGY

Basic immunology, Immune response, Transplantation & Applied immunology, Disorders of the immune system

11. VIROLOGY AND CLINICAL BIOCHEMISTRY

Prokaryotic viruses, Eukaryotic viruses, Clinical diagnosis, Pathophysiology & Clinical enzymology

12. ENDOCRINOLOGY, PHYSIOLOGY AND NUTRITION

Endocrine systems, Hormones, Body fluids & clinical testing, Physiology of body fluids and Nutrition

13. BIOTECHNOLOGY

Microbial biotechnology, Plant biotechnology, Animal biotechnology, Protein engineering

14. BIostatistics, COMPUTERS AND BIOINFORMATICS

Biostatistics, Computers and Bioinformatics, Genomics, Transcriptome and Proteomics

BIOTECHNOLOGY

CELL BIOLOGY: Diversity of cell size and shape. Cell theory, microscopic techniques for study of cells. Sub-cellular fractionation and criteria of functional integrity. Cellular organelles – Plasma membrane, cell wall, Mitochondria, Chloroplast, Nucleus and other organelles and their organization, structure and functions. Cell motility – cilia, flagella of eukaryotes. Transport of nutrients, ions and macromolecules across membranes. Cellular energy transactions – role of mitochondria and chloroplast. Cell cycle – molecular events and model systems. Cellular responses to environmental signals in plants and animals – mechanisms of signal transduction. Cellular basis of differentiation and development – meiosis, gametogenesis and fertilization, Development in *Drosophila* and *Arabidopsis*.

BIOMOLECULES AND ANALYTICAL TECHNIQUES: Chemical foundations of Biology pH, pK, acids, bases, buffers, weak bonds, covalent bonds. Principles of thermodynamics. Classes of organic compounds and functional groups – atomic and molecular dimensions, space filling and ball and stick models. Classification, structure and functions of carbohydrates, amino acids, proteins and lipids. Molecular assemblies like membranes. Ribosome's, extra cellular matrix. Heterocyclic compounds and secondary metabolites in living systems – nucleotides, pigments, isoprenoids. Separation and purification criteria for homogeneity, end group analysis, hierarchy in structure and Sequencing of proteins and nucleic acids, Ramachandran map. Conformational properties of polynucleotide and polysaccharides – secondary and tertiary

structural features and their analysis – theoretical and experimental; protein folding – biophysical and cellular aspects. Nucleic acid hybridization Structural analysis and biological studies. Analytical techniques in biochemistry and biophysics for small molecules and macro – molecules for quantization. Structural analysis of carbohydrates, proteins, nucleic acids and lipids by UV, IR, NMR, LASER Raman Spectroscopy MASS Spectroscopy, Florescence Spectroscopy, Differential colorimetry, X-ray Crystallography, Ultra centrifugation, Electron Cryomicroscopy and Scanning Tunneling microcopy. Radiochemical methods and measurement of radioactivity, photographic emulsion, ionization chamber, Geiger Muller counter, auto radiography.

MOLECULAR BIOLOGY: DNA Structure, replication, repair and recombination, Transcription, regulation and post transcriptional modifications in Prokaryotes and Eukaryotes. Transcriptional and post-transcriptional gene silencing. Translation and regulation in Prokaryotes and eukaryotes, translation, co-and post-translational modifications of proteins. Protein Localization – Synthesis of secretary and membrane proteins, import into nucleus, mitochondria, chloroplast and peroxisomes, Receptor mediated endocytosis. Biology of cancer – Oncogenes and Tumor Suppressor genes, Structure, function and mechanism of action of pRB and p53 tumor suppressor proteins. Antisense and Ribizyme Technology. Homologous Recombination – Holliday junction, gene targeting, gene disruption, FLP/FRT and Cre/Lox recombination RecA and other recombinases. Molecular Mapping of Genome, Genes, mutation and mutagenesis and bacterial Genetic systems.

BIOSTATISTICS: Frequency distribution, Measures of central tendency – mean, median, mode and standard deviation – probability distribution – regression – correlation – Analysis of variance – tests of significance – T-test, F-test, Chi-square test.

MICROBIOLOGY: Discovery of the microbial world; Distinguishing features of prokaryotes and eukaryotes; General role of microorganisms in transformation of organic matter and in the causation of diseases; Microbial taxonomy, classification, nomenclature and new approaches to microbial taxonomy; Pure culture techniques; sterilization methods; Principles of microbial nutrition and construction of culture media; Enrichment culture techniques; Growth and its mathematical expression; Culture collection and maintenance of cultures; Purple and green bacterial; Rickettsias; Chlamydia and Mycoplasma. Archea; Viruses: structure and replication of viruses; DNA viruses and RNA viruses; Viroids and Prions; Virus and their Genetic System; Bacteriophages; RNA phages; Retroviruses.

IMMUNOLOGY: Phylogeny of Immune System; Innate and acquired immunity; Hematopoiesis and differentiation, Cells and organs of the immune system; Lymphocyte trafficking; Antigenicity and super antigens; Antibody structure and function, Antigen – antibody interactions; Major histocompatibility complex, BCR & TCR and generation of diversity; Complement system, Antigen processing and presentation, generation of humoral and cell mediated immune responses: Activation of B-and T-lymphocytes, Cytokines and their role in immune regulation; Cell mediated cytotoxicity, Hypersensitivity, Autoimmunity, Transplantation, Tumor Immunology, AIDS and other Immunodeficiencies; Hybridoma Technology.

BIOPROCESS ENGINEERING: Engineering calculations, SIT units, Dimensional analysis, presentation and analysis of data, fermenters and bioreactors, Friction factor, pressure drop, Fluid flow and mixing, Material balances, Energy Balances and heat transfer, calculation of heat transfer coefficients, cell concentration and stirring. Boiling and evaporation, Mass transfer, unit operations: Filtration, centrifugation, cell disruption. Downstream processing, industrial applications of bioprocessing.

ENZYME TECHNOLOGY: Discovery, classifications and nomenclature of enzymes. Techniques of enzyme isolation and assay, Intracellular localization of enzymes, Isoenzymes Multienzyme complexes and multifunctional enzymes Physico-chemical characterization of enzymes, Enzyme kinetics, kinetics of enzyme inhibition, Allosterism, Enzyme memory and pmonical enzymes, Various techniques used for the immobilization of enzymes and their applications in Biotechnology.

ENVIRONMENTAL BIOTECHNOLOGY: Ecological balance, resiliency of ecosystem and sustainable development, environmental pollution and global problems, water, air, soil pollution and their impacts on environment and biotechnological approaches for management, waste water treatment: aerobic and anaerobic processes, bioremediation of contaminated soils and waste land, biotechnological treatment for industrial effluents and solid wastes.

GENETIC ENGINEERING: Restriction enzymes, Gene Cloning Vectors, Nucleic Acid Purification and Amplification, Restriction Mapping and Map Construction. Nucleic Acid sequencing methods. cDNA Synthesis, Library construction and screening of recombinants by

hybridization methods, Reporter assays; Site-directed Mutagenesis, protein engineering, Nucleic acid micro array, Vector engineering and codon optimization, Recombinant Protein Purification and refolding, characterization of recombinant proteins and stabilization of proteins. Phage Display; T-DNA and Transposon Tagging, Role of gene tagging in gene analysis; Gene Therapy, Gene silencing methods.

BIOINFORMATICS: Biological databases, ORF finding, EST analysis, gene identification, micro satellite repeat patterns, Blast all flavors, mutation matrix, global Vs local alignments, Dot plots, PAM and BLOSUM matrices, Multiple sequence alignments, dendrograms, phylograms, protein structure prediction methods, molecular modeling, Primer design, QSAR, Drug desing.

PLANT BIOTECHNOLOGY: Propagation techniques in plant tissue culture suspension culture, single cell. Anther, pollen and ovary culture for production of haploid plants. Cryopreservation for germplasm conservation. Plant Transformation technology, Transgene stability and gene silencing. Application of Plant Transformation for productivity and performance. Metabolic Engineering and Industrial Products: plant secondary metabolites, industrial enzymes, biodegradable plastics, therapeutic proteins, antibodies, edible vaccines. Molecular Marker assisted selection and Breeding: RFLP maps, RAPD markers, STS, microsatellites, SCAR (sequence characterized amplified regions), SSCP (single stand conformational polymorphism), AFLP.

ANIMAL BIOTECHNOLOGY: Equipments and materials for animal cell culture technology, simple and complex growth media, cell culture techniques, Primary and established cell line cultures. Biology and characterization of the cultured cells, measuring growth parameters, maintenance of cell culture, Measurement of viability and cytotoxicity, cell separation. Scaling-up of animal cell culture. Cell synchronization. Cell cloning and micromanipulation. Cell transformation. Stem cell cultures, embryonic stem cells and their applications Cell culture based vaccines. Organ and histotypic cultures. Apoptosis, measurement of cell death.

MICROBIOLOGY

MICROBIOLOGY

General Microbiology: History of Microbiology, Microscopy, Structure of microbial cells, Spontaneous generation and germ theory of diseases, Prokaryotic cell, Eukaryotic cell, Organization and function of cellular organelles, Methods of sterilization, Isolation methods (Methods of pure culture isolation, Enrichment culturing techniques, single cell isolation, and pure culture development). Microbiological media and its types, culturing and cultivation of microorganisms. Preservation and Maintenance of Microbial cultures. Identification methods and classification of principles of bacterial taxonomy and classification, Importance of Algae and Fungi, Applications of microbiology in Industry, Agriculture and medicine.

Virology: Structure and Classification of bacterial, plant and animal viruses, Methods of cultivation, detection, Propagation and maintenance of viruses. Some important viruses: TMV, HBV, HIV, T2 phase. Replication of viruses, Tumor viruses, Interferon.

Microbial Physiology: Microbial nutrition, Respiration and fermentation, Bacterial growth and growth curve.

Immunology: T cell, B cell, Immune response, Types of immunity, prophylaxis, vaccines. Major histocompatibility, complex and immunoglobulins. Immunological methods, Antigen-Antibody reactions, Adjuvants, Tumors, Hybridoma technology.

Chemotherapy: Types of antimicrobial agents and mode of action. Therapeutic agents, Chemical, non-medicinal antimicrobials- sanitizers, disinfectants, antiseptics. Antibiotics.

Biochemical Techniques: Enzymes, Enzymes nomenclature, Enzyme kinetics, Regulation of enzyme activity, Optical methods, Separation methods.

Microbial genetics: Nucleic acids Structure and Replication. Transcription. Translation. Mutations, Benzer's fine structure. Bacterial Transformation, transduction and conjugation Plasmids, PCR, Cloning, Recombinants. Molecular markers. Gene chip and microarrays.

Industrial microbiology: Exploitation of microbes in industry. Screening, Fermentation, fermenters. Types of fermentations processes Scale-up of fermentations. Up and Down stream process. Strain development. Fermentation productions-Ethanol, Beer, Wine and other alcoholic drinks, aminoacids, antibiotics, organic acids, vitamins, enzymes, biotransformations, probiotics,

and solvents. Principles of vaccine production and types of vaccines. Industrial Quality control and assurance.

Agricultural and veterinary microbiology: Ecological significance. Soil Microorganisms, Mineralization, Soil humus formation, Nitrogen metabolism, Phosphate solubilization. Bio-fertilizers, Biopesticides, Rumen microbiology, termite microbial communities, Microbes in the production of energy from agricultural and domestic wastes. Rhizosphere, Mycorrhizae, Phyllosphere.

Medical Microbiology: Normal flora, Bacterial and viral infections (Air born, water born, food born, insect born and zoonotic), Mycosis, Medical diagnostics and Toxins.

Microbiology of Food and Environment: Fermented foods, Spoilage of foods, Food preservation methods, Food poisoning, Mycotoxins. Microbial degradation, pollution, sewage treatment. Bioremediation.

COMPUTER APPLICATIONS

Mathematical Foundations: Mathematical Logic, Set Theory, Elementary Combinatorics, Probability, Random Variables, Binomial and Poisson Distributions, Curve Fitting, Number Systems and Computer Arithmetic.

Computer Organization: Memory Organizations, CPU Organization, Assembly Language, Microprogramming, Input-Output Organization, Intel 8086 Computer.

Programming: Programming in C, Object oriented programming concepts including classes, Polymorphism, Inheritance, and Programming in C++ and Java.

Data Structures: Arrays, Records, Searching and Sorting Techniques, Linked Lists, Trees, Binary Tree Traversal, Binary Search Trees, and Graphs.

Operating Systems: Introduction, Process and CPU Scheduling, Process Synchronization, Deadlocks, Disk and Memory Management, Virtual Memory, File System Interface and Implementation, Protection and Security.

Database Management Systems: Introduction, Relational Model and Languages, Data Modeling, Database Design Theory and Methodology, SQL, Transaction Processing & Concurrency control and Database Recovery & Security.

Computer Graphics: Line Drawing, Graphic Primitives and Polygons, 2D Transformations, Windows and Clipping, 3-D Graphics, Curves and Surfaces.

Computer Networks: Introduction, Seven Layers in OSI Model, Internetworking, and TCP/IP Model.

Software Engineering: Software Characteristics, Software Process Models, Analysis, Design, Coding, Testing, and Software Quality Assurance.

Object oriented Analysis and Design: Introduction to UML, Basic Structural Modeling, Classes and Object Diagrams, Behaviour Modeling and Architecture Modeling.

COMPUTER SCIENCE

Computer Organization: Memory Organizations, CPU Organisation, Assembly Language, Microprogramming, Input-Output Organization, Intel 8086 Computer.

Programming: Programming in C, Object oriented programming concepts including classes, Polymorphism, Inheritance, and Programming in C++ and Java.

Data Structures: Arrays, Records, Linked Lists, Trees, Binary Tree Traversal, Binary Search Trees, and Graphs.

Design and Analysis of Algorithms: Algorithm complexity, Algorithms Design Techniques – Divide and Conquer, Greedy Method, Dynamic Programming, Backtracking, Branch and Bound, NP-Hard and NP-Complete Problems.

Principles of Programming Languages: BNF, Variables, Data Types, Control Structures, Scope and Extent, Data Abstraction, Concurrency concepts, Exception Handling, Functional Programming, and Logic Programming.

Compiler Design: Types of grammar, Phases of compiler, Lexical Analysis, Parsing Techniques, Code generation and Optimization.

Operating Systems: Introduction, Process and CPU Scheduling, Process Synchronization, Deadlocks, Disk and Memory Management, Virtual Memory, File System Interface and Implementation, Protection and Security.

Database Management Systems: Introduction, Relational Model and Languages, Data Modeling, Database Design Theory and Methodology, SQL, Transaction Processing & Concurrency control and Database Recovery & Security.

Computer Graphics: Line Drawing, Graphic Primitives and Polygons, 2D Transformations, Windows and Clipping, 3-D Graphics, Curves and Surfaces.

Computer Networks: Introduction, Seven Layers in OSI Model, Internetworking, and TCP/IP Model.

Distributed Operating Systems: Goals, Client-Server Model, Synchronization in distributed systems, Distributed Process Management and File Systems, Distributed Shared Memory.

Software Engineering: Software Characteristics, Software Process Models, Analysis, Design, Coding, Testing, and Software Quality Assurance.

Object oriented Analysis and Design: Introduction to UML, Basic Structural Modeling, Classes and Object Diagrams, Behaviour Modeling and Architecture Modeling.

Network Security: Data Encryption and Decryption, Symmetric Key algorithms like DES, IDEA and AES, Public Key Cryptography, RSA algorithm, Digital Signatures & Authentication, Firewalls and VPN.

GEOLOGY

CRYSTALLOGRAPHY

Definition, classification and morphology of crystals. Symmetry elements, 32 classes of symmetry. Plane lattice, space lattice, unit cell, 14 Bravais lattices, glide planes, screw axes and space groups.

MINERALOGY

Introduction to Mineralogy, definition and classification of minerals. Structural and chemical principles of crystals/minerals. Chemical bonds, Ionic radii, Coordination number (CN), Polyhedron and Pauling's rules. Silicate structures.

Structure, Chemistry, Physical and Optical characters and paragenesis of the following mineral groups – Olivine, Pyroxene, Amphibole, Mica, Spinels
Feldspars, Quartz, Feldspathoids, Aluminum silicates, Epidote, Garnet.

OPTICAL MINERALOGY

Nature of polarized light. Behavior of Isotropic & Anisotropic Minerals in Polarized Light. Refractive Index – Double Refraction – Birefringence – Dispersion – Sign of Elongation – Interference figures – optic sign and accessory plates.

IGNEOUS PETROLOGY

Classification of Igneous rocks. Structure and textures of Igneous rocks. Phase Equilibrium in igneous systems. Magmatic processes.

Petrography and petrogenesis of the following rock types:

Granite – Granodiorite – Tonalite suite. Alkaline rocks, Anorthosites and layered complexes. Kimberlite provinces in Andhra Pradesh.

GEOCHEMISTRY

Classification, Mineralogy and chemical composition, origin and age of meteorites. Composition of crust, primary differentiation of earth.

Geochemical classification of elements, periodic table, petrogenetic significance of transition and rare earth elements. Goldschmidt's rules governing distribution of elements during magmatic crystallization.

Introduction to Isotopic geochemistry.

METAMORPHIC PETROLOGY AND THERMODYNAMICS

Definition, scope and historical background of Metamorphism and Metamorphic processes. Classification, Nomenclature, Structures and Textures of metamorphic rocks. Zones, Grades, and Facies of metamorphism. ACF – AFM – AKF phase diagrams.

Contact metamorphic facies: Hornfels and Sandinite. Regional metamorphic facies: Zeolite Greenschist, Blueschist, Amphibolite, Granulite, and Eclogite. Goldschmidt's Mineralogical Phase rule and Metamorphic reactions. Petrogenetic grids. Geothermobarometry and Pressure (P); Temperature (T); and Time (T) paths. Paired metamorphic belts.

Internal energy of a system and First law of thermodynamics. Entropy and Second law of thermodynamics. Reversible and irreversible processes. Enthalpy and Gibb's free energy. Chemical potential, fugacity, activity and activity coefficient.

SEDIMENTOLOGY AND PETROLEUM GEOLOGY

Nature and classification of sedimentary rocks. Classification of Sedimentary Environments. Evolution of Sedimentary basins and geosynclinal concept.

Nature and origin of Petroleum hydrocarbons. and Gas Hydrates. Reservoir rocks. Migration and accumulation.

STRUCTURAL GEOLOGY AND GEOTECTONICS

Stress-strain relationships of elastic, plastic and viscous materials. Measurement of strain in deformed rocks. Behaviour of minerals and rocks under deformation conditions. Folds: classification and causes of folding. Diapirs and salt domes.

Shear Zones & Recognition of faults & shear zones in the field. Mechanics of shearing & faulting. Geometry of thrust sheets. Block faulted and rifted regions. Wrench faults and associated structures. Foliations and Lineations: classification, origin and significance.

Tectonic framework of Earth's crust. Interior of earth. Isostasy.

Convection currents. Wilson Cycle. Continental Drift. Sea-floor spreading

Nature of Convergent, Divergent and Conservative plate margins. Transpression & Transtension. Plate tectonics: Concept of plate and plate movements. Plate model of Morgan. Plate tectonics in relation to igneous, sedimentary and metamorphic processes and mineralisation. Triple junctions. Aulocogens. Plume Theory. Island arcs. Nature and origin of Earth's magnetic field.

PALAEONTOLOGY AND STRATIGRAPHY

Morphology, classification and geological history of the Invertebrate fossil phyla—Foraminifera, Radiolaria, coelenterata, Brachiopoda, Trilobita, Mollusca, Echinodermata, General characters of amphibians, reptiles and mammals. Classification, evolution and extinction of Dinosaurs. Classification and evolution of horse, elephant and man. Classification and distribution of microfossils. Gondwana flora and their significance.

Nomenclature and the modern stratigraphic code. Litho, bio and chrono stratigraphic units and their inter relationships. Geological time scale. Magneto-stratigraphy. Dating of rocks. Modern methods of stratigraphic correlation. Precambrian stratigraphy-- a) Achaean stratigraphy - tectonic frame-work, geological history & evolution of Dharwar, and their equivalents; Easterghats mobile belt. (b) Proterozoic stratigraphy - tectonic framework, geological history, and evolution of Cuddapah, and their equivalents.

Stratigraphy of the Palaeozoic and Mesozoic formations of India with special reference to type localities. Palaeozoic and Mesozoic formations of India with special reference to their history of sedimentation, fossil content and palaeogeography. Gondwana System. Cenozoic formations of India Rise of the Himalayas and evolution of Siwalik basin and Deccan volcanics. Boundary problems in Indian stratigraphy

GEOMORPHOLOGY AND FIELD GEOLOGY

Definition and fundamental concepts of geomorphology. Geomorphic processes: Gradation, degradation, aggradation. Endogenetic process: Diastrophism, Vulcanism. Weathering processes and Mass wasting: Physical weathering, chemical weathering, soil profile, formation of soil, processes of mass wasting.

The fluvial cycle: streams and valleys, drainage patterns and their significance, stream deposition. The peneplain concept, topography on domal folded and faulted structures. The arid cycle: origin of deserts and its landforms, topographic effects of wind erosion. Karst topography: landforms of Karst regions.

Glaciers: features resulting from glaciers, development of landforms, effects of glaciation beyond ice caps, Interglacial deposits. Geomorphology of coasts: topographic features resulting from marine deposition. Topography of Ocean floors:- landforms related to shelves, slopes and deep sea. Landforms resulting from Vulcanism.

Principle of map reading. Toposheets; Geological Mapping. Geological mapping; Clinometer Compass; Brunton Compass; Strike & Dip measurements; Details of field geological mapping of Igneous, sedimentary and metamorphic terrains.

ORE GENESIS AND MINERAL DEPOSITS

Processes of formation of ore deposits. Metallogeny through geological time. Advanced study of ore textures. Scientific application of ore textures and ore genesis. Paragenesis, paragenetic sequences and zoning in metallic ore deposits.

Orthomagmatic ores of mafic-ultramafic association--- Chromite deposits and PGE. Diamonds in kimberlite, REE in Carbonatites. Cyprus type Cu-Zn, Ores of Silicic igneous rocks – Kiruna type Fe-P, Kuroko type Zn-Pb-Cu.

Stratiform and stratabound ore deposits (Mn, Fe, non-ferrous ores). Placers concentrations. Ores of metamorphic affiliations. Ores related to weathering and weathered surfaces – laterite, bauxite and Manganese nodules..

Study of the case studies of the following Indian ores :

1. Iron ore formations and deposits. 2. Chromite deposits. 3. Manganese deposits. 4. Copper deposits. 5. Lead and Zinc deposits. 6. Bauxite deposits. 7. Magnesite deposits. 8. Barite deposits. 9. Mica deposits. 10. Asbestos deposits. 11. Dimension and decorative stones.

Mineral based Industries – Iron & Steel; Refractories; Ceramic; Electrical & Insulators; Paper; Glass etc.

MINERAL EXPLORATION

Geological exploration. Ore search--physiographic, lithologic, stratigraphic, structural and mineralogical guides.

Geophysical Exploration. Simple types of measuring instruments, field procedures and interpretation of data from various methods of geophysical prospecting viz. Gravimetric, Magnetic, Electrical and Radiometric methods. Well logging and interpretation.

Geochemical Exploration - Geochemical environments-Dispersion and mobility, Geochemical associations and pathfinders and their application. Primary environment. Primary dispersions and halos. Secondary environment: Chemical weathering: Significance of Eh & pH, Absorption. Mobility of elements in secondary environment. Sampling and interpretation of data. Geochemical anomalies-Significant, non-significant and displaced anomalies.

HYDROGEOLOGY, REMOTE SENSING AND GIS

Hydrological cycle. Hydrographs, water table contour maps. Rock properties affecting groundwater. Porosity, permeability, specific yield, specific retention, hydraulic conductivity, transmissivity, storage coefficient.

Well hydraulics- General flow equations, Steady unidirectional flow, Steady radial flow to a well, Unsteady radial flow in a confined and unconfined aquifer.

Water level fluctuation, causative factors. Methods of pumping tests and analysis of test data, evaluation of aquifer parameters. Artificial recharge of Groundwater. Groundwater legislation.

Ground Water quality-sources of salinity, estimation of major elements, reporting of chemical analysis. Groundwater Pollution-problems of Arsenic and Fluoride. Groundwater quality map of India. Quality criteria for groundwater use. Salt water intrusion in coastal aquifers and remedial measures.

Importance of Remote sensing and GIS in geological applications.

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 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).
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. Agaru
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 Balija, (Kalavanthulu) Ganika (amended vide G.O.Ms. No. 20, BCW(P2) Dept., Dt. 19.07.1994)
15. Krishanabalija (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, Arevally 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, 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, Fhaker Budbudki, Ghanti, Fhaker, Ghanta Fhakerlu, 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 **Gurravally**
8. Hajam, Nai, Nai Muslim, Navid
9. Labbi, Labbai, Labbon, Labba
10. Pakeerla, Borewale, Deraphakerlu, 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.