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1. INTRODUCTION

The Mizoram State does not have sufficient facilities for Higher Technical Studies within the State. The seats allotted to the State of Mizoram for various courses of Higher Technical Studies by the Central Government are insufficient to meet the demands of the aspiring students for Higher Technical Studies from the State. Therefore, the Government deems it expedient to have fair selection of promising candidates for those limited seats offered to Mizoram State on merit by means of Written Examination.

The Govt. of Mizoram has framed consolidated guidelines for conducting Selection Examination for selection of candidates for such higher technical studies in respect of degree/diploma courses in various disciplines in Agriculture Sciences, Animal Husbandry and Veterinary Sciences, Medical Sciences etc.

The written Examination shall be conducted by the Selection Board duly constituted by the Government of Mizoram. The Selection Board shall also be responsible for preparation, declaration of results, counselling and allotment of seats.

2. MODE OF EXAMINATION

(a) Selection of Candidates shall be done through a Written Examination in Physics, Chemistry, and Biology or Mathematics as optional subjects depending on the subject combination of the candidate's preference (PCB or PCM).

(b) The Standard of Questions to be answered by the candidates in Written Examination shall be equivalent to the courses of Higher Secondary Leaving Certificate Examination in Science subjects of the Mizoram Board of School Education (MBSE).

3. ELIGIBILITY OF CANDIDATES:

An applicant must:

(a) Be a citizen of India.

(b) Have completed the age of 17 years at the time of admission or will complete the age of 17 years on or before 31st December of the year of admission.

(c) Have passed the Higher Secondary School Leaving Certificate Examination in Science conducted by the Mizoram Board of School Education or equivalent Examination recognized by the Government of Mizoram with Physics, mathematics, Chemistry, Biology and English or have appeared in the Higher Secondary School Leaving Certificate Examination in the above subjects but the results of such Examination in pending. Provided that such applicant who have not got their result sheets at the time of submission of their applications should submit their final results with mark sheet within fifteen days from the date of publication of their results by the concerned examination Board.

(d) Have obtained not less than fifty percent (50%) of the maximum marks in aggregate in aforementioned subjects. Provided that the minimum percentage of marks for candidates belonging to Scheduled Caste, Scheduled Tribe, Other Backward Classes (OBC) and PwD (across all categories) shall be forty percent (40%) in aggregate in the subjects concerned. This requirement may be raised if any particular institution insists a higher percentage.

4. METHOD OF SELECTION AND CATEGORIES:

Method of Categorization and Selection to be applied is notified by competent authority in due course of time. *(See Section 15. B (3) (e))*

5. ONLINE APPLICATION FORM:

5.1 Important Dates, Fee Details and exam centres:

1) Online Submission of Application Form : 6th March 2026 to 8th April 2026 (Till 05:00 PM)
2) Last date of successful transaction of fee through online: 8th April 2026
3) Fee Payable by Candidate: ₹.950/- shall be paid by Credit/Debit Card/Net-Banking/UPI/Paytm. Processing charges & Goods and Services Tax (GST) are to be paid by the candidate, as applicable through online payment gateway provided in the website only. ***Fee once paid is non-refundable and non-transferable***.
4) Examination Centres:
   (i) Govt. T. Romana College, Republic Vengthlang (GTRC) (500 Candidates)
   (ii) Govt. Aizawl College, Mualpui (GAC) (800 Candidates)
   (iii) Govt. Hrangbana College (HBC) (800 Candidates)
   (iv) Institute of Advanced Study in Education (IASE), Republic Veng (500 Candidates)
   (v) Mizoram Polytechnic, Lunglei ((not less than 50, not more than 120 candidates.)

   Stand by:

   (1) Govt. J. Thankima College (GJTC) (300 Candidates)
   (2) Govt. Aizawl North College (GANC) (500 Candidates)

   (vi) All candidates have to reach the examination centre at their own expense and have to make their own arrangements to appear for examination.
5) Downloading of Admit Cards from website : 27th April, 2026 – 5th May 2026
6) Date of Examination : 5th May 2026 (Tuesday)
7) Duration of Examination : 180 Minutes (03 hours)
8) Timing of Examination : ***The exam schedule and duration will be provided on the Admit Card.***
9) Website(s): www.dhte.mizoram.gov.in
10) Declaration of Result (Tentative): 28th May, 2026 (Thursday).

5.2 Application for Examination:

1) Candidates can apply for SMATEE-2026 through the "Online" mode only.
2) Filling up and submission of the Online Application Form may be done by accessing the SMATEE website www.dhte.mizoram.gov.in. ***Application Form in any other mode will not be accepted.***
3) **Only one** application is to be submitted by a candidate.
4) Candidates must follow the instructions given in the Information Brochure and on the department website strictly. Candidates not complying with the instructions shall be summarily disqualified.
5) Candidates must ensure that the e-mail id and Phone/Mobile Number provided in the Online Application Form are their own or Parents/Guardians only as all information/communication will be sent by Higher & Technical Education Department through email on the registered email id, or announcement through official website www.dhte.mizoram.gov.in only.
6) ***Downloading of Information Brochure and Application Form***: Candidates should read these carefully to ensure their eligibility. In case a candidate is found to fill in more than one application, the Admit Card will be cancelled or withheld and his/her candidature will be forfeited for this/future examination.

7) Every application form duly filled in shall be accompanied by attested copies of the following documents:
   (a) Recent passport–size photograph with white background.
   (b) Caste/Tribe Certificate.
   (c) Residential certificate.
   (d) Appointment letter of Parents (father or mother) for category III and IV.
8) Candidates are advised to regularly visit the website www.dhte.mizoram.gov.in and also check their email for the latest updates.
9) Candidates shall appear at their own cost at the Examination Centre on the Date and Timing indicated on their Admit Card issued by the Higher and Technical Education Department.
10) Any request to change the Examination Centre, Date and Time provided on the Admit Card shall not be considered under any circumstances.
11) Candidates are advised to take Passport size (coloured) photographs with white background. The photographs are to be used for uploading in the Online Application Form and also for Counselling/Admission. This is to ensure that the same photograph is used for all documents and for all purposes related to SMATEE-2026.

Notes:

i. The final submission of the Online Application Form will remain incomplete if the applicant does not fulfil all the required entries in the application form. Such forms will stand rejected and no correspondence on this account will be entertained.
ii. No request for refund of fee once remitted by the candidate will be entertained by Higher and Technical Education Department under any circumstances.
iii. The entire application process of SMATEE-2026 is online, including of scanned images and documents, payment of fees, and printing of confirmation page. Therefore, candidates are not required to send/submit any document(s) including confirmation page to Higher & Technical Education Department through Post/Fax/ By hand or Email.
iv. All candidates appearing in SMATEE- 2026 must regularly check updates on the website of Higher & Technical Education Department https://www.dhte.mizoram.gov.in/); and other concerned Authorities of participating States/Universities/Institutions, till the conclusion of the final round of Counselling.

6. MARKS DISTRIBUTION AND OTHER RELATED INFORMATION FOR THE EXAMINATION

As a result of the approval by the Selection Board Committee during their meeting on 19th November, 2025, in the office chamber of the Commissioner & Secretary of the H&TE Department, the number of questions in each constituent subject for SMATEE 2026 has been increased, as listed in Serial No. (1) below.

In addition, Mathematics has been introduced as an optional subject alongside Biology. This change provides an opportunity for candidates who studied Mathematics in Higher Secondary School (Classes XI and XII) instead of Biology, since the eligibility criteria for certain courses under SMATEE allow for a subject combination of Physics, Chemistry, and Mathematics.

(1) All eligible candidates shall have to appear for a Written Examination in the following papers of Class – XI and Class-XII Courses and standard of Mizoram Board of School Education: provided marks weightage is 40% from class XI and 60% from class XII courses.

	Subjects	No of Questions	Maximum marks
(a)	Physics	45	180 marks
(b)	Chemistry	45	180 marks
(c)	Biology *	90	360 marks
(d)	Mathematics *	90	360 marks
	TOTAL	**180**	**720 marks**

**** Biology and Mathematics will be optional subject depending on the candidate's preference and subject combinations (PCB or PCM) in his/her HSSLC result.***

(2) The marks secured by the candidates in the Written Examination only shall be taken into consideration for allotment of seats.

(3) All candidates shall bring their Admit Card and shall produce the same before the Centre Superintendent/Asst. Centre Superintendent of the Exam Centre or any other Officer/Invigilator as may be authorized on the day of the examination before the examination is commenced.

7. MODALITIES FOR CONDUCT OF THE SELECTION EXAMINATION

(1) Date of Examination

Date of Examination is to be notified by Director, Higher & Technical Education or any other body as may be appointed by Government from time to time. The Selection Examination will be conducted every year on such date as may be notified by the Director of Higher & Technical Education from time to time.

(2) Scheme of Examination

In the Selection Examination, the candidates must appear in the following papers:-

(a) Physics, Chemistry and Biology (Zoology and Botany) or Mathematics.

(b) Duration of Examination is 180 minutes.

(c) Physics and Chemistry shall carry 180 marks each, Biology and Mathematics carry 360 marks.

(d) 100% Technical Entrance Questions will be of objective type.

(3) Examination Centre

The Selection Examination will be held every year at the place/places as decided by the Selection Board Committee.

8. CONDUCT OF EXAMINATION

(a) The Examination Hall will be opened 90 minutes before the commencement of the Examination. Candidates are expected to take their seats immediately after opening of the examination hall. If the candidates do not report in time, they are likely to miss some of the general instructions to be announced in the Examination Hall.

(b) Candidate who does not possess a valid Admit Card shall not be admitted into the Examination Hall.

(c) Candidate who comes 30 minutes after the commencement of Examination shall not be permitted to sit in the Examination Hall without a special permission of the Controller of Examination. A candidate who comes one hour after the commencement of the Examination under no circumstances shall be admitted.

(d) Candidates are NOT allowed to carry any Instruments, Geometrical instrument box or Pencil Box, Handbag, Purse, any kind or Paper/ Stationery/ Textual material (printed or written material), Eatables, Mobile Phone/Earphone/Microphone/Pager, Calculator, Docu Pen, Slide Rules, Log Tables, Camera, Tape Recorder, Electronic Watches with facilities of calculators, any metallic item or electronic gadgets/devices inside the Examination Hall/Room.

(e) No candidate, without the special permission of the Centre Superintendent or the Invigilator concerned, will leave his/her seat or Examination Room until the full duration of the paper is over. Candidates should not leave the room/hall without handing over their OMR to the Invigilator on duty.

(f) Twenty minutes before the commencement of the paper, each candidate will be given an OMR. Candidates will fill in the required particulars on the OMR sheet with Ball Point Pen only. Candidates should take extreme care in filling the particulars as the **OMR sheets will not be replaced under any circumstance.**

(g) Five minutes before the commencement of the examination, Question papers will be distributed to the candidates.

(h) Candidates shall maintain complete silence and attend to their papers only. Any conversation or gesticulation or disturbance in the Examination Hall shall be taken into account as misbehaviour and if a candidate is found using unfair means or impersonating, his candidature shall be cancelled and he shall be liable to debarment of taking further examination either permanently or for a specified period according to the nature of offence.

(i) During the examination time, the invigilator will check Admit Card of all the candidates to satisfy himself/ herself about the identity of each candidate. The invigilator will also put his/her signatures in the place provided in the OMR Sheet.

(j) After completing the examination and before handing over the OMR Sheets, the candidate should check again that all the particulars required in the OMR Sheets have been correctly written.

(k) The candidates must sign on the Attendance Sheet at the appropriate place as proof of having attended the examination.

(l) For those who are unable to appear on the scheduled date of examination for any reason, special examination shall not be held under any circumstances.

9. RE-CHECKING OF OMR

Re-checking of OMR papers/sheets may be allowed by the Selection Board according to the merit of the case and decision of the Selection Board shall be final. Candidates shall have to pay ₹ 500/- (Rupees Five Hundred) only as fee for re-evaluation. However, **re-checking will not be permitted if OMR is used for checking of answer papers/sheets.**

10. SYSTEM OF MARKING

(a) Each objective question shall carry four marks. Questions without any response shall be awarded ZERO mark. More than one answer indicated against a question will be deemed as an incorrect response.

(b) A negative mark shall be awarded against wrong answer. For each incorrect response, one fourth ($1/4^{th}$) of the total marks allotted to the question will be deducted. **The candidates are advised not to attempt an item in the answer sheet if they are not sure of the correct response.**

(c) Calculation of percentage of marks:

(i) Percentage of Marks in PCB = $\frac{\text{Total of Marks obtained in Physics, Chemistry, Biology}}{\text{Total of Full Marks in Physics + Chemistry + Biology}}$

(ii) Percentage of Marks in PCM = $\frac{\text{Total of Marks obtained in Physics, Chemistry, Mathematics}}{\text{Total of Full Marks in Physics, Chemistry, Mathematics}}$

11. ISSUE OF PHOTOCOPY OF OMR SHEET:

In order to ensure transparency and accountability in the SMATEE, provision for obtaining a photocopy of evaluated OMR sheet has been made as follows:

(a) A photocopy of the answer sheet shall be given on request accompanied by a fee of ₹ 100/- (Rupees one hundred) only.

(b) Photocopy of OMR sheet can be applied for and claimed only by the candidate himself/herself upon production of his/her original admit card issued by the Examining Board for the examination under consideration. The Board **will not entertain** any application/claims made on behalf of the candidate(s).

(c) A period of 10 (ten) days after the declaration of results shall be given to the candidates to apply for a photocopy of OMR sheet. Upon the expiry of this period, no application shall be entertained.

(d) A candidate who desires to get a photocopy of the OMR sheet shall have to sign an undertaking with a pledge to maintain utmost confidentiality. Any violation of the undertaking will render the result of the candidate null and void and the Examination of the candidate shall be liable to be cancelled.

(e) While giving the photocopy of the OMR sheet, names of the Examiner and Scrutinizer which appear on the sheet shall be concealed.

12. MERIT LIST:

(a) The Examination Board shall prepare a list of the candidates in order of merit on the basis of the marks obtained in the Written Examination.

(b) In case of two or more candidates obtaining equal marks in the merit, the inter-se-merit of such candidates shall be determined in order of preferences as under:

  (i) Candidates obtaining higher marks in Biology (Botany and Zoology) for who opted PCB, and Mathematics for who opted PCM in the Selection Examination.

  (ii) Candidates obtaining higher marks in Chemistry in the Selection Examination.

  (iii) Candidates obtaining higher marks in Physics in the Selection Examination.

(c) Candidate older in age shall be preferred in case of marks obtained being equal.

(d) If the resolution is not possible after this criterion, candidates will be given the same rank.

(e) No weightage will be given for higher qualifications.

13. ALLOTMENT OF SEAT

All the selected candidates will be ***required to appear in person*** before Officers of Higher & Technical Education (Tech Wing) for verification of all the documents listed below **in original** on the date, time and venue to be intimated to them:

(1) Certificate, Mark sheet and Admit Card in the High School Leaving Certificate or equivalent examination.

(2) Certificate, Mark sheet and Admit Card in the Higher Secondary School Leaving Certificate or equivalent examination.

(3) Certificate showing the candidate's Caste, Tribe or Class in case he is a member of Scheduled Caste, Scheduled Tribe or other Backward Class issued by the Deputy Commissioner of the Administrative District or any other competent authority in the Administrative District in which the applicant resides.

(4) Residential Certificate and Voter ID Card showing that the parent(s) of the applicant is residing permanently in Mizoram State.

(5) Birth Certificate.

(6) Security deposit of ₹ 5000/- for those who are allotted seats from counselling and can withdraw after submission of joining report to the office within stipulated time.

(7) Those candidates, who failed to produce the original documents at the time of personal appearance, shall be liable to have their allotted seats cancelled. If any candidate is found to have furnished false information or certificate(s) or to have withheld or concealed any material/ information to gain personal advantage, he shall be disqualified. If selection or even admission has already been done or effected, it shall be cancelled at any stage of his/her study and such other action as deemed necessary may be taken against him/her, under any law for the time being in force in the state of Mizoram.

Note: The decision of the Selection Board on the authenticity of the documents shall be final and no representation on that score shall be entertained.

14. JOINING REPORT

All the allotted students should submit their joining report to the Jt. Director, Higher & Technical Education (Tech Wing) through the Principal of the respective Colleges/Institutions within one month from the date of joining. Their applications should be supported by attested copies of admission receipts, etc.

15. INSTRUCTION GUIDE FOR FILLING-UP OF APPLICATION FORM

On your Browser, visit **www.dhte.mizoram.gov.in** and you will be redirected to the official homepage for SMATEE 2026 Application. i.e. **https://exam.dhtemizoram.in**. Then, please follow the instructions provided below:

A. User registration:

(1) On the Log in page that appears, click on the **'Create New Account'** to begin applicant registration. Fill in all required details on the registration page and click the submit button.

(2) Applicants can register only once.

(3) After completing the registration, your dashboard will appear. Here, you must verify your email and phone number before proceeding.

(4) You will receive an email containing a link to verify your email address. For phone number verification, you will receive an OTP (One-Time Password) that you will need to enter for verification.

* ***Note:* It is essential to verify both your email address and phone number to fill out the application form. Therefore, applicants are strongly advised to use a valid, working email address and phone number, as these details cannot be changed once verified.**

B. Filling up the Application Form:

Please note that the details marked with an asterisk (*) are mandatory and must be filled out for completing submission of the application.

(1) After verifying your email ID and phone number, navigate to the **'SMATEE Application Form'** in the top menu of the webpage. The details that need to be filled out will appear.

(2) Below the '**EXAM CENTRE**' label on the form, you can select either PCB (Physics, Chemistry, Biology) or PCM (Physics, Chemistry, Mathematics) as your subject combination using the drop-down menu. Please note that you can only choose one of either PCB or PCM. Depending on your choice of subjects, you will then select your exam center from the drop-down menu that appears.

(3) The next section requires you to provide details about the applicant:

(a) Enter your name exactly as it appears on your educational certificate.

(b) Enter your date of birth in the format specified in the form.

(c) Your email id and phone number should match those used during registration.

(d) You may use the phone number of your parents, siblings, guardians, or relatives as an **Alternate phone number**, whichever is useful and available to you.

(e) Category refers to the classification of SMATEE applicants as shown below:

i. ST Permanent Residents Category: This category includes children of local permanent Scheduled Tribe (ST) residents of the state of Mizoram.

ii. Category III: This category includes children of other Non-Scheduled Tribe (Non-ST) permanent residents of the state of Mizoram and children of parents who are employed by the Government of Mizoram or autonomous bodies, etc.

iii. Category IV: This category includes children of Central or other State Government employees who are serving in the State Government of Mizoram but are not permanently residing in Mizoram.

[This interim rule has been implemented in accordance with the Supreme Court's directive concerning the Mizoram Gazette Extra Ordinary, No.C.11011/1/2020-HTE, dated 31st May, 2021. the Mizoram (Selection of Candidates for Higher Technical Courses) (Amendment) Rules, 2022.]

(4) The next section requires you to provide details about the parent's particulars. Please ensure that all the information you enter is correct.

(5) The next section pertains to the applicant's educational qualifications. Please ensure that all the details you enter are accurate. Please note that if you are awaiting results for HSSLC, check inside the checkbox next to the text **'Particulars in HSSLC or equivalent examination'**.

(6) The final section addresses the **'Required Documents'** that need to be uploaded. The maximum size for each document and photograph is 2MB. The following items are required:

(a) A recent passport-sized photograph of the applicant in PNG or JPG format.

(b) **Proof of Category:**

(i) For the ST Permanent Residents Category: A Scheduled Tribe Certificate and a Residential Certificate or Permanent Residential Certificate issued by the Deputy Commissioner of the District are required.

(ii) For Category III: Non-ST permanent residents of the State of Mizoram must provide a Permanent Residential Certificate issued by the Deputy Commissioner of the relevant district, along with a Class XI and XII (Science) passed Certificate from any school(s) within Mizoram. Additionally, children of parents employed by the Government of Mizoram or autonomous bodies must include the appointment letter of their parent (either father or mother) indicating their status as a Government Servant under the State Government of Mizoram or autonomous bodies.

(iii) For Category IV: An appointment letter from the parents (either father or mother) as an employee of the Mizoram State Government or autonomous bodies is required, along with a Residential Certificate or Domicile Certificate issued by the Deputy Commissioner of the relevant district, and a Class XI and XII (Science) passed Certificate from any school(s) within Mizoram.

(7) After filling out the form, verify that all entries are correct. Then, click the Submit Button. If your submission is successful, you will be redirected to the payment section.

(8) Fee Payable by Candidate: ₹950/- shall be paid by ***Credit/Debit Card / Net-Banking/UPI/Paytm***. Processing charges & Goods and Services Tax (GST) are to be paid by the candidate, as applicable through online payment gateway provided in the website only.

(9) You will receive an acknowledgment message at your registered email once your application is approved.

16. DISCLAIMER

(1) Candidates are advised to read the Information Brochure carefully and go through the instructions regarding filling out the Online Application Form available on the Higher and Technical Education Department website https://www.dhte.mizoram.gov.in, before starting online registration.

(2) The candidate should ensure that all information entered during the online registration process is correct.

(3) Online information provided by candidates such as - name of the candidate, contact/ address details, category, nationality, education qualification details, date of birth, etc. will be treated as correct and final. Any request for changes in information after the closure of the correction period will not be considered by Higher and Technical Education Department. Any candidate found to mislead by providing inaccurate information will be debarred from taking the examination.

(4) Higher and Technical Education Department does not have any liability that may arise due to incorrect information provided by the candidate(s) during the registration process.

(5) Higher and Technical Education Department does not modify/alter any information entered by the candidates after completion of the application process under any circumstances. Higher and Technical Education Department does not guarantee that any request for change in information thereafter will be entertained. Therefore, candidates are advised to exercise utmost caution and care for filling up correct details in the Application Form.

(6) Please keep visiting the Website (https://www.dhte.mizoram.gov.in/) for the latest updates/ public notices/ notifications/ announcements to be issued from time to time regarding SMATEE-2026 (other than the information available in this Information Brochure).

(7) Usage of Data and Information: Higher and Technical Education Department can use the data provided by the End-User (Candidates/ Test-Takers in this Case) for making the Confirmation Page of the Application/Admit Card/ OMR Answer Sheet/ Counselling and Choice Filling etc. available to them as well as for internal purpose (s) including training, research and development, analysis and another permissible purpose(s).

(8) **Incomplete application shall be liable to be rejected without assigning any reason.**

(9) No candidate should mutilate the Admit Card issued to him/her or change any entry made therein after it has been received by him or her. Candidates are advice to make photo copies of the admit card in case of loss or damage to the original admit card.

(10) The Information Brochure can be downloaded from the office website.

(11) Every candidate shall have to pay ₹ 900/- (Rupees Nine Hundred) only as fees for Examination, application form, etc. and ₹ 50/- (Rupees fifty) TOTAL= ₹ 950/- (Rupees Nine Hundred Fifty) only as counselling fees in the manner as may be prescribed, at the time of submitting the Application form. **Fee once paid will not be refunded.**

ANNEXURES

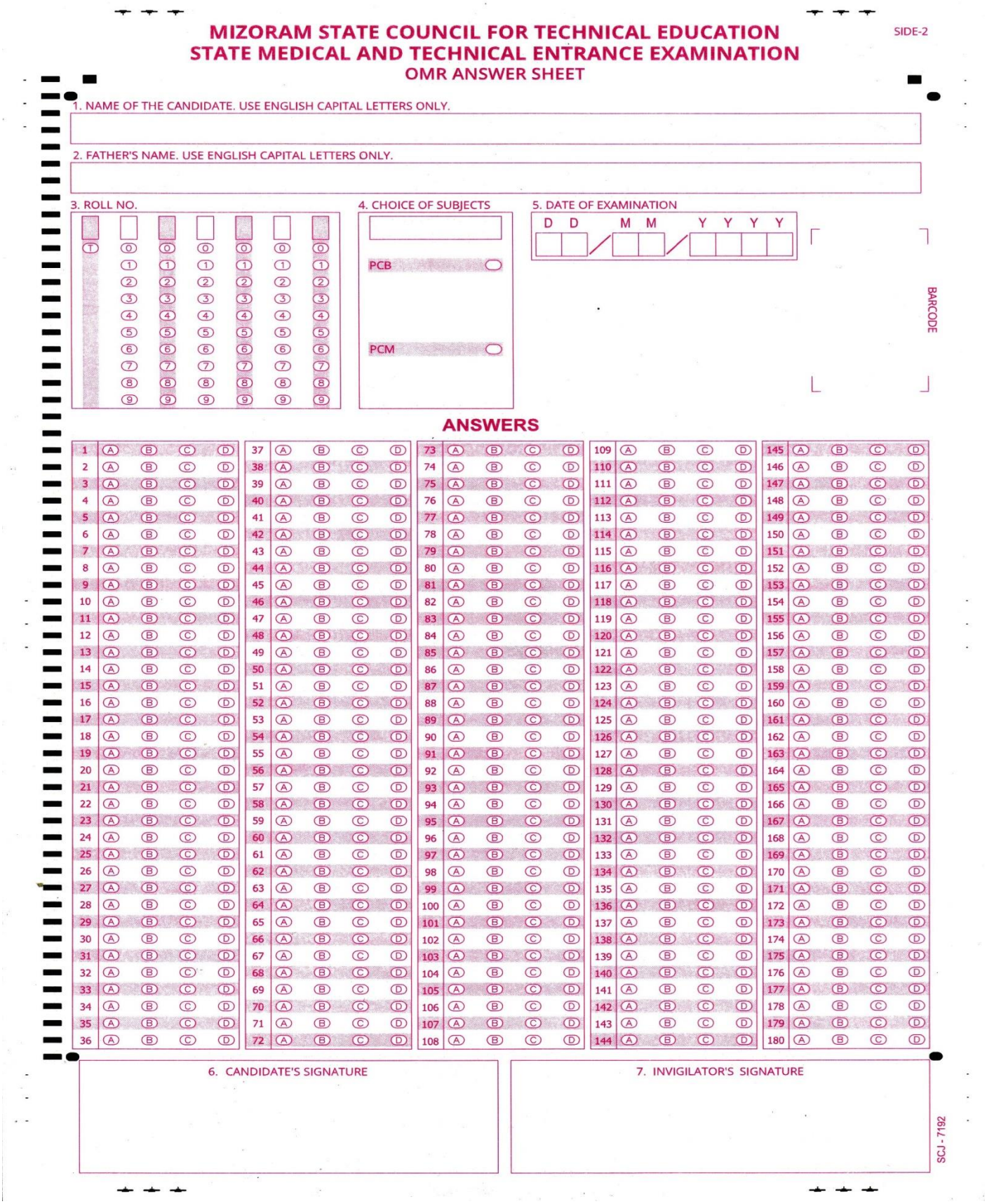
I. PROVISIONAL SEAT MATRIX FOR SMATEE 2026:

PROVISIONAL SEAT MATRIX UNDER SMATEE 2026-2027 FOR THE STATE OF MIZORAM (As per 2025-2026 Seat Allotment)					
Sl. No	**Courses**	**Total Seats Allocated**	**Allocation of seats**		
			(ST) Permanent Residents	**Cat-III (1%)**	**Cat-IV (1%)**
1	**Bachelor of Science (Hons.) Agriculture**	**20**	**18**	**1**	**1**
a	School of Agriculture Sc & Rural Dev. Medziphema, Nagaland (CUET Required)	4	4		
b	College of Agriculture, Iroisemba, Manipur (CAU)	9*	7	1	1
c	Assam Agricultural University, Jorhat (Pro Rata ₹ 30,0000 at the time of admission)	1	1		
d	College of Agriculture, Pasighat, Arunachal Pradesh (CAU)	3*	3		
e	College of Agriculture, Kyrdemkulai, Meghalaya (CAU)	3*	3		
2	**Bachelor of Science (Hons.) Horticulture**	**15**	15		
a	College of Horticulture & Forestry, Pasighat, Arunachal Pradesh (CAU)	6*	6		
b	College of Agriculture, Bermiok, Sikkim (CAU)	2*	2		
c	Assam Agriculture University, Jorhat (Pro Rata ₹ 30,0000 at the time of admission)	1	1		
d	College of Agriculture,Thenzawl, Mizoram (CAU)	6*****	6		
3	**Bachelor of Science (Hons.) Forestry**	**5**	5		
a	College of Horticulture & Forestry, Pasighat, Arunachal Pradesh (CAU)	4	4		
b	Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni - Solan (HP). **(NEC Quota)**	1*	1		
4	**Bachelor of Science (Fishery)**	**4**	4		
a	College of Fishery, Lembucherra, Agartala, Tripura (CAU)	3	3		
b	Assam Agriculture University, Jorhat (Pro Rata ₹ 30,0000 at the time of admission)	1	1		
5	**Bachelor of Science (Sericulture)**	**1**	1		
a	Assam Agriculture University, Jorhat (Pro Rata ₹ 30,0000 at the time of admission)	1	1		
6	**Bachelor of Science (Nutrition & Dietetics)**	**1***	1		
a	College of Community Science, DSangsanggre, Dobasipara Tura, Meghalaya (Female)	1	1		

7	**Bachelor of Science (Nursing)**	**57**	**56**	**1**	**1**
b	Regional Institute of Para Medical and Nursing Sciences (RIPANS)	20	20		
c	Regional College of Nursing, Guwahati, Assam (Female only)	2	2		
d	Regional Institute of Medical Science, Imphal, Manipur	5	3	1	1
e	Mizoram College of Nursing (MCoN)	30	30		
8	**Bachelor of Pharmacy (B. Pharm)**	**23***	23		
a	Regional Institute of Para Medical and Nursing Sciences (RIPANS), Aizawl	16	16		
b	Dibrugarh University, Dibrugarh, Assam	2	2		
c	Regional Institute of Pharmaceutical Science and Technology (RIPSAT), Tripura	5	5		
9	**Bachelor of Medical Laboratory Science (MLS)**	**16**	16		
a	Regional Institute of Para Medical and Nursing Sciences (RIPANS), Aizawl,	16	16		
10	**Bachelor of Medical Laboratory Technology (MLT)**	**1**	1		
a	Regional Institute of Medical Science(RIMS), Imphal, Manipur	1	1		
11	**Bachelor in Optometry Technology (OT)**	**17**	17		
a	Regional Institute of Para Medical and Nursing Sciences (RIPANS), Aizawl	16	16		
b	Regional Institute of Medical Science (RIMS), Imphal, Manipur	1	1		
12	**Bachelor in Radiography & Imaging Technology (B.MRIT)**	**16**	16		
a	Regional Institute of Para Medical and Nursing Sciences (RIPANS), Aizawl	16	16		
13	**Bachelor of Science(Hons) in Community Science (B.Sc. (C.Sc.))**	**3***	3		
a	College of Community Science, DSangsanggre, Dobasipara Tura, Meghalaya (Female)	3	3		
14	**Diploma in Pharmacy (D. Pharm)**	**8***	8		
a	Regional Institute of Pharmaceutical Science and Technology, Agartala, Tripura	8	8		
15	**BSc Ag. (Hons) Natural Farming**	**6***	6		
a	College of Agriculture, Kyrdemkulai, Meghalaya (CAU)	6	6		
16	**Bachelor of Audiology and Speech Language Pathology (BASLP)**	2	2		
a	Regional Institute of Medical Science (RIMS), Imphal, Manipur	2	2		

	Grand Total	**195**	**191**	**2**	**2**
	NOTE:				
	Scheduled Tribes (ST) permanent resident of Mizoram (98 %)	191			
	Category III (1%)	2			
	Category IV (1%)	2			
	Total	**195**			
	***** The seats marked with an asterisk (*) in the column 'Total Seats Allocated' indicate that both PCB and PCM are eligible for selection.				
	Total No. of seats where PCM is admissible:	**71**			

II. SAMPLE OMR ANSWER SHEET:



MIZORAM STATE COUNCIL FOR TECHNICAL EDUCATION
STATE MEDICAL AND TECHNICAL ENTRANCE EXAMINATION
OMR ANSWER SHEET

SIDE-2

1. NAME OF THE CANDIDATE. USE ENGLISH CAPITAL LETTERS ONLY.

2. FATHER'S NAME. USE ENGLISH CAPITAL LETTERS ONLY.

3. ROLL NO.

4. CHOICE OF SUBJECTS

PCB

PCM

5. DATE OF EXAMINATION

D D M M Y Y Y Y

BARCODE

ANSWERS

1	A	B	C	D	37	A	B	C	D	73	A	B	C	D	109	A	B	C	D	145	A	B	C	D
2	A	B	C	D	38	A	B	C	D	74	A	B	C	D	110	A	B	C	D	146	A	B	C	D
3	A	B	C	D	39	A	B	C	D	75	A	B	C	D	111	A	B	C	D	147	A	B	C	D
4	A	B	C	D	40	A	B	C	D	76	A	B	C	D	112	A	B	C	D	148	A	B	C	D
5	A	B	C	D	41	A	B	C	D	77	A	B	C	D	113	A	B	C	D	149	A	B	C	D
6	A	B	C	D	42	A	B	C	D	78	A	B	C	D	114	A	B	C	D	150	A	B	C	D
7	A	B	C	D	43	A	B	C	D	79	A	B	C	D	115	A	B	C	D	151	A	B	C	D
8	A	B	C	D	44	A	B	C	D	80	A	B	C	D	116	A	B	C	D	152	A	B	C	D
9	A	B	C	D	45	A	B	C	D	81	A	B	C	D	117	A	B	C	D	153	A	B	C	D
10	A	B	C	D	46	A	B	C	D	82	A	B	C	D	118	A	B	C	D	154	A	B	C	D
11	A	B	C	D	47	A	B	C	D	83	A	B	C	D	119	A	B	C	D	155	A	B	C	D
12	A	B	C	D	48	A	B	C	D	84	A	B	C	D	120	A	B	C	D	156	A	B	C	D
13	A	B	C	D	49	A	B	C	D	85	A	B	C	D	121	A	B	C	D	157	A	B	C	D
14	A	B	C	D	50	A	B	C	D	86	A	B	C	D	122	A	B	C	D	158	A	B	C	D
15	A	B	C	D	51	A	B	C	D	87	A	B	C	D	123	A	B	C	D	159	A	B	C	D
16	A	B	C	D	52	A	B	C	D	88	A	B	C	D	124	A	B	C	D	160	A	B	C	D
17	A	B	C	D	53	A	B	C	D	89	A	B	C	D	125	A	B	C	D	161	A	B	C	D
18	A	B	C	D	54	A	B	C	D	90	A	B	C	D	126	A	B	C	D	162	A	B	C	D
19	A	B	C	D	55	A	B	C	D	91	A	B	C	D	127	A	B	C	D	163	A	B	C	D
20	A	B	C	D	56	A	B	C	D	92	A	B	C	D	128	A	B	C	D	164	A	B	C	D
21	A	B	C	D	57	A	B	C	D	93	A	B	C	D	129	A	B	C	D	165	A	B	C	D
22	A	B	C	D	58	A	B	C	D	94	A	B	C	D	130	A	B	C	D	166	A	B	C	D
23	A	B	C	D	59	A	B	C	D	95	A	B	C	D	131	A	B	C	D	167	A	B	C	D
24	A	B	C	D	60	A	B	C	D	96	A	B	C	D	132	A	B	C	D	168	A	B	C	D
25	A	B	C	D	61	A	B	C	D	97	A	B	C	D	133	A	B	C	D	169	A	B	C	D
26	A	B	C	D	62	A	B	C	D	98	A	B	C	D	134	A	B	C	D	170	A	B	C	D
27	A	B	C	D	63	A	B	C	D	99	A	B	C	D	135	A	B	C	D	171	A	B	C	D
28	A	B	C	D	64	A	B	C	D	100	A	B	C	D	136	A	B	C	D	172	A	B	C	D
29	A	B	C	D	65	A	B	C	D	101	A	B	C	D	137	A	B	C	D	173	A	B	C	D
30	A	B	C	D	66	A	B	C	D	102	A	B	C	D	138	A	B	C	D	174	A	B	C	D
31	A	B	C	D	67	A	B	C	D	103	A	B	C	D	139	A	B	C	D	175	A	B	C	D
32	A	B	C	D	68	A	B	C	D	104	A	B	C	D	140	A	B	C	D	176	A	B	C	D
33	A	B	C	D	69	A	B	C	D	105	A	B	C	D	141	A	B	C	D	177	A	B	C	D
34	A	B	C	D	70	A	B	C	D	106	A	B	C	D	142	A	B	C	D	178	A	B	C	D
35	A	B	C	D	71	A	B	C	D	107	A	B	C	D	143	A	B	C	D	179	A	B	C	D
36	A	B	C	D	72	A	B	C	D	108	A	B	C	D	144	A	B	C	D	180	A	B	C	D

6. CANDIDATE'S SIGNATURE

7. INVIGILATOR'S SIGNATURE

SCJ - 7192

III. Counseling and Related Activities for SMATEE – 2026

Sl. No	Activity	When to start	When to complete	Place
1	Selling of Application Form of SMATEE	6th March, 2026 (Friday)	8th April, 2026 (Wednesday)	www.dhte.mizoram.gov.in
2	Date of Issue Admit Card SMATEE	27th April 2026 (Monday)	5th May 2026 (Tuesday)	www.dhte.mizoram.gov.in
3	Date of Examination SMATEE	5th May 2026 (Tuesday)	5th April 2026 (Tueday)	Examination centre
4	Tentative date of Publication of SMATEE results	28th May, 2026 (Thursday)		www.dhte.mizoram.gov.in and at Notice Board of Jt. Director Technical Wing Office, Chaltlang
5	Online Registration First round (Tentative)	To be notified later		www.dhte.mizoram.gov.in
6	1st round Results	To be notified later		www.dhte.mizoram.gov.in
7	Reporting at the reporting centre against 1st round of Allotment	To be notified later		Office of the Jt. Director Technical Wing Office, Chaltlang
8	Security Deposit for 1st round	To be notified later		Office of the Jt. Director Technical Wing Office, Chaltlang
9	Last date for joining for 1st round	To be notified later		Allotted Institutions
10	2nd round/MOP-UP-round counseling (Tentative)	To be notified later		Office of the Jt. Director Technical Wing Office, Chaltlang/Dawrpui Multipurpose Hall

IV. SYLLABUS FOR SMATEE 2026

PHYSICS (Class XI)

Topic - I : Physical World and Measurement

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Topic - II : Kinematics

Frame of reference (Inertia and non-inertia frames), Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non-uniform motion, and instantaneous-velocity, uniformly accelerated motion, velocity-time and position-time graphs, relations for uniformly accelerated motion (graphical treatment).

Scalar and vector quantities: Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Unit vectors; resolution of a vector in a plane, rectangular components. Scalar and Vector products of Vectors.

Motion in a plane, cases of uniform velocity and uniform acceleration-projectile motion. Uniform circular motion.

Topic - III: Laws of Motion

Intuitive concept of force. Inertia, Newton‘s first law of motion; momentum and Newton‘s second law of motion; impulse; Newton‘s third law of motion. Law of conservation of linear momentum and its applications.
Equilibrium of concurrent forces, static and kinetic friction, laws of friction, rolling friction, lubrication.
Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road).

Topic - IV: Work, Energy and Power

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power.
Notion of potential energy, potential energy of a spring, conservative forces; non-conservative forces; motion in a vertical circle, elastic and inelastic collisions in one and two dimensions.

Topic - V: Motion of System of Particles and Rigid Body

Centre of mass of a two-particle system, momentum conservation and centre of mass motion. Centre of mass of a rigid body; centre of mass of uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equation of rotational motion, comparison of linear and rotational motions. moment of inertia, radius of gyration. Values of M.I. for simple geometrical objects (no derivation).

Topic - VI: Gravitation

Kepler‘s laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its ariation with altitude and depth. Gravitational potential energy; gravitational potential, Escape velocity, orbital velocity of a satellite.

Topic - VII: Properties of Bulk Matter

Elasticity, Stress-strain relationship, Hooke‘s law, Young‘s modulus, bulk modulus, shear, modulus of rigidity(qualitative idea only), poisson‘s ratio; elastic energy.
Pressure due to a fluid column; Pascal‘s law and its applications (hydraulic lift and hydraulic brakes), Effect of gravity on fluid pressure.
Viscosity, Stokes‘ law, terminal velocity, Reynolds‘s number, streamline and turbulent flow, Critical velocity, Bernoulli‘s theorem and its applications.
Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.
Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases. Anomalous expansion of water, Specific heat capacity: C_p, C_v - calorimetry; change of state - latent heat.
Heat transfer-conduction, convection and radiation, thermal conductivity. Qualitative ideas of Black Body Radiation, Wein‘s displacement law, Stefan‘s law.

Topic - VIII: Thermodynamics

Thermal equilibrium and definition of temperature, Zeroth Law of Thermodynamics, heat, work and internal energy. First law of thermodynamics.
Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state – Isothermal, adiabatic, reversible, irreversible and cyclic processes.

Topic- IX: Behaviour of Perfect Gas and Kinetic Theory

Equation of state of a perfect gas; work done on compressing a gas.
Kinetic theory of gases: Assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro‘s number.

Topic - X: Oscillations and Waves

Periodic motion – time period, frequency, displacement as a function of time. Periodic functions and their applications.
Simple harmonic motion(SHM) and its equation; phase; oscillations of a loaded spring -restoring force and force constant; energy in SHM. Kinetic and potential energies; simple pendulum derivation of expression for its time period (qualitative ideas only).
Wave motion: Longitudinal and transverse waves, speed of wave motion, Displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics. Beats.

PHYSICS (Class XII)

Topic - I : Electrostatics

Electric charges, conservation of charges, Coulomb‘s law - force between two-point charges, forces between multiple charges; superposition principle and continuous charge distribution.
Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field.
Electric flux, statement of Gauss‘s theorem and its applications to find field due- to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field-inside and outside).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipoles in an electrostatic field.
Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivations, formulae only).

Topic - II: Current Electricity

Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current; Ohm‘s law, electrical resistance, V- I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff ‘s laws and simple applications. Wheatstone bridge.

Topic - III: Magnetic Effects of Current and Magnetism

Concept of magnetic field, Oersted‘s experiment. Biot - Savart law and its application to current carrying circular loop.
Ampere‘s law and its applications to infinitely long straight wire, straight solenoids (Only qualitative treatments). Force on a moving charge in uniform magnetic and electric fields.
Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors – definition of ampere, torque experienced by a current loop in a magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter.
Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), Magnetic field lines.
Magnetic properties of materials - Para-, dia-, and ferro- magnetic substances with examples, Magnetization of materials, effects of temperature on magnetic properties.

Topic - IV: Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday‘s law, induced emf and current; Lenz‘s Law, Self and mutual inductance.
Alternating currents, peak and rms value of alternating current/voltage; reactance and impedance; LCR series circuit (Phasor only), resonance (with sharpness of resonance); power in AC circuits, power factor, wattless current. AC generator and transformer.

Topic - V: Electromagnetic Waves

Basic idea of displacement current, Electromagnetic waves: their characteristics, Transverse nature (qualitative ideas only).
Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

Topic - VI: Optics

Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker‘s formula, magnification, power of a lens, combination of thin lenses in contact, refraction and dispersion of light through prism.
Optical instruments: Microscope and astronomical telescope (reflecting and refracting) and their magnifying powers.
Wave optics: Wavefront and Huygens’ principle, reflection and refraction of plane wave at a plane surface using wavefronts. Proof of laws of reflection and refraction using Huygens‘ principle.
Interference, Young‘s double slit experiment and expression for fringe width (No derivation, final expression only), coherent sources and sustained interference of light.
Diffraction due to a single slit, width of central maximum (qualitative treatment only). Polarisation, plane polarised light; uses of plane polarised light and Polaroids.

Topic - VII: Dual Nature of Matter and Radiation

Photoelectric effect, Hertz and Lenard‘s observations; Einstein‘s photoelectric equation – particle nature of light. Experimental study of photoelectric effect.
Matter waves wave nature of particles, de Broglie relation (expression only).

Topic - VIII : Atoms and Nuclei

Alpha - particle scattering experiment; Rutherford‘s model of atom; Bohr model of hydrogen atom, expression for radius, velocity and enrgy of possible n^{th} orbit (No derivation),energy levels, hydrogen spectrum (qualitative treatment only).
Composition and size of nucleus, atomic masses, isotopes, isobars; isotones, nuclear force.
Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission (without nuclear reactor) and fusion.

Topic - IX : Electronic Devices

Energy bands in conductors, insulators and semiconductors (qualitative ideas only), intrinsic and extrinsic semiconductors – p and n type, p-n junction.
Semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier.

CHEMISTRY (Class XI)

Topic - I: Some Basic Concepts of Chemistry

General Introduction: Importance and scope of Chemistry.
Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules.
Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

Topic - II: Structure of Atom

Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Topic - III: Classification of Elements and Periodicity in Properties

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements - atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.

Topic - IV: Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.

Topic - V: Chemical Thermodynamics

Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.
First law of thermodynamics - internal energy and enthalpy, heat capacity and specific heat, measurement of U and H, Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution.
Second law of Thermodynamics (brief introduction)
Introduction of entropy as a state function, Gibb's energy change for spontaneous and non-spontaneous processes, criteria for equilibrium.
Third law of thermodynamics (brief introduction).

Topic - VI: Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilbrium, law of mass action, equilibrium constant, factors affecting equilibrium LeChatelier‘s principle; ionic equilibrium ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of polybasic acids, acid strength, concept of pH, Hydrolysis of salts (elementary idea), buffer solutions, Henderson equation, solubility product, common ion effect (with illustrative examples).

Topic- VII: Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.

Topic - VIII: Organic Chemistry -Some Basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Topic - IX: Hydrocarbons

Classification of Hydrocarbons:
Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.

Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.
Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.
Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.

CHEMISTRY (Class XII)

Topic - I: Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.

Topic - II: Electrochemistry

Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.

Topic - III: Chemical Kinetics

Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.

Topic - IV: d and f Block Elements

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of K2Cr2O7 and KMnO4.
Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.
Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.

Topic - V: Coordination Compounds

Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).

Topic - VI: Haloalkanes and Haloarenes

Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.
Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).
Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Topic – VII: Alcohols, Phenols and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol.
Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols.
Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Topic – VIII: Aldehydes, Ketones and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.
Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Topic-IX: Amines
Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.
Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Topic – X: Biomolecules
Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.
Proteins - Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure.
Vitamins - Classification and functions.
Nucleic Acids: DNA and RNA.

BIOLOGY (Class XI)

Topic - I: Diversity of Living Organisms

Biodiversity; Need for classification; Three domain of life; Taxonomy& Systematics; Concept of species and taxonomical hierarchy; Binomial nomenclature.
Five kingdom classification; Salient features and classification of Monera; Protista and Fungi into major groups; Lichens; Viruses and Viroids.
Salient features and classification of plants into major groups- Algae, Bryophytes, Pteridophytes, Gymnosperm (three-to five salient and distinguishing features and at least two examples of each category).

Salient features and classification of animals- non chordate up to phyla level and chordate up to classes level (three to five salient features and at least two examples).

Topic - II: Structural Organisation in Animals and Plants

Morphology; Tissues; Anatomy and functions of different parts of flowering plants: Root, stem, leaf, inflorescence- cymose and racemose, flower, fruit and seed. Description of Solanaceae. (To be dealt along with the relevant practical of the Practical Syllabus).
Animal-tissues; Morphology, anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of a frog.

Topic - III: Cell Structure and Function

Cell theory and cell as the basic unit of life; Structure of prokaryotic and eukaryotic cell; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles – structure and function, Endomembrane system- endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosomes, plastids; microbodies; Cytoskeleton, cilia, flagella, centrioles (ultra-structure and function); Nucleus – nuclear membrane, chromatin, nucleolus.
Chemical constituents of living cells: Biomolecules structure and function of proteins, carbohydrates, lipid, nucleic acids; Enzymes types, properties, enzyme action. Cell division: Cell cycle, mitosis, meiosis and their significance.

Topic - IV: Plant Physiology

Photosynthesis: Photosynthesis as a means of Autotrophic nutrition; Where does photosynthesis take place; How many pigments are involved in Photosynthesis (Elementary idea) Photochemical and biosynthetic phases of photosynthesis; Cyclic and non-cyclic photophosphorylation; Chemiosmotic hypothesis; Photorespiration; C3 and C4 pathways, Factors affecting photosynthesis.
Respiration: Exchange of gases; Cellular respiration— glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); Energy relations,- Number of ATP molecules generated; Amphibolic pathways; Respiratory quotient.
Plant growth and development: Seed germination; Phases of plant growth and plant growth rate; Conditions of growth; Differentiation, dedifferentiation and redifferentiation; Sequence of developmental process in a plant cell; Growth regulators—auxin, gibberellin, cytokinin, ethylene, ABA; Seed dormancy.

Topic - V: Human Physiology

Breathing and Respiration: Respiratory organs m' animals (recall only); Respiratory system in humans; Mechanism of breathing and its regulation in humans— Exchange of gases, transport of gases and regulation of respiration, Respiratory volumes; Disorders related to respiration-Asthma, Emphysema, Occupational respiratory disorders.
Body fluids and circulation: Composition of blood, blood groups, coagulation of blood; Composition of lymph and its function; Human circulatory system— Structure of human heart and blood vessels; Cardiac cycle, cardiac output, ECG, Double circulation; Regulation of cardiac activity, Disorders of circulatory system-Hypertension, Coronary artery disease, Angina pectoris; Heart failure.
Excretory products and their elimination: Modes of excretion -Ammonotelism, ureotelism, uricotelism; Human excretory system—structure and function; Urine formation, Osmoregulation; Regulation of kidney function— Renin-angiotensin, Atrial Natriuretic Factor, ADH and Diabetes insipidus; Role of other organs in excretion, Disorders-Uraemia, Renal failure, Renal calculi, Nephritis; Dialysis and artificial kidney.

Locomotion and Movement: Types of movement - ciliary, flagellar muscular; Skeletal muscle contractile proteins and muscle contraction; Skeletal system and its functions(To be dealt with the relevant practical of Practical syllabus);-Joints; Disorders of muscular and skeletal system- Myasthenia gravis, Tetany, Muscular dystrophy, Arthritis, Osteoporosis, Gout.
Neural control and coordination: Neuron and nerves; Nervous system in humans— central nervous system, peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse.
Chemical coordination and regulation: Endocrine glands and hormones; Human endocrine system - Hypothalamus, Pituitary; Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; Mechanism of hormone action (Elementary Idea); Role of hormones as messengers and regulators, Hypo-and hyperactivity and related disorders (Common disorders e.g. Dwarfism, Acromegaly, Cretinism, goitre, exopthalmic goitre, diabetes, Addison's disease).
Imp: Diseases related to all the human physiology systems to be taught in brief.

BIOLOGY (Class XII)

Topic - I: Reproduction

Sexual reproduction in flowering plants: Flower structure; Development of male-and female gametophytes; Pollination-types, agencies and examples; Outbreedings devices; Pollen-Pistil interaction; Double fertilization; Post fertilization events— Development of endosperm and embryo, Development of seed and formation of fruit; Special modes - apomixis, parthenocarpy, polyembryony; Significance of seed and fruit formation.
Human Reproduction: Male and female reproductive systems, Microscopic anatomy of testis and ovary; Gametogenesis- spermatogenesis & oogenesis; Menstrual cycle; Fertilisation, embryo development upto blastocyst formation, implantation; Pregnancy and placenta formation (Elementary idea), Parturition (Elementary idea); Lactation (Elementary idea).
Reproductive health: Need for-reproductive health and prevention of sexually transmitted diseases (STD); Birth control- Need and Methods, Contraception and Medical Termination of Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (Elementary idea for general awareness).

Topic - II: Genetics and Evolution

Heredity and variation: Mendelian Inheritance; Deviations from Mendelism— Incomplete dominance, Co-dominance; Multiple alleles and Inheritance of blood groups,- Pleiotropy; Elementary idea of polygenic inheritance; Chromosome theory of inheritance; Chromosome and genes, Sex determination= In humans, birds, honey bee; Linkage and crossing over; Sex linked inheritance- Haemophilia, Colour blindness; Mendelian disorders in humans — Thalassemia; Chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.
Molecular Basis of Inheritance: Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma; Transcription, genetic code, translation; Gene expression and regulation— Lac Operon; Genome and human genome project; DNA finger printing.
Evolution: Origin of life; Biological evolution and evidences for biological evolution (Paleontological, comparative anatomy, embryology and molecular evidence); Darwin's contribution, Modem Synthetic theory of Evolution; Mechanism of evolution—Variation (Mutation and Recombination) and Natural Selection with examples, types of natural selection; Gene flow and genetic dirft; Hardy-Weinberg's principle; Adaptive Radiation; Human evolution.

Topic - III: Biology and Human Welfare

Health and Disease: Pathogens; parasites causing human diseases (Malaria, Filariasis, Ascariasis, Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology vaccines; Cancer; HIV and AIDS; Adolescence, drug and alcohol abuse.
Microbes in human welfare: In household food processing, industrial production, sewage treatment, energy generation and as biocontrol agents and biofertilizers.

Topic - IV: Biotechnology and Its Applications

Principles and process of Biotechnology: Genetic engineering (Recombinant DNA technology).
Application of Biotechnology in health and agriculture: Human insulin and vaccine production, gene therapy; genetically modified organisms - Bt crops; Transgenic Animals; Biosafety issues – Biopiracy and patents.

Topic – V: Ecology and environment

Population interactions mutualism, competition, predation, parasitism; Population attributes — growth, birth rate and death rate, age distribution.
Ecosystems: Patterns, components; productivity and decomposition; Energy flow; Pyramids of number, biomass, energy. Biodiversity and its conservation: Concept of Biodiversity; Patterns of Biodiversity; Importance of Biodiversity; Loss of Biodiversity; Biodiversity conservation; Hotspots, endangered organism, extinction, Red Data Book, biosphere reserves, National parks and sanctuaries.

MATHEMATICS (CLASS XI)
TOPIC I: SETS AND FUNCTIONS

Sets
Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of the set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of Sets. Difference of sets. Complement of a set, Properties of Complement sets.

Relations and Functions
Ordered pairs, Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the reals with itself (upto R x R x R).

Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function. Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions with their graphs. Sum, difference, product and quotients of functions.

Trigonometric Functions
Positive and negative angles Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle.
Truth of the identity- $sin^2x + cos^2x = 1$, for all x. Expressing sin ($x \pm y$) and cos ($x \pm y$) in terms of sin x, sin y. Deducing the identities like following:

$\tan(x \pm y) = \frac{tanx \pm tany}{1 \pm tanx \times tany}$, $\cot(x \pm y) = \frac{cotx \times coty \pm 1}{coty \pm cot}$

$\sin x + siny = 2sin\frac{x+y}{2}\cos\frac{x-y}{2}$, $cosx + cosy = 2cos\frac{x+y}{2}\cos\frac{x-y}{2}$

$\sin x - siny = 2cos\frac{x+y}{2}\sin\frac{x-y}{2}$, $cos - +cosy = 2sin\frac{x+y}{2}\sin\frac{x-y}{2}$

Identities related to sin2x, cos2x, tan2x, sin3x, cos3x and tan3x.

TOPIC II: ALGEBRA

Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve every quadratic equation. Brief description of algebraic properties of complex numbers. Statement of Fundamental Theorem of Algebra.

Linear Inequalities

Linear inequalities, Algebraic solutions of linear inequalities in one variable and their representation on the number line.

Permutations and Combinations

Fundamental principle of counting. Factorial *n*. Permutations and combinations derivation of formulae and their connections, simple applications.

Binomial Theorem.

History, statement and proof of the binomial theorem for positive integral indices. Pascal's Triangle, general and middle term in binomial expansion, simple applications.

Sequence and Series

Geometric Progression (G.P.), general term of a G..P., sum of *n* terms of a G.P., Arithmetic and geometric series, infinite G.P. and its sum, geometric mean (G.M.). Relation between A.M. and G.M.

TOPIC III: COORDINATE GEOMETRY

Straight Lines

Brief recall of 2-D from earlier-classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axes, point-slope form, slope-intercept form, two- point form, intercepts form.

Conic Sections

Sections of a cone: Circles, ellipse, parabola, hyperbola, a point, a straight line and pair of intersecting lines as a degenerated case of a conic section. Standard equations-and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle?

Introduction to Three dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

TOPIC IV: CALCULUS

Limits and Derivatives

Derivative introduced as rate of change-both as that of distance function and geometrically

Intuitive idea of limit. $\lim_{x\to 0}\frac{\log_e(l+x)}{x}$, $\lim_{x\to 0}\frac{e^x-1}{x}$.

Definition of derivatives, relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions.

Derivatives of polynomial and trigonometric functions.

TOPIC V: STATISTICS AND PROBABILITY

Statistics
Measure of dispersion; mean deviation, variance and standard deviation of ungrouped/grouped data.

Probability
Random experiments: outcomes, sample spaces (set representation). Events: Occurrence of events, 'not', 'and' & 'or' events, exhaustive events, mutually exclusive events. Axiomatic (set theoretic) probability, connections with the theories of earlier classes. Probability of an event, probability of 'not', 'and', & 'or' events.

(CLASS XII PORTION)

TOPIC I: RELATIONS AND FUNCTIONS

Relations and Functions
Types of relations: Reflexive, symmetric, transitive and-equivalence relations. One to one and onto functions, composite functions inverse of a function.

1. **Inverse Trigonometric Functions**
Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions.

TOPIC II: ALGEBRA

Matrices
Concept, notation order, equality, types of matrices. zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non- commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

Determinants
Determinant of a square matrix (up to 3 x 3 matrices), minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

TOPIC III: CALCULUS

Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit function.

Concepts of exponential, logarithmic functions. Derivatives of log e^x and e^x.
Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives.

Applications of Derivatives
Applications of derivatives: Rate of change, increasing/decreasing functions, maxima and minima(first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, only simple integrals of the type-

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}},$$

$$\int \frac{(px + q)}{ax^2 + bx + c} dx, \int \frac{(px + q)}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx \text{ and } \int \sqrt{x^2 - a^2}\, dx,$$

$$\int \sqrt{ax^2 + bx + c}\, dx$$

to be evaluated. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

Applications of the Integrals

Applications in finding the area under simple curves, especially lines, arcs of circles/parabolas/ellipses (in standard form only).

Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables; homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type —

$\frac{dy}{dx} + \boldsymbol{Py} = \boldsymbol{Q}$, where P and Q are functions of x or constant.

$\frac{dx}{dy} + \boldsymbol{Px} = \boldsymbol{Q}$, where P and Q are functions of y or constant.

TOPIC IV: VECTORS AND THREE-DIMENSIONAL GEOMETRY

Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

Three-dimensional Geometry

Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Angle between two lines.

TOPIC V: LINEAR PROGRAMMING

Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions optimal feasible solutions (up to three non-trivial constrains).

TOPIC VI: PROBABILITY

Multiplications theorem on probability. Conditional probability, independent events, total probability, Baye's-theorem. Random variable and its probability distribution, mean and variance of haphazard variable.