



Advertisement No.IIE-52/2018- 3789/OSSC;

Date: 31.12.2018

Recruitment to the post of Laboratory Assistant-cum-Storekeeper in Government Colleges in different Practical Subjects on Contractual Basis under Director of Higher Education, Government of Odisha

POST CODE –LASK/147

IMPORTANT:

- Online Application registration will be made available from 31.12.2019 till 30.01.2020 by 11.55 P.M in the official website of the Commission "www.osscc.gov.in". Application other than online mode shall not be accepted by the Commission.
- Candidates are to be extra vigilant while filling up the online application form as there is no edit option.
- Online Applications are invited for selection of candidates for recruitment to 294 nos. of Laboratory Assistant-cum-Storekeeper in Govt. Colleges, in different Practical subjects under Director of Higher Education, Odisha, Bhubaneswar.
- No hardcopy of online application/ documents to be sent to the Commission. The applicants are required to upload the required certificates/documents as listed at clause-7 of the advertisement in the "Document Upload" tab. The documents should be in pdf format, clearly visible and in prescribed size as prescribed in Clause-1 (b).
- The Candidates who intend to apply should go through the eligibility criteria prescribed in the advertisement, before filling up the application. The candidate must satisfy himself/herself about his/her eligibility for the post before applying and only through online mode. No other mode of application shall be entertained by the Commission.
- Candidates having Bachelors Degree with Honours in respective Practical Subjects are eligible to apply for one post only.
- Recruitment for the post will be guided by the Odisha Government Colleges Laboratory Assistant-cum-Store keeper (Method of Recruitment & Condition of Service) Rules 2017.
- The appointment will be initially on contractual basis carrying a consolidated pay of Rs.16,880/- per month(for 1st year) as per Odisha Group-B Posts Contractual Appointment Rules,2013 notified vide Government in GA Department Notification No. 1147-GAD-SC-RULES-0061-2013/Gen dated 17th January 2014 and as amended vide Government in GA & PG Department Notification No.GAD-SC-RULES-0037-2017-19569/Gen. Dtd. 12th Sept. 2017. However, the Salary /Scale of pay and other conditions of service may vary as per the decision of the Government of Odisha from time to time. The service condition shall be governed by relevant recruitment rules in force and also guided by Odisha Group-B Posts Contractual Appointment Rules,2013.
- Candidate must not be below 21 Years and must not exceed 32 years of age as on 1st January 2018 to be eligible to apply for the post (refer to Clause-5(a) of this Advertisement) with usual age relaxation for reserved categories as per relevant rules of Govt. in force.
- If at any stage of recruitment or thereafter, it is found that any information furnished by the candidate in his/her online application is false/incorrect or the candidate has suppressed any relevant information or the candidate otherwise does not satisfy the

eligibility criteria prescribed for the post, his/her candidature for the examination will be cancelled forthwith and he may be debarred either temporarily or permanently from appearing any further recruitment examination conducted by the Commission.

1. How to apply:

The applicants have to go through the detail advertisement before filling up the online application.

1. (a) Aspirants have to apply online using the official website of the Commission "www.osscc.gov.in". The applicants other than S.C., S.T. & PwD categories are required to deposit non-refundable examination fee of **Rs.200/-** only through online mode following the procedure as detailed at **clause-6** of this advertisement to apply for the post. By clicking on the tab 'online application' in the home page of the website, different advertisement for online application along with different useful details will be displayed on the computer screen. The instructions provided in this Advertisement are required to be read carefully before proceeding to complete the online application process.

There will be 2 links under "**Form Links**" column for each advertisement.

(i) **For Registration.**

(ii) **For registered user login.**

All the Candidates first need to complete the Registration process before filling the Application Form.

For Registration the candidate needs to **click** the link "**For Registration**" present in the Form Link section.

On clicking the link mentioned, he/she will be redirected to the **Registration Form**, where few basic Details will be required as follows to be filled up by the applicant correctly.

- i. **Nationality**
- ii. **Applicant's Full Name**
- iii. **Applicant's Father's Name**
- iv. **Applicant's Mother's Name**
- v. **Name of the husband (In case of Married female applicant)**
- vi. **Gender**
- vii. **10th Standard Roll Number (As Mentioned in the Certificate)**
- viii. **10th Standard Year of Passing**
- ix. **10th Standard Board (Name)**
- x. **10th Standard Passed Exam Type**
- xi. **Whether passed minimum Seventh class exam. in Odia**
- xii. **Mobile Number**
- xiii. **Email Address**

All the above fields need to be filled in mandatorily by the candidate.

Caution: The candidate must submit the correct data in this section as the subsequent sections will be automatically populated with the data filled in this section. **No change in this section will be allowed after the candidates submit the 'I Agree' box.**

Once the above details are filled by the candidate, one CAPTCHA image will be shown to the candidate which he/she needs to enter correctly in the field given below and then need to check the box "**I Agree**" for declaration and submit the registration form.



On Submitting the registration form a unique Application Sequence No. will be generated and will be shown to the candidate.

Application Sequence No. generated will act as **user id** of the candidate for the post. E-mail and SMS will be sent to the candidates through his registered **email id** and **mobile no** intimating the 'User id' and 'Password'.

Note:

The details submitted by the candidate for 10th Standard Roll Number (As mentioned in the Certificate), 10th Standard Board, 10th Standard Year of Passing & 10th Standard Passed Exam Type (Annual or Supplementary) need to be furnished correctly.

Furnishing of any wrong information may lead to rejection of the application and no request in this regard for correction of the same will be entertained. User registration is only required once during applying for a specific post/advertisement.

After successful submission of the registration form **"Go to Application Form" & "Logout" button will be visible** in the top right hand corner of the webpage.

Candidate can also click on the **"Go to Application Form"** to continue with the filling of the application form. Candidate can click the **"Logout"** button if he/she wishes to exit the current session.

1. (b) For registered user login

In order to fill in the Application form candidate needs to Click the link present under **"For registered user login"** present in the Form Link section.

The same will redirect the candidate to the login page of the Application Form. The candidate need to login using the 'User id' and 'password' he/she received after registration though e-mail as well as SMS in the registered mobile no. & e-mail id.

Once the candidate successfully logged in to the application form he/she will be getting 4 tabs

- 1. Personal Details**
- 2. Additional Details**
- 3. Qualification details**
- 4. Document Upload**

All the detail data are required in the above 4-tabs need to be furnished correctly by the candidate. The details submitted by the candidate during submission of the registration form will be auto populated in the respective fields of the application form. Please read the caution below while filing up the column of Marks Secured and Full Mark for the examinations passed

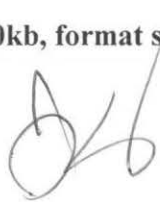
The candidate have the option of filling the application form in more than 1 session but before logging out he/she needs to ensure that all the data filled by him/her **has been saved** by clicking **"Save & Continue button"** present in the end of the each tab.

Candidate can **preview** the application by clicking the **"Preview Application"** button present in the end of **"Document Upload"** tab as and when required.

All candidate mandatorily need to upload the scanned image of his/her **recent passport size photograph and scanned image of his/her full signature** in the on line application form which **must be within max 80 kb (The Format supported -JPEG/JPG).**

In addition to the above requirement all the candidates need to upload the following document in the **Document Upload Section.**

- i. **10th Standard Pass Certificate & Mark sheet** containing the 10th Standard Roll Number as given in the registration form (**File size max 300kb, format supported-pdf**).
- ii. **+2 Certificate/ Marksheet (File size max-300kb, format supported-pdf)**



- iii. **Bachelors Degree Certificate & Mark sheet** in Practical Subject (File size max-300kb, format supported-pdf). (any one of the subject- **Physics/ Chemistry/ Botany/ Zoology/ Geology/ Statistics/ Anthropology/ Geography/ Education/ Home Science/ Psychology**)
- iv. Candidates Claiming reservation under **SC/ST/SEBC** category need to upload valid caste certificate (refer to Clause-7 of this Advertisement) (File size max-300kb, format supported-pdf).
- v. Candidates Claiming "**PwD (Persons with Disabilities)**" category need to upload a valid **PwD** certificate (File size max-300kb, format supported-pdf).
- vi. Candidates Claiming "**Ex-Serviceman**" category need to upload any one of the Ex-Servicemen Documents (**Discharge Certificate/ Identity card/ PPO indicating therein the date of entry, date of discharge and period of service** rendered in Defence Forces) as per Clause-8(viii) of the advertisement).
- vii. Candidates claiming "**Sports Person**" category need to upload **sports identity card** issued by Director of Sports & Youth Services, Govt. of Odisha (File size max-300kb, format supported-pdf).
- viii. Candidates not having Odia as a subject in HSC Examination, has to upload Odia Pass certificate in at least **ME Standard (Class-VII)** or more (File size max-300kb, format supported-pdf) issued by Head Master/Principal or any other competent authority affiliated to Education Department of Govt. of Odisha or any other competent Authority.
- ix. **In-service contractual employees** in the category-I & II (Govt. in G.A. Department Notification No.GAD-SC-Rules-0061-2013-1147/Gen dtd.17.01.2014) claiming age relaxation up to 45 years as on 01.01.2018 and have completed one year of continuous service prior to effective of Odisha Group-B posts Contractual Appointment Rules, 2013 must upload the required certificate issued by the concerned employer as per proforma prescribed by the Commission vide the Advisory Notice No.3568/OSSC dated 01.11.2019 available in the website of the Commission www.ossc.gov.in (File size max-300kb, format supported-pdf).

The uploaded documents must be clearly identifiable /visible, otherwise the application is liable to be rejected and no further correspondence in this regard will be entertained.

The candidates are also advised to fill up relevant details under different tabs, mentioning category, special category, present address, permanent address, full marks, marks secured) in H.S.C & Diploma in Mechanical Engineering which are required for eligibility.

Caution:

i. *The candidates should mention their HSC Full Marks and Mark secured correctly in the online application form excluding extra optional marks (if any) while filling up of the online application form failing which their candidature for the post shall be rejected.*

ii. *If it is found during document verification or at any stage of recruitment or there after that the marks entered in online application do not tally with the uploaded documents, then the candidature of the applicant will be rejected outrightly.*



The filled in Application Form must be submitted by clicking the '**Submit Button**'. Before submitting the **online application the applicant must re-check the information** filled in and ensure that the information provided and the scanned signature and scanned photographs uploaded are clearly identifiable /visible. After clicking the submit button, the system will redirect all candidates (Except SC/ST/PwD category candidates) to SBI Collect portal for payment of examination Fees, The details of which has been furnished at Clause-6 of this advertisement. After successful payment of Examination fees (as applicable) the form will be submitted in the OSSC website. In case of applicants in the category of SC/ST/PwD the form will be submitted directly. After the form is successfully submitted, the candidate has to take the printout of the filled application form (OSSC Copy and Applicant Copy) for future reference.

1. (c) The candidate has to take both the printed copies of application (i.e. 1. **OSSC Copy** and 2. **Applicant's Copy**). The **OSSC** copy has to be preserved by the applicant for future use. In case the candidate is shortlisted for verification of documents, he/she has to submit the same in the Office of the Commission on the date of certificate verification along with the originals & a set of self attested photo copies of certificates/ documents.

1. (d) The **Applicant's copy** contains the '**User ID**' and '**Password**' printed on the bottom of the Application Form. The applicant has to keep it carefully for his future reference to access to the website to know the status of the application and also to download the admission letter from the Commission's website.

1. (e) Applications received through any mode other than online mode are liable to be summarily rejected.

1. (f) If at any stage of recruitment or thereafter, it is found that any information furnished by the candidate in his application is false/incorrect or the candidate has suppressed any relevant information or the candidate does not satisfy the eligibility criteria prescribed for the post or has not paid the requisite examination fee, his/her candidature will be cancelled forthwith. Further, the Commission reserves the right to debar such candidates from applying for other recruitment examinations conducted by the Commission either temporarily or permanently.

1. (g) The candidate may find out the status of his/her application as well as his/her Admission letter/hall ticket for appearing the examination by accessing OSSC website, clicking therein '**online application**' tab, and thereafter clicking on the link present under "**For registered user login**" in **Form Link** section against that particular advertisement/post, by using the user ID and password.

1. (h) Candidates should possess a valid E-mail address & Mobile number which should remain active till publication of the final result pursuant to the Advertisement.

The Commission shall not be responsible for any loss/ non receipt of message/information sent on the wrong /invalid e-mail address/ mobile number provided by the candidate in the on-line registration form or for delay/non-receipt of information if a candidate fails to access his/her E-mail or Mobile phone in time. Candidates will be allowed in the

examination only if they possess a valid admission letter for the examination and valid Photo Identity proof issued by any Govt. Authority.

2. Last date of online Applications:

2.a. The last date for submission of online Application in response to this advertisement is 11.55 P.M. of Dtd. **30.01.2020**. The system will be automatically disabled from 11.55 PM of the said date after which the application form for this particular post will not be generated any more.

2.b. No. Physical Copy (hard copy) of the online application form/documents required to be sent to the Commission. Candidates have to upload the relevant documents as listed in the online form at the time of online application.

3. Vacancies be filled up and reservations :

As per requisition placed before the Commission by the Recruiting Authority, the category-wise break-up of the total number of posts to be filled up by this recruitment are as follows:

a. Laboratory Assistant-cum-Storekeeper-Total vacancy-294 Nos. (Out of which Women-95)

Sl. No.	Name of the Practical Subject	Vacancy Position					Vacancies for Special Categories		
		SC	ST	SEBC	UR	Total	EX-SM	PwD with Category (Candidates having Permanent disability of 40% or more in the following categories are eligible for the post)	Sports Person
1	Physics	10 (w-04)	14 (w-04)	05 (w-02)	31 (w-10)	60 (w-20)	02	Vacancy-03 (w-01) Category (b)- Deaf & Hard of Hearing-01 Category (c)-Locomotor Disability-02	01
2	Chemistry	11 (w-04)	15 (w-04)	07 (w-02)	35 (w-11)	68 (w-21)	03	Vacancy-04 (w-02) Category (b)- Deaf & Hard of Hearing-02 Category (c)-Locomotor Disability-02	-
3	Botany	10 (w-03)	13 (w-04)	07 (w-02)	32 (w-09)	62 (w-18)	02	Vacancy-02 Category (b)- Deaf & Hard of Hearing-02	01
4	Zoology	09 (w-03)	13 (w-04)	06 (w-01)	29 (w-09)	57 (w-17)	02	Vacancy-03 (w-01) Category (b)- Deaf & Hard of Hearing-01 Category (c)-Locomotor Disability-02	01
5	Geology	-	01	-	05 (w-02)	06 (w-02)	-	-	-
6	Statistics	-	01	-	04 (w-02)	05 (w-02)	-	-	-
7	Anthropology	-	01	-	04 (w-02)	05 (w-02)	-	-	-

8	Geography	-	01	-	04 (w-02)	05 (w-02)	-	-	-
9	Education	-	02	-	05 (w-02)	07 (w-02)	-	-	-
10	Home Science	-	03 (w-02)	-	05 (w-03)	08 (w-05)	-	-	-
11	Psychology	01	02 (w-01)	01	07 (w-03)	11 (w-04)	-	-	-
	Total	41 (w-14)	66 (w-19)	26 (w-07)	161 (w-55)	294 (w-95)	09	12	03

Candidates of PwD category having minimum 40% disability and Benchmark Disability of Locomotor Disability (preferably persons affected with One Arm, One Leg and Both Leg) and Deaf & Hard of Hearing with suitable aid shall be eligible to apply for the post.

(b) Provision of assistance of Scribe

PwD candidates who have not less than 40% disability and have limitation in writing shall have the option to use his own his/her own scribe. The intending candidates have to give option in the appropriate place while filling up online application form and also to submit the required certificate prescribed by the Commission as per Advisory Notice No.3453/OSSC dated 24.10.2019 available in the website of the Commission www.osscc.gov.in.

(c) The number of vacant posts to be filled up on the basis of this recruitment is subject to change without any prior notice as per discretion of the Commission, the Recruiting Authority and Government.

4. Scale of Pay & Condition of Service:-

The appointment will be initially on contractual basis carrying a consolidated pay of Rs.16,880/- per month(1st year) as per Odisha Group-B Posts Contractual Appointment Rules,2013 notified vide Government in GA Department Notification No. 1147-GAD-SC-RULES-0061-2013/Gen dated 17th January 2014 and as amended vide Government in GA & PG Department Notification No.GAD-SC-RULES-0037-2017-19569/Gen. Dtd. 12th Sept. 2017. However, the Salary /Scale of pay and other conditions of service may vary as per the decision of the Government of Odisha from to time. The service condition shall be governed by relevant recruitment rules in force and also guided by Odisha Group-B Posts Contractual Appointment Rules,2013.

5. Eligibility:

5. a. Age:

The minimum age for the post is 21 years and the maximum age is 32 years as on 01.01.2018. The upper age limit is relaxable by 5 years for candidates belonging to SEBC, SC, ST & all Women candidates, 10 years for candidates belonging to PwD category & the total period of service rendered in defence service in case of Ex-servicemen. PwD candidates in the ST & SC category shall be entitled to **cumulative age relaxation** of ten years over & above the

normal relaxation specified for the category. However, a candidate can only avail one type of age relaxation as per rule. **To be eligible, candidates not enjoying any relaxation of upper age limit must not have been born earlier than 2nd January, 1986 and not later than 1st January 1997.** The persons in Defence Forces having more than six months to retire/ discharge from the forces as on the date of the submission of online application are not eligible to apply as ex-serviceman for the post. Ex-Servicemen who are going to retire within six months from the closing date of online application may apply for the post by obtaining relevant certificate from the appropriate authority mentioning therein the date of appointment, date of retirement and years of service rendered in Defence Forces. However such candidates have to submit the discharge certificate on the date of certificate verification for considering their claims under Ex-Serviceman category.

Border Security Force, Indian Coast Guard, CRPF and other Para Military Forces are not within the definition of Ex-Servicemen.

Note: Once an Ex-Serviceman has joined the Govt. Service in civil side after availing the benefit as an Ex-Serviceman for his re-employment, his ex-serviceman status for the purpose of re-employment in Govt. Jobs shall cease to exist. He can avail age relaxation only. However as per clause-4 of the O.M. No. 36034/2014-Estt.(Res) dt.14 August,2014 of Ministry of Personnel, Public Grievances and Pensions, Department of Personnel & Training, Government of India, if an Ex-Serviceman applies for various posts before joining any civil employment, he/she can avail of the benefit of reservation as ex-serviceman for any subsequent employment, provided the applicant as soon as joins any civil employment, should give self declaration/undertaking to the concerned employer about the date-wise details of application for various posts for which he/she had applied for before joining. The applicant should furnish the copy of above declaration duly endorsed by the employer on the date of Document Verification for consideration of the claim under Ex-Serviceman category.

The upper age limit is relaxable for in-service contractual employees engaged by the Govt. or through manpower service provider agencies in the State Govt. offices or the State Govt. of Odisha who have completed at least one year of continuous service prior to commencement of "Odisha Group-B posts (Contractual appointment) Rules-2013 shall be eligible to apply for the post after availing age relaxation. As such they must be less than 45 years as on 01.01.2018. They should submit the required proof from their employer for availing age relaxation and submit/upload the required documents clause-7(xi) of this advertisement.

5.(b). Date of birth entered in the High School Certificate Examination by the Board of Secondary Education, Odisha or equivalent Certificate issued by the recognised Board/Council/by an Indian University as equivalent there to shall only be acceptable to the Commission.

5. (c) Educational Qualification:

- I. The candidates must have possessed Bachelors Degree with honours in respective Practical Subjects from a recognised University. The candidate must have passed the examination on the closing date of the online application form.
- II. The applicant must have Odia as one of the subjects in the HSC or passed examination in Odia equivalent to M.E. standard or passed in Odia as language subject in final examination of Class-VII or passed a test in Odia in M.E. School Standard conducted by Education Department Govt. of Odisha on the date of the Application.



5.(d) General Eligibility Criteria

In order to be eligible for appearing in the examination a candidate must satisfy the following conditions.

- (i) The candidate must be a citizen of India.
- (ii) Be able to speak, read & write Odia.
- (iii) Be of good moral character & conduct.
- (iv) Be of good mental condition and bodily health and free from any physical defect likely to interfere with the discharge of his duties in the service.
- (v) If married, must not have more than one spouse living.
- (vi) Candidate must have passed Middle School Examination with Odia as a language subject, or have passed High School Certificate Examination or equivalent examination with Odia as a subject/medium of examination in non-Language subject, or have passed in Odia as a language subject in the final examination of Class VII or above or have passed a test in Odia in M.E. School Standard conducted by the School & Mass Education Department.

Not fulfilling any of the eligibility criteria shall render the applicant's candidature invalid & rejected.

6. Examination Fee:

The candidates other than SC/ST/ Persons with Disabilities (PwD) category have to pay a non refundable examination fee of Rs.200/-. The fees can be deposited only through online mode using Internet Banking/ Debit Card/Credit card/UPI in SBI payment gateway linked with the online application form following procedure as detailed below:-

Online Fee Depositing process in State Bank of India (SBI) through State Bank Collect Portal
Important: Candidate other than SC, ST & PwD category needs to "Make Online Payment" of Rs. 200/- for submission of online application form for the post. Once SBI Collect of State Bank of India portal is opened, then DO NOT click Refresh or Back Button.
<u>Steps to be followed in SB Collect portal for Online Payment</u> <ol style="list-style-type: none">1. System will redirect you from online application form portal to State Bank Collect Portal after clicking on the 'Submit' button.2. Kindly preview the application to check & confirm the details shown on the screen i.e Application Sequence No., Date of Birth, Name, Mobile No, e-mail ID, post & category etc., before clicking "Submit" Button.3. Select the Online Payment Option (Internet Banking/Debit Card/Credit Card/UPI) with bank charges as applicable mentioned therein.4. Kindly make the online payment via Credit card or Debit card or Net Banking or UPI and retain the transaction slip for future reference.
Candidates are advised to keep with them the copy of the e-receipt as a token successful payment of required examination fee for future reference.
Candidates are advised to make required payment using SBI MOPS for final & successful submission of form.

Note:

- Applications without payment of examination fee except SC/ST/PwD category candidates shall be liable for rejection.
- SC/ST candidates are exempted from paying examination fee.

7. Certificates / documents to be submitted at the time of certificate verification should be same as uploaded in the online application Form:

- (i) OSSC Copy of the registered online application with declaration duly filled in & ink signed at the appropriate place.
- (ii) Self-Attested photocopy of HSC certificate or equivalent certificate & mark sheet issued by the recognised Board/Council.
- (iii) Self Attested photocopies of +2 pass Certificate & Marksheet.
- (iv) Self-Attested photocopies of Degree certificate and Marksheet.
- (v) Candidates of SC/ST/SEBC category shall enclose self-attested photocopy of a valid caste certificate issued by competent authority. Candidate belongs to SEBC category should submit SEBC certificate which must be within one year prior to last date of online application.
- (vi) Candidates have to submit a self-attested Photocopy of the certificate either of passing HSC examination with Odia as a compulsory subject, or in lieu thereof a certificate of passing a language test in Odia of M.E. standard/Class-VII issued by Principal/Head Master or any other competent authority.
- (vii) Self-Attested photocopy of the certificate of disability issued from the concerned Medical board of the concerned district in case of PwD candidates with permanent disability. For candidates with temporary disability, they shall have to produce recent disability certificate.
- (viii) Copy of the e-receipt/transaction slip (except SC, ST & PWD Candidates) showing successful payment of Rs.200/- towards examination fees.
- (ix) Self attested photo copies of documents in support of claim against Ex-servicemen i.e. Discharge certificate, identity Card & P.P.O issued by the appropriate Authority indicating there in the Date of Entry, Date of Discharge & Period of Service rendered in Defence forces.
- (x) Self attested photocopy of Identity proof issued by Director Sports and Youth service Department, Govt. of Odisha for claim of reservation against Sports Person category.

(xi) In-Service contractual employees claiming age relaxation and contractual In-service benefits must submit a Certificate from employer as per proforma prescribed by the Commission vide the **Advisory Notice No.3568/OSSC dated 01.11.2019** available in the website of the Commission www.ossclive.in.

8. Plan of Examination:

Stages of Examination.	Type of Examination	Nos. of papers	Marks allotted	Duration	Remarks
Stage-I	Main Written Examination (Technical Paper)	One Paper	100 marks	1 and ½ hrs	Objective type to be held in OMR sheet. Candidates numbering 02 times of vacancy from each type of post & each category basing on marks secured in the Main Written exam shall be called for Document Verification. <u>There shall be negative marking @0.25 marks for each wrong answer.</u>
Stage-II	Certificate verification	-	-	-	The candidates who do not attend the certificate verification his/her name will not be taken into consideration while preparing the merit list.
		Total	100 marks		

There shall be no viva-voce test. There shall be separate questions for each Practical Subject. The detail syllabus for 11 Practical Subjects is enclosed at APPENDIX-I.

Certificate verification –

Basing on the performance in the Main Written Examination candidates 02 (two) times of the vacancies notified, against each type of post, in order of merit category wise shall be shortlisted for certificate verification/ verification of original certificates & documents relating to Treasury Challan (except SC/ST/PwD), Age, Educational qualification, caste, Special category claiming age relaxation. **The candidates who will fail to appear in the certificate verification on the date notified, their names will be deleted from the merit list.**

10. PLACE AND DATE OF WRITTEN EXAMINATION:

The Date/Time/ Venue of the Written Examination will be informed to the eligible candidates in their Admission Letters, in due course. The admission letters shall only be

downloaded by the eligible candidates by accessing the Commission's website by using their 'User ID' and 'Password' from a date to be notified later on.

11. Admission letter:

Admission Letters for the written examination will be made available to the eligible candidates in the official website of the commission one week prior to the date of the examination carrying the photograph and signature of the eligible/qualified candidate and signature of the Secretary of the Commission. This will carry intimation about the date, time and venue of the written examination. Each eligible candidates shall have to download their admit card/admission letter well before the date of the examination by logging in to the official website of the Commission "www.osscc.gov.in" and clicking at sub menu '**online application**' by using their 'User ID' and 'Password'. Candidates may note that if the application has been rejected the same would be indicated along with grounds of rejection in the Commission's website for information of the candidates. The date(s)/Time/Venue of the examination will be notified in local dailies (newspapers) and in the Commission's website for information of the candidates. Further, the message regarding the date of examination will be sent to the eligible candidates in his/her registered Mobile No. mentioned by the applicant in the online Application form. No Admission letter will be send through post.

12. Select list:

The Merit list of the candidates found suitable in certificate verification shall be prepared basing on the sum total of marks secured in the Main Written Examination The select list in order of merit for each post/ branch wise & category wise shall be prepared from the said Merit list which will be equal to the number of vacancies notified in the advertisement.

Note:

- i. Blue/Black ball point pen only should be used for answering (ovalling) in OMR Sheet. Whiteners/Eraser should not be used on the OMR Sheet.
- ii. The candidates are required to visit the website of the Commission the official website of the Commission 'www.osscc.gov.in' for detailed information about the programme of the examination etc., notice regarding rejection of the application, other important notices etc. and also keep track of publication of various notices of this recruitment to be published in the leading local daily news papers.
- iii. The candidate should furnish correct Mobile Number and e-Mail Id for sending SMS and other relevant information relating to this recruitment. The Mobile No. & e-Mail Id should remain active till completion of the recruitment process to avoid any communication gap.

WARNING

- Mobile phone or any other electronics devices are strictly prohibited in the premises of the examination centre. The candidates are advised not to bring any such banned items to the examination centre. Any infringement of these instructions might entail debarment of the concerned candidate from the examination.
- Commission reserves the right to conduct Computer Based Recruitment Test (CBRT) in place of OMR based test for this recruitment if desires.

By order of the Commission



Secretary

SYLLABUS IN CHEMISTRY

- **Gaseous States:** Deviation from ideal behavior, Vander waals equation of state critical phenomena: PV isotherms of real gases, continuity of states, the isotherms of Vander waals equation.
- **Atomic Structure:** Idea of de Broglie matter waves, Heisenberg uncertainty principle, Black-body radiation, Compton effect, photoelectric effect, concept of quantization. Quantum numbers, radial and angular, Aufbau and Pauli exclusion principles, Hund's multiplicity rule, effective nuclear charge.
- **Periodic Properties:** Atomic and ionic radial, ionization energy, electron affinity and electro negativity definition.
- **Chemical Bonding:**
 - A. Covalent Bond - Various types of hybridization and shape of simple inorganic molecules and ions, application to NH_3 .
 - B. Ionic Solids: Born Haber cycle, Solvation energy and Solubility of ionic Solids, polarization and polarisability, Fajan's rule.
 - C. Weak Interactions: Hydrogen bonding
- **Nuclear Chemistry:** Artificial radioactivity, fission and fusion reactions, and Radio Carbon dating.
- **Chemical Kinetic & Catalysis:** Chemical Kinetics and its scope. Concentrating dependence of rates, mathematical characteristics of simple chemical reactions- Zero order, first order, second order, pseudo order, half life and mean life.
- **Nomenclature of Organic Compounds:** Nomo & poly functional groups. IUPAC recommendation for naming organic compounds, bridge head compounds.
- **Mechanism in organic reaction:** Resonance Hyper conjugation, elimination, substitution, free radical mechanism.
- **Inorganic Qualitative Analysis:** Identification of the basic and the acid radicals of a mixture of Inorganic consisting of not more than six radicals .
- **Nomenclature in complex inorganic compound:** Werner's Theory of coordination compound, optical isomerism and geometrical isomerism.
- **Chemistry of elements:** Characteristics properties of d-block elements, properties of the elements of the first transition series, lanthanide and actinide.
- **Dilute Solution & Colligative Properties:** Colligative properties , Raoult's law relative lowering of vapour pressure, osmotic , of osmotic pressure and its measurement , Determination of molecular weight from osmotic pressure, elevation of boiling point and depression of freezing point, strength of the solution.
- **Arenes and Aromaticity:** Nomenclature of benzene derivatives. The aryle group. Aromatic nucleus and side chain. Structure of benzene molecular formula and kekule structure, Aromaticity- the Huckel, the aromatic ions.
- **Volumetric Analysis:**
 - 1. Estimation of Ferrous and Ferric by dichromate method.
 - 2. Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- **Chemical Equilibrium:** Equilibrium constant and free energy. Le-Chatelier's principle.
- **Electromagnetic spectrum:**

Ultraviolet Spectrometry

Basic principles

- **Infra-Spectrometry:**

Introduction, basic principles of I.R. spectrum

- **Nuclear Magnetic Resonance Spectrometry:**

Introduction, basic principles of NMR.

- **Mass Spectrometry:**

Basic principle

- **Chromatography:** Basic idea on principles of chromatography, paper chromatography, column chromatography, Gas-liquid chromatography, TLC.
- **Organic Qualitative Analysis:** Detection of elements (Nitrogen, Sulphur and halogens). Tests of functional groups-phenolic, carboxylic, carbonyl, esters, Carbohydrates, amides, nitro anilide, Identification of an organic compound through functional group analysis.

Determinations of melting point/boiling point of organic compound. Preparation of derivative and its melting point determination.

- **Estimation of Phenol and aniline:** Preparation of Picric acid, ethylbenzoate, iodoforn from ethanol and acetone.
- **Partition in Co-efficient:**
Room temperature.
Pseudo first order hydrolysis rate.
- **Analytic Experiments:**
 1. Determination of saponification value of ester
 2. Estimation of magnesium and calcium in a mixture by EDTA titration.

SYLLABUS IN BOTANY

- **Algae:** General Characters, classification and economic importance, Volvox, Oadogonium, Vauvheria, Ectocarpus, Polysiphonia.
- **Fungi:** Saprologina, Mucor, Puccinia, Agricus, Economic importance reproduction is Lichens.
- **Bryophytes:** Classification and comparative study of morphology, Anatomy reproduction broad interrelationship, Ricia, Anthoceros, Funnia. A general account evolutionary significance of Psilopsida, Rhnia, Lycopodium, Selaginatia, Marsilea, Heterosory and seed habits.
- **Organisation of the higher plant body:** Meristems and development, Vascular cambrium, Secondary phloem and peridium, Comparative account of prodaryotic and eukaryotic characteristics,
- **Cell division and its regulation:** Mitosis and meiosis, various stages of cell division progression; cytokinesis; models of cell membrane or organization,
- **Nucleic Acids:** DNA structure, A, B, and Z forms of DNA, Chromatin, DNA-depedant RNA synthesis (Transcription), genetic code and protein synthesis (translation).
- **Gene Structure, Expression and regulation:** operon concept, gene regulation in prodaryotes, inducible, repressible, Positive and negative gene regulation,
- **Recombinant DNA Technology:** Restriction endonucleases, prokaryotic and eukareotic cloning vectors.
- **Plant Biotechnology:** Cellular differentiation and totipotency.
- **Plant-water relation:** Water transport processes, diffusion and osmosis, water potential, absorption of water, water transport through tracheids, mechanism of stomatal movement, photosynthesis
- **Nitrogen Metabolism:** Biological nitrogen fixation, reduction of N_2 into ammonia
- **Growth and Development:** Physiology of seed dormancy and seed germination, concept of photoperiodism, auxins, cytokinins, gibberllins abscisis acid and ethylene, biological. Transport of Organic Substances.
- **Plant Breeding:** Different types of Selection of self pollinated and cross pollinated Plants.
- **Organismal Ecology/ Biotic Components:** Hydrologic Gaseous, Diversity of Ecosystem: Aquatic (Fresh Water), terrestrial (forest/grassland), Man-made ecosystems.
- **Human Ecology and Ecological Management:** Renewable and non-renewable natural resources and their management, conservation.
- **Impact of Human Activities:** Pollution of air, water and soil, Global warming, general account of morphology, Cycas, Pinus, Gnetum, bentham and Hookner's system, Engler and Prantl's system and Takhatjan's system, Herbarium specimen and their preparation.
- **Phylogeny of Angiosperms:** Range of flora structures and diversity of orders of Dicotyledons (Rnanales), Rosales, Asterales and Genetianales and Euphorbiales and Monocotyledons (Liliales, Poales and Orchidales).

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SYLLABUS IN HOME SCIENCE

- **Cell:** It's structure and functions. Cell division. Blood- Plasma, its composition function, Erythrocytes. Its structure and functions disintegration and blue pigments. Hemoglobin and its functions. Blood platelets-structures and functions, Cardiac cycle, Structure of arteries, veins and capillaries. Systematic circulation, pulmonary circulation and portal circulation.
- **Kidney:** Microscope structures, formation of urine, the digestive glands their location and secretion in the body, their action of different types of foods.
- **Textile:** Classification of textile fibers-Natural and man-made Cotton, silk and wool- their sources, structure, physical and chemical properties.
- **Dry Cleaning and Dyeing:** Methods of Dry Cleaning, chemical used for the same advantages and disadvantages, classification, Methods of washing and finishing of cotton, silk and woolen fabrics, Stain removal, classification, general principles of stain removal and methods, Identification of Cotton, Silk and Wool by Visual, Washing and finishing of cotton, silk and woolen garments, Stain removal, and blue ink, tea, coffee, blood, curry, nail polish and paint stains.
- **Study of Foods:** Cereals, pulses, vegetables and fruits, their composition, nutritive value and effect of cooking on nutritive value, Importance and nutritive value of commonly used milk and different milk products.
- **Food Preservation:** Definition, importance, principles of food preservation- both.
- **Menu Planning:** Planning of meals for the family of different income levels.
- **Balanced Diet:** Planning balanced diet for men and women doing sedentary, moderate and heavy work.
- **Carbohydrates:** Composition, functions sources requirements, effects of deficiency.
- **Proteins:** Composition, Classification, function, sources, requirements and effects of deficiency.
- **Vitamins:** Fat-soluble and water soluble, Composition, functions, Thiamine, Niacin, Folic Acid, Ascorbic Acid.
- **Minerals:** Calcium, iron, iodine, fluorine, Importance of water and roughage, Home Management-Process.

- **Resources:** Definition, Classification, Types, characteristics, Principles applicable to Time and Energy.
- **Interior Decoration:** Elements of design, Principles of design (Harmony).
- **Colour:** Colour-Hue, value, intensity, Colour harmony-related use of colour in house decoration, Preparation of balanced diet for adult men and women.
- **Family Finance:** Cause of different in wages.
- **Family Expenditure:** Types of budget, items, Financial records of the household their nature and examples of account keeping.
- **Saving:** Purpose of savings, kinds of savings.
- **Methods of data collection-** Interview. Questionnaire, Experimental, case study, Mean median and mode.
- **From Birth to 5 Years:** Physical development, speech development, social development, Values, types, characteristics.
- **Perceptual Process:** Perception, illusion and hallucination, remembering and forgetting, recalling.
- **Types of Marriage:** Arranged and free choice, their advantages and disadvantages, Role of women in the family and society.
- **Problems of Indian Women:** Cause and types of problems in the family work place and other places.
- **Dowry System:** Its advantages and disadvantages and its ill effects in our society.
- **Family:** Definition of family, types of family, changing family pattern in India, beginning family, Expanding and contracting family.

04

SYLLABUS IN PHYSICS

Gravitational field and potential due to solid sphere and spherical shell, compound pendulum, Kater's pendulum, central force motion reduction of two body central force motion into equivalent one body motion, general features of central force motion, differential equation of orbit, Kepler's laws of planetary motion, Virial theorem.

Elastic constants for homogeneous isotropic solid their inter relation, torsion of a cylinder, bending of beams cantilever, beam supported at both ends and loaded at the middle. Kinematics of moving ideal fluid, equation of continuity, Euler's equation for ideal fluid, Bernoulli's theorem, Viscous fluids, Laminar flow through narrow tube, Poiseuille's formula, Stoke's viscometer, surface tension and surface energy, pressure difference across a curved liquid surface, gravity waves and ripples.

- **Thermal and Statistical Physics:**

Thermodynamic system, thermodynamic equilibrium, Zeroth law of thermodynamics, thermodynamic process, work done in isothermal and isobaric process, internal energy, first law of thermodynamics, application to various processes, C_p - C_v , equation of state for adiabatic process, work done in adiabatic process, polytropic process, heat engine, Carnot cycle, Carnot engine, Carnot theorem, second law of thermodynamics, entropy as a thermodynamic variable, entropy, Helmholtz free energy and Gibbs function, Maxwell's Thermodynamic equation, Joule-Thomson effect, first order phase transition Clausius-Clapeyron equation.

- **PRACTICAL:**

1. Acceleration due to gravity by bar pendulum and study of the effect of amplitude on time period.
2. Young's modulus of a wire by Searle's method.
3. Viscosity of water using capillary tube flow method.
4. Specific heat of liquid by method of cooling.
5. Wave length of unknown light by drawing calibration curve of prism spectrometer.

Simple harmonic motion, damped harmonic motion, power loss, Q-factor, under damped, over damped and critically damped motion, forced vibration resonance, sharpness of resonance, Composition of SHM, Lissajous figure for superposition of two orthogonal simple harmonic vibrations (a) with same frequency and (b) frequency in the ratio 2:1. Theory of plucked, struck and bowed strings, Production and properties of ultrasonic waves.

- **Electricity, magnetism and electromagnetic theory:** Coulomb's law, electric field, field at point due to (a) electric dipole, (b) Discrete distribution of charge and (c) continuous distribution of charge, Flux of electric field, Gauss law of electrostatics, field due to linear, spherical and plane charge distribution, curl of electrostatic field.

Electrostatic potentials, relation between field and potentials, potential due to localized charge distribution, electrostatic boundary conditions, work done in moving a charge, energy of (a) discrete and (b) continuous charge distribution, basic properties of conductors, surface charge on a conductor, differential form of Gauss law, Laplace's equation, Poisson's equation, solution of Laplace's equation in spherical polar coordinates, conducting sphere in a uniform electric field, dielectric polarization, field inside a dielectric, Gauss law in a dielectric medium, linear dielectrics, Susceptibility, permittivity, dielectric constant, boundary conditions on the displacement vector D , dielectric sphere in an external uniform electric field, force on a point charge embedded in a dielectric, molecular field in dielectric, Clausius-Mossotti relation, energy in a dielectric medium, Electric current, current density, equation of continuity. Ohm's law, electromotive force, steady current in media without sources of e.m.f.

Magnetic induction, B. Lorentz force law, force on a straight current carrying conductor in a uniform magnetic field, torque on a current loop. The law of Biot and Savart, magnetic induction due to straight, circular and solenoidal currents, Ampere's circular law, its differential form, magnetic vector potential, magnetic field due to a distant circuit, magnetic scalar potential, torque on a current loop placed in external uniform magnetic field, moving coil and ballistic galvanometer, Magnetic properties of matter, magnetization, field of magnetised object, Ampere's law in magnetized medium, magnetic intensity, magnetic susceptibility and permeability, hysteresis, boundary condition on H and D , Langevin theory, diamagnetism and paramagnetism, Weiss theory of Ferromagnetism.

Motional e.m.f and flux rule, Faraday's law of electromagnetic induction in differential and integral form, induced electric field due to an infinite long wire carrying a slowly varying current, self inductance, mutual inductance, self inductance of a solenoid and of a straight conductor, energy stored in an inductor in an electromagnetic field, Transient currents-growth and decay of current in series RC, LC and LCR circuits, alternating currents-sinusoidal voltage applied to series RC, LR, LC and LCR circuits, power in AC, series and parallel resonant circuits, sharpness of resonance, Q-factor, displacement current and its physical significance, Maxwell's

electromagnetic equations in free space and in medium, boundary conditions, scalar potential and vector potential, Gauge transformation, Coulomb gauge and Lorentz gauge, Electromagnetic waves, Poynting theorem, energy and momentum of electromagnetic wave, electromagnetic waves in non conducting media, propagation of Waves in vacuum and in linear media, Reflection and transmission at a conducting surface (Normal incidence)

• **PRACTICAL-B**

1. Rigidity modulus of a wire by static method.
2. Rigidity modulus of a wire by dynamic method.
3. Surface tension of soap solution.
4. Coefficient of viscosity by Stoke's method.
5. Wave length of light by Newton's rings.
6. Comparison of two nearly equal resistances by Carey-Foster (pointer galvanometer)
7. Comparison of e.m.f. using standard wire potentiometer (pointer galvanometer)

• **Geometric Optics, Physical Optics, Laser:** Fermat's principle, reflection and refraction at plane interface, Matrix formulation of geometrical optics; cardinal points of coaxial system, cardinal points of combination of two thin lenses and a thick lens. Monochromatic aberration – spherical aberration and its minimisation, elementary ideas about coma, astigmatism, curvature, distortion and their remedies, chromatic aberration, achromatic combination, removal of chromatic aberration in a separated double Ramsden's and Huygen's eye-piece, dispersion, theory of formation of primary and secondary rainbow.

Wave theory of light, Huygen's principle, reflection and refraction at plane faces. Condition of interface, coherent sources, division of wave front, biprism, interference by plane parallel thin film illuminated by a point source, interference by wedge shaped thin film, colour of thin films, Newton's rings. Michelson's interferometer, determination of wavelength of monochromatic light and wavelength difference by it, Fabry-Perot interferometer, its resolving power, determination of wavelength by it.

Diffraction of light, Fresnel and Fraunhofer diffraction, Fresnel's half period zones plate, its analogy with converging lens, diffraction at straight edge, Fraunhofer diffraction by a single slit, double slit, plane transmission grating, Rayleigh scattering, Raman effect.



Electromagnetic nature of light, polarized and unpolarised light, plane polarized, circularly polarized and elliptically polarized light, polarization by reflection, refraction and scattering, Brewster's law; Malus law, double refraction, ordinary and extra-ordinary rays. Nicol prism-construction and working, its uses as polarizer and analyzer, Babinet compensator, halfwaves plate and quarter wave plate, Laurent polarimeter.

- **Solid State Physics, Electronics:** Extrinsic and intrinsic semiconductors, p-type semiconductors. Pn-junction as rectifier. Half wave and full wave rectifier (centre type and bridge type), efficiency, ripple factor, use of RC, L and π filters, Zener diode as voltage regulator, working of pnp and npn transistors, Static characteristics of transistors in CE and CB configurations, relation between α and β , load line, operating point, transistor as a four port device, independence parameter, admittance parameter any hybrid(h) parameter, equivalent circuit for transistor.

Classification of amplifier, CE, CB, CC configuration, amplifier performance input, output resistance current voltage and power gain, RC coupled amplifier, gain frequency response, band width class A and class B push pull amplifier, distortion in amplifiers, field effect transistor, JFET-its operation and volt-ampere curve.

Positive and negative feedback, criterion for sustained oscillation, Hartley and Colpitts oscillator, phase shift oscillator, (principle, circuit operation, theory and use), Modulation and demodulation AM and FM modulation index and its significance, Principles of demodulation-linear diode detector, Integrated circuits-disadvantages, fabrication of monolithic ICs, Digital electronics, binary and decimal number systems, logic gates AND, OR, NOT, NAND, NOR gates, truth table, DTL and TTL circuits for gates.

- **PRACTICAL -D**

1. Resolving power of prism spectroscope
2. Verification of Brewster's law.
3. Study of charging and discharging of capacitor through a resistor.
4. Determination of ballistic constant
5. Study of frequency response of LCR circuit.
6. Study of ripple factor and efficiency of rectifier(half wave and full wave)
7. Static characteristics of diode valve pn-junction.
8. Static characteristics of triode valve/transistor.



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SYLLABUS IN EDUCATION

- **PHILOSOPHICAL AND SOCIOLOGICAL FOUNDATIONS OF EDUCATION:**

- a) **Concept and Scope of Education:** Education as a science, social process and human resource development.
- b) **Aims of Education:**
Individual and social aims of education: Aims and objectives of education at different levels starting from primary to higher education.
- **Schools of Philosophy:** Idealism, Naturalism, Pragmatism, existenlism, their contribution to present day education.

Thoughts of great educators like; Rousseau, Dewey, Tagore, Gandhi, Sri Aurobindo.

- **EDUCATIONAL PSYCHOLOGY AND PEDAGOGY**

Educational Psychology: Its meaning, nature and scope.

Methods of Educational Psychology: Applications of Educational Psychology in Teaching, learning and in understanding individual's behavior.

- a) **Adolescence :** Psychological characteristics and problems of adolescence, Role of education in solving their problems.
- b) **Personality:** Definition, meaning and nature , development of personality , type and trait theories of personality.

Its meaning and nature, factors affecting learning, learning and maturati learning and motivation. Theories and Learning –Trial and error, conditioning , theory of learning , Transfer of learning.

Individual Differences-Its meaning, causes and its classroom implications.

Intelligence- Its definitions and nature of Intelligence, Determinants of intelligence, Measurement of intelligence.

Creativity-Its meaning and nature

- **DEVELOPMENT OF EDUCATION IN INDIA**

Education in Ancient and Medieval India:- Education in Ancient India:- Vedic and Brahmanic Period

- (a) Vedic education- Aims of education, Process of education, curriculum and organization.
- (b) Buddhist education- Aims of education, curriculum, Relevance of concepts like Madhyama, Pratipada, Pratitya assumed four eternal truths, Macaulay's , Minutes Wood's , Education Despatch , Report of Hunter Commission, Movement for compulsory education, Gokhele's Bill, University Education Commission 1902, kothari Commission Report-19964-66,National Policy on education 1986 and its revised formulations of 1992- Comparative study with education during ancient period.

- **ISSUES AND TRENDS IN CONTEMPORARY INDIAN EDUCATION**

Role of NCERT, SCERT, NIEPA, CBSE, Role of UGC, AIU, AICTE, ICSSR, CSIR, ICA, types of universities and equivalent

a) Mission (NLM), TLC, PLC, JSN, Sarva Shiksha Abhiyan.

Population education, Family life and sex education, value oriented education, work-experience and SUPW, environmental education, education of women, education of women, education of minority community with reference to their aims and objectives, methods and problems.

Concept of continuous and comprehensive evaluation, evaluation of cognitive and non-cognitive learning outcomes.

- **EDUCATIONAL EVALUATION**

Nature of educational measurement, Measurement and evaluation in education, Relationship between measurement and evaluation, Functions of measurement and evaluation in education, types of evaluation procedure-placement, formative, diagnostic and summative, Norm-reference, criterion-reference test.

- a) Objectives: Taxonomy of educational objectives, Methods of stating instructional objectives with reference to cognitive domains.
- b) Construction of objective based and objective-types of test items-Essay type, short answer type and objective types of test.

Validity, Reliability and objectivity.

- **EDUCATIONAL TECHNOLOGY**

Software and Hardware.

Programmed learning, Micro-teaching and Team teaching, Computer-Assisted Instruction, simulated teaching and Distance Teaching.

- **FUNDAMENTALS OF EDUCATIONAL RESEARCH AND STATISTICS**

Meaning, Nature and Scope of Fundamental Research, Need and Purpose of Educational Research.

- **PEDAGOGICAL SKILL TESTING**

Preparation of check-lists for identifying and indicating the degree.

Preparation of rating scales for classroom evaluation of learners in respect of certain qualities, Construction of Achievement Test on knowledge, Comprehension, Application objectives of cognitive Domain, Identification of major ideas, Minor ideas in different teaching units and also identification of different instructional objectives reflecting.

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SYLLABUS FOR ANTHROPOLOGY

- **Prehistoric Archaeology:-** Definition, scope and Methods of Study of Prehistoric Archaeology, Relation of Prehistoric Archaeology with other branches of Anthropology.
- **Palaeoanthropology:-** Definition, Aims, Scope, Problems and Prospects of Palaeoanthropological Research with special reference to India.
- **Basic Concepts:-** Tools Type Tool, Artifact, Industry, Assemblage, Culture, Tradition, Period, Site, Core, Flake, Blade, Chips, Striking Platform and Bulb of Percussion.
- Characteristics of Indian Society, Unity in Diversity, Village Communities and Urban Communities, Backward Classes, Weaker Societies, Ethnic Minorities, Religious, Minorities.
- **Indian Social System and Culture:-** Varna order and Caste System, Folk Peasant Urban Continuum, Rank and Status, Local Culture, Religious Cultures and National Culture, Ethno-Cultural Movements, Caste and Caste in Indian Politics.
- Sanskritisation, Westernisation, Modernisation, Urbanisation and Industrialisation and a process of Social Change.
- **Organic Evolution:-** Meaning and Theories, Lamarckism, Darwinism, Darwinism, Synthetic Theory of evolution, Mutation, Selection, Genetic Drift and gene flow and isolation, Major evidences between biological and cultural evolution in Man.
- Man's place in primate order, Comparative account of morphology, Anatomy and genetics of Man and Apes, Anatomical modification in Man due to the assumption of erect bipedal gait.
- Australopithecine, homohabilis, homoheidelbergensis, Homo-erectus and Phylogenetic position, Multiregionalism.
- **Human Variation:-** Concept and definition and Non-metric, Broad outlines.
- Development of Human Genetics, Different branches of human Genetics, Population Genetics, Formal Genetics, Medical Genetics, Serogenetics, Molecular Genetics, Human Cytonetics, Pharmaco-genetics.
- Cell division, Mitosis and Meiosis, Human Chromosomes, Structure and function of DNA and RNA, Mendel's Law and its application to human populations.
- **Multiple Atteles:-** ABO, Rh, MN Blood group, Polygenic inheritance-Skin Colour, Human Genetics-Prenatal diagnosis and genetic counseling, legal applications of human genetics, Genetheraphy DNA Finger Printing.
- **Samatometry:-** Stature, Sitting, Height, Height acromion, Height Dactylion, Maximum Head Length, Maximum Head Breadth, Nasal Length, Nasal Breadth, Minimum Frontal Breadth, Bizygomatic Breadth, Bigonial Breadth, Upper Facial Height.

- **Somatoscopy:-** Skin Colour, Eye Colour, Eye Fold, Face Form, Chin, Thickness of lips, Nasal Septum, Nasal Root, Nasal Bridge, Nasal Tip, Ear Lob, Ear Size.
- **Craniometry and Mandibulometry:-** The candidates are required to take the following measurements on 10 craniums, Skull Maximum, Cranial length, Maximum Cranial Breadth, Bizygomatic Breadth, Bigonial Length of Mandible, Breadth, Breadth of the Ramus.
- **Marriage and Family:-** Definition and Characteristics of Marriage, Marriage rules, Marriage payments, Types and patterns of residence after marriage. Family and household, Universality of family, Features, Types and function of family, Transformations in family.
- **Religion:-** Definition
- **Culture:-** Uniqueness of culture, Culture as an integral whole, Complex, Culture area, Culture Center.
- **Culture Process:-** Enculturation and Socialization.
- **Poverty and Development:-** General poverty in India, Deprivation and indigenous resources for sustainable development.
- **Tribal and Rural Development:-** Definition of Scheduled Tribe, Their types, Distribution and linguistic classification, Constitutional Safeguards for scheduled Tribes and Scheduled Castes, Role of Anthropology in development during Pre and Post-independence period, Tribal and rural development programme in Successive plan periods.
- The Marks shall be distributed as:-
 1. Forensic Application
 2. Dermatoglyphics
- **Secology and Genetic Traits:-** Test the blood group (ABO and Rh System) and ascertain PTC test.
 1. Determination and sex of the skull
 2. Determination of Age of the skull.
- - i. Main Line for Male
 - ii. Main Line for Index .
 - iii. Palmar patterns



SYLLABUS IN GEOGRAPHY

- **GEOMORPHOLOGY:-**

Wegener's Continental Drift Theory.

Concept of Isostasy of Airy and Pratt.

a) Mass-wasting, Weathering, Erosion

b) Soil forming processes

i) Running water, ii) Underground water, iii) Glacier, iv) Wind, v) Sea-wave

- **CLIMATOLOGY AND OCEANOGRAPHY:-**

A. **Climatology:-**

Weather and climate; elements and factors of weather and climate, their composition and structure and the atmosphere, atmospheric pressure and winds; Vertical and horizontal distribution of pressure, planetary, periodic and local winds.

B. **Oceanography:**

Surface configuration of the ocean 'floor, continental shelf, continental slope, abyssal plain, mid-oceanic ridges and oceanic trenches, Relief of Atlantic , Pacific and Indian Oceans floor, waves, tides and currents

- **PRACTICAL:-**

Latitudes and longitude:-

Histogram, Frequency Polygon and Frequency Curve.

a) (Grouped and Ungrouped) Mean, Median, Mode:

b) Mean Deviation and Standard Deviation

c) Correlation : Product Moment Correlation and Spearman's Rank Correlation

- **ENVIRONMENT AND ECOSYSTEM**

Concept of Environment:-

Types of Environment – Physical and Cultural, Biotic and Abiotic

a) Environmental hazards

Concept of Ecosystem

a) Natural Cycle

b) Gaseous Cycle-Nitrogen Cycle, Carbon Cycle

a) Types of wastes and pollutants.

- **ECONOMIC AND SOCIAL GEOGRAPHY:-**

a) Resources- Concepts, Types, Distribution and Global Problems.

b) Agriculture-Types and problems of Agriculture, Von Thunen's theory of Agriculture location.

a) Industrial Location Theory of Weber

- **CARTOGRAMS:-**

Climograph, Hythergraph, Ergograph Isopleth, Choropleth

- **POLITICAL , POPULATION AND SETTLEMENT GEOGRAPHY:-**

a) Structure of Population-Age, Sex, Literacy, Occupational Structure, Rural Urban Composition.

b) Components of Population change-Fertility, Mortality , Migration, Growth of population

SYLLABUS IN STATISTICS

- **Algebra:** Determinants, evaluation and elementary properties, Matrices, types of matrices singular and non-singular matrices, operations, transpose, inverse and ranked matrix, Solution of linear equations, homogeneous and non-homogeneous characteristic equation and latent roots, quadratic forms, positive definite forms and canonical forms.
- **Calculus and Differential Equations:** Limit, continuity, differentiation, (Excluding inverse circular function) successive differentiations, partial differentiations, maxima and minima of function of one and two variables, Integration of simple algebraic, trigonometric and exponential functions, integration by substitution parts, Evaluation of definite integrals, Differential Equations- Definition, equations of first order and first degree.
- **Probability and Statistical Methods:** Idea about types of data collection, scrutiny and presentation of data, Analysis of quantitative data, univariable data, concepts and measures of central tendency, dispersion and relative dispersion, Skewness and Kurtosis and their measures including those based on quartiles and moments for grouped data (without derivation).
- **PRACTICAL:**
 - i) Different measures of central tendency and dispersion, their computation and interpretation.
 - ii) First four moments from ungrouped and grouped data, their computation and interpretation.
 - iii) Measures of Skewness and Kurtosis.
 - iv) Fitting of first, second and third degree polynomial and exponential curves.
 - v) Computation of linear correlation for ungrouped data, bivariate frequency table regression line, Rank correlation (with and without ties).

Concepts of population, Sample, Parameter, Statistics, Sampling distribution of statistics, Standard error of sample moments. Sampling distribution of sample mean and variance from normal distribution large sample theory and tests.

Problems of estimation, Estimator and its properties, Unbiasedness, Consistency, Efficiency and sufficiency, Methods of estimation-Maximum likelihood method and moment method. Rao-Cramer inequality and its applications.

Meaning and concept of tests of hypothesis a simple and composite hypothesis, Type-I and Type-II errors, Size and power of the tests Test of simple hypothesis, Most powerful tests, Neyman-Pearson Lemma and its applications, Uniformity most powerful test, Unbiased tests (Type A and Type B).

- **Sampling Techniques:** Population and sample, sample versus complete enumeration, steps involved in sample surveys, Principles of Sample Survey, Random sampling versus non-random sampling, sampling and non sampling errors, simple random sampling with and without replacement, Methods of drawing simple random sample,

stratified random sampling. Allocation problems, Estimation of population mean, total with standard errors for the above sampling design, linear models, A theorem of importance in Model-I analysis, test of general linear Hypothesis analysis of variance of one-way model and two-way model, Principles of experimental design randomization, replication and local control, description and analysis of completely randomized design, randomised block design, Latin square design, Comparison of efficiencies, Missing plot analysis in RBD and LSD.

- **Time Series:** Components of time series, Methods of measurements of trend. Graphic method, Semi average method, Least square method and moving average method. Spencer's 15-point and 21-point formula simple and weighted measurement of seasonal fluctuation.
- **Index Number:** Definition, construction of index numbers (price and quality) criteria of a good index number classification of index number, cost of living index number : Construction and uses. Base shifting, splicing and drafting of index number.
- **Computer and Basic Programming:** Understanding the computer, Problem solving, Flow charts, Basic of BASIC constant and variables, Expression in BASIC Jumping, Branching, Looping, Subscripted variables simple programme, writing of statistical problems (Mean standard deviation mean deviation, correlation coefficient, Regression coefficient etc.)
- **Linear Programming:** Linear Programming problems, purpose advantages, significance and limitations, solution of LPP, Slack and surplus variables solution of LPP by simplex method use of artificial variables.
- **PRACTICAL**
 1. Measurement of trend by least square and moving average method.
 2. Measurement of seasonal variation by simple average, ratio to trend, ratio to moving average and link relative methods.
 3. Calculation of mortality, fertility and reproduction rates.
 4. Construction life table and Abridged life table.
 5. Formulation of LPP.
 6. Solution of LPP by graphical method and simplex method.
 7. Construction of index numbers and test for index numbers.



SYLLABUS IN ZOOLOGY

- **Protozoa:-** Paramoecium, Porifera- Sycon, Coelenterata- Aurelia
- **Plythelminthes:-** Fasciola, Nematelminthes- Ascaris, Annelida- Leech
- **Athropoda:-** Prawn, Mollusca- Pila, Echinodermata- Starfish, Coral, Prokaryote and Eukaryote cell types, Ultrastructure of a generalzed animal cell, Mitosis and Meiosis, Mendel's laws of inheritance.
- **Dissections:-** Leech : Alimentary Canal, Excretory and Reproductive System
- **Prawn :** Appendages, digestive system, Nervous system.
- **Pila :** Digestive System, Nervous System.
- **Spotting :-** Porifera : Sycon, Coelenterata, Physalia
- **Annelida :** Neres, Aphorodite,
- **Arthropoda :** Sacculina on carb, Eupagurus
- **Mollusca:** Chiton, Loligo, Octopus, Echinodermata, Starfish, Cytological preparations showing different stages and sub-stages of mitosis and meiosis.
- **Microscopic Preparations :-**
Preparation of temporary acetocarmine squash slides of grasshopper/sandhopper testis
- **Preparation of permanent slides of materials related to the syllabus:-**
Paramoecium, Euglena, Gemmule and Spicules of sponges, Mouth parts of insects, Radula of Pila, Balanoglossus, Amphioxus, Poisonous Snakes of India, Blood and its composition, Mechanism of blood Coagulation, Blood Groups.
- **General ideas on the organization of mammalian endocrine system:-**
Scolidodon- Afferent and efferent frunctional arteries, Frog- Arterial and venous system
Mammal- Blood film preparation, Estimation of total count of RBC, WBC and Action of sati very amylase on starch and effect of PH and temperature, Concept of Ecosystem- Component parts- Pond, grass, and, forest as ecosystem, ecosystem-Food chian-food Web-Trophic level's.
- **Ecological Factors:-**
Lights Temperature, Water, Classification, Structure and properties of carbohydrates, Structure and properties of lipids, Enzyems, Introduction, classification factors affecting enzyme activity, Structure of DNA, RNA structure, types of RNA (mRNA, tRNA, ribosomal RNA (mosty of Prodaryotes), Determination of O₂ content in given samples of water, determination of pH in different samples of water by pH paper. Study and comments on aquarium as a model of fresh water ecosystem, Quantitative tests of reducing sugar, carbohydrates, Spermatogenesis, Ogenesis, Ultrastructure of sperm and ovum, Fertilization, Cleavage, pattern in frog, Typer of antigen and antibody, Antigen-antibody reaction, Economically important aquatic animals of Orissa- Fisher, Prawns, Elementary ideas on Sericulture- Apiculture- Life history of honey bee and composition of honey, Study of developmental stages of Frog, Economically important fisher, silk moth life history, honey bee.



SYLLABUS IN PSYCHOLOGY

- Meaning and Development of Psychology, Definition of Psychology, Psychology as a science, the subject matter of Psychology, Development of Psychology as a modern discipline.
- Methods of studying Psychology: Observation method, Experimental method and clinical method.
- Structure and functions of the Brain, Structure and functions of Neurons.
- Perception: Organizing principles of Perception, constancies and illusion.
- Learning: Classical conditioning- Its nature and basic principles, Operant conditioning - Its native and basic principles, Observational learning and its basic principles.
- Memory : The information processing approach Sensory Register, Short Term Memory (STM), Long Term Memory.
Forgetting : Nature and Theories, Problem Solving, Steps in Problem Solving.
- Motivation : Nature and types of motivation.
Emotion : Nature, Physiology and Expressions of emotion.
- Intelligence : Nature and measurement of intelligence, creativity and intelligence.
Personality : Freud's theory of Personality, Types and Trait Theories.
- Meaning and concept of Life Span Human Development, Piaget's Theory of Cognitive development.
- Changing conceptions of Psychological disorders (DSM-IV).
Psychological disorders: Anxiety disorders, Schizophrenia, Mood disorders, somatoform disorder.
- Attitude, Prejudice and Discrimination Meaning and Nature.
- (i) Basics of Statistics :
Descriptive and Inferential Statistics, Population and sample, Statistic and parameter, Scales of Measurement- Normal, Ordinal, Interval and Ratio.
Parametric and Nonparametric Statistics, Uses and abuses of Statistics, Uses and abuses of Statistics:
(ii) Frequency distribution, Graphic Presentation of data, measures of Central tendency, Measures of variability, Standard scores.
- Objective Type and Essay type testing Advantages and Limitations
Standardized tests Advantages and disadvantages of Standardized tests for use in Classroom Assessment.

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SYLLABUS IN GEOLOGY

- **General Geology:** Seismology and internal structure of the earth.
Volcanoes: Types and distribution.
- **Geomorphology:** Rock weathering and erosion, Mass wasting geological work of rivers. Glaciers, wind, underground water and oceans. Geomorphic Cycles-division cycle, Terrain evaluation.
- **Crystallography:** Crystalline and non-crystalline substances, Crystals-definition, characteristics, parameters, indices and zones, symmetry elements and classification of crystals in to seven systems. Study of axial relation, symmetry elements and forms, present in normal classes of all system.
- **Definition and classification of minerals:** Physical properties of minerals, Silicate structure and its classification Isomorphism, polymorphism and Pseudomorphism.
- **Minerals Optics (B):** Isotropism, anisotropism, Optic axis, Uniaxial and biaxial minerals. Extinction and Extn. Angle. Pleochroism pleochroism, Birefringence, interference colours and Twinkling.
- **Structural Geology (A):** Geometry, classification and causes of folding, faults, geometry and classification of faults, Recognition of folds and faults. Vs rules.
- **Structural Geology (B):** Definition, geological significance, types and recognition of unconformity.
 - **Mineral Resources of India:** Mineralogy and Use of Fe, Mn, Cr, Cu Ores, Bauxite.
 - **Igneous Petrology (A):** Forms of igneous rocks, texture, structure, Petrographic notes on Basalt, Dolerite, Gabbro, Granite, Pegmatite, Syrite, Dunite, Diorite Peridotite, Carbonatite Anorthosite, Kimberlite.
 - **Metamorphic Petrology (A):** Texture and structure of metamorphic rocks, Petrographic notes on important rock types Schists, gneiss, marble, quartzite, slate and phyllite.
- **Sedimentary Petrology (A):** Texture, Structure of sedimentary rocks
- **Sedimentary Petrology (B):** Petrographic notes on _____ shale, limestone, breccia, V's rule, attitude of beds. Fold-geometry, recognition in field, Fault, recognition in the field Engineering properties of rocks and soils.
- **Paleontology (A):** Mode of preservation of fossils, geological significance of fossils.
- **Paleontology (B):** Morphology of the following groups-Trilobite, Brachiopoda, Paleocypada, Cephalopoda, Echinoidea, Gastropod, Corals, Graptolites.
- **Photogeology and Remote Sensing:** Principles of aerial photography and remote sensing, Application of Aerial photography and remote sensing in mineral exploration, groundwater exploration, and geomorphology, Mineralogy, Fe-ores, Mn, Cr, Pb, Zn, Cu, gold and bauxite, Mineralogy, Mica, Asbestos, diamond, Kyanite, Graphite, Magnetite.