

VITEEE



VIT[®]
UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)

VELLORE ■ CHENNAI

www.vit.ac.in

VITEEE - 2015

VIT Engineering Entrance Examination



Information Brochure

Admissions to **B. Tech. Degree Programmes 2015-2016**

VIT- A place to learn; A chance to grow

IMPORTANT INSTRUCTIONS FOR FILLING UP OF OMR APPLICATION FORM

1. Please make sure that you are using the correct application form.
2. Your application will be machine-processed. Use only black ball-point pen and CAPITAL letters to enter the required information. Use only pencil to shade the circle to correspond with the code / appropriate alphabet / numeral, which you have entered as your option.
3. Do not scribble, smudge, tear or wrinkle the application form. Do not put any stray marks anywhere on the application form.
4. Your photograph, signature and address will also be scanned by a machine that recognizes only good quality images. Therefore, paste a good quality, recent, passport size colour photograph and sign in the space provided with black ball-point pen only. Do not stick the attested photograph.
5. Write the complete address giving your name and PINCODE, carefully and legibly. Please note that this block will appear as such in all our correspondence with you. In case you happen to make a mistake, cover the whole box with a slip of white paper of the same size and write your address on it. Your address must not exceed the box.
6. The use of address of any coaching centre / Institution is strictly prohibited. If anybody uses the address of any coaching centre / Institution in his / her application form, it will be rejected.
7. Do not staple, pin, stitch or stick anything on the application form. Paste only the photograph in the space provided.
8. Ensure the correctness of your mailing address, PINCODE, valid e-mail id, Telephone number with correct STD CODE and provide mobile number. Please note that VIT will not be responsible if communications do not reach you due to incomplete or illegible address, invalid e-mail id and wrong mobile number.
9. You must quote your application number as reference in all your future correspondence.
10. The completed application form should be enclosed separately in the printed envelope provided, addressed to Director-UG Admissions, VIT University, Vellore- 632014 and sent through Registered Post or Speed Post, so as to reach the Office of Admissions on or before **27th February 2015**.
11. VIT will not accept responsibility for any postal delay/irregularity or loss in postal transit.
12. Ensure that your application is complete in all respects. An incomplete application or an application filled in a language other than English will be summarily rejected.

13. Options given in the application form cannot, in general, be altered at a later stage.
14. **The cost of the application material is non-refundable.**
15. **You should retain a photocopy of the application form for all your reference.**

- ⇒ For online application form visit www.vit.ac.in
- ⇒ For downloading admit card visit www.vit.ac.in
- ⇒ Online applicants need not send OMR application form, but they must send the printout of the filled-out Online application form (DD mode applicants only).

CHECK LIST

Before posting the application please ensure the following :

- ❖ Read the instructions before filling the Application Form.
- ❖ Use a black ball-point pen to enter the codes in the boxes and pencil to shade the alphabet/Numeral / circle as indicated.
- ❖ Affix a good quality recent, colour photograph in the space provided.
- ❖ Do not get the photograph attested.
- ❖ Write your complete postal address to which communication is to be sent clearly and legibly.
- ❖ Enter your correct PINCODE.
- ❖ Indicate your correct STD code and Phone No./ Mobile No.
- ❖ **Mention your correct e-mail id & Mobile number.**
- ❖ Sign in the space provided below the photograph.
- ❖ Parent /Guardian's signature in the declaration form.
- ❖ Do not use any pins or stapler in your application.
- ❖ Clearly indicate whether you require hostel accommodation or not.
- ❖ Enter the correct Test City Code on the envelope provided.
- ❖ Retain a photocopy of your application.
- ❖ Enter your application number for all future reference.

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1. Introduction

VIT is emerging as a benchmark for continuous journey towards excellence, among the institutions of higher education in the field of technology in the country. Its values of equality, transparency and healthy collaboration have been ably guided by the leadership of its founder **Dr. G. Viswanathan**, renowned for his principled life devoted to public service.

The ubiquitous sense of joy and enthusiasm observed in the campus bears testimony to the positive learning and living experiences enjoyed by every student at VIT. Ours is a place where opportunities for learning as well as recreation are maximized and distractions are minimized.

VIT Students get to feel the taste of a borderless world through a heterogeneous mixture of students from across the globe, who have made VIT as their institution of choice.

VIT has long since been devoted to providing quality education in various Engineering disciplines of Science and Technology and of late it has proliferated into frontiers of Research as well. The Institute has a rigorous selection procedure to admit students into various programmes. An exclusive entrance examination for all B.Tech. programmes, Vellore Institute of Technology Entrance Examination (VITEEE), is conducted for all those aspiring for a career in engineering.

2. B.Tech. Programmes offered at Vellore Campus

- Bio-Medical Engineering
- Biotechnology
- Civil Engineering
- Chemical Engineering
- Computer Science and Engineering
- Computer Science and Engg (Spec. in Bioinformatics)
- Electronics and Communication Engineering
- Electrical and Electronics Engineering
- Electronics and Instrumentation Engineering
- Information Technology
- Mechanical Engineering
- Mechanical (Spec. in Automotive Engineering)
- Mechanical (Spec. in Chemical Process Engg.)
- Mechanical (Spec. in Energy Engineering)
- Production and Industrial Engineering

2.1 B. Tech. Programmes offered at Chennai Campus

- Civil Engineering
- Computer Science and Engineering
- Electronics and Communication Engineering
- Electrical and Electronics Engineering
- Mechanical Engineering

3. Eligibility

3.1. Nationality:

The applicant should be a **Resident / Non Resident Indian National**.

3.2. Qualifying Examination:

Candidates appearing for the VITEEE-2015 should have either completed or shall be appearing in 2015, in any one of the following qualifying examinations:

The final examination of the 10+2 system of Higher Secondary Examination conducted by the State Board, Central Board of Secondary Education (CBSE, New Delhi), The Council for Indian School Certificate Examination (ISCE, New Delhi).

Intermediate or Two-year Pre-University Examination conducted by a recognized Board/ University.

High School Certificate Examination of the Cambridge University or International Baccalaureate Diploma of the International Baccalaureate Office, Geneva.

General Certificate Education (GCE) examination (London/ Cambridge/Srilanka) at the Advanced (A) level.

Candidates who have studied in Regular, Full time and Formal Education alone are eligible to apply.

3.3. Eligibility Criteria in the Qualifying Examination:

Candidates appearing for the VITEEE in 2015 should have secured an aggregate of 60% in Physics, Chemistry, Mathematics/Biology in the qualifying examination (+2/ Intermediate).

The average marks obtained in the subjects Physics, Chemistry and Mathematics or Biology (PCM / PCB) in +2 (or its equivalent) put together should be 50% for the following categories:

- Candidates belonging to SC/ST
 - Fill in the proforma as given in Annexure III and have it attested by a competent authority (The list of authorities empowered for the same is given in Annexure III).
- Candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.
 - Fill in the CERTIFICATE TO PROVE NATIVITY (proforma given in Annexure III).

These documents should be produced at the time of counselling, failing which they will not be considered for admission.

In case the marks statement is not produced by the candidates at the time of admission, the decision of the Management regarding his/her eligibility and admission to the programme shall be final.

- **Candidates who have studied Physics, Chemistry and Mathematics are eligible for all the 15 B.Tech. Degree Programmes.**
- **Candidates who have studied Physics, Chemistry and Biology are eligible for B.Tech. Bio-Medical Engineering and Biotechnology programmes. They are also eligible for B.Tech. Computer Science and Engg (Spec.in Bioinformatics) but after joining, registering Mathematics as bridge course is mandatory.**

3.4. Additional Information:

It is the responsibility of the candidates to ascertain whether they possess the requisite qualifications for admission. Having been called for the test / counselling does not necessarily mean acceptance of the eligibility.

It is mandatory that all the original relevant documents (such as Marks statement, Transfer Certificate, Conduct Certificate, etc.) should be submitted to the Admissions Office at the time of admission.

Admission to various programmes are, however, subject to verification of facts from the original certificates/documents of the candidates. In case any discrepancy arises, even at a later point of time after admission, the management reserves all rights to cancel the candidate's admission and this decision shall be final.

3.5. Age Limit :

Candidates whose date of birth falls on or after **1st July 1993** are eligible to apply for VITEEE-2015. The date of birth as recorded in the High School / SSC / X Certificate will be considered authentic. Candidates should produce this certificate in original as a proof of their age at the time of counselling, failing which they will be disqualified.

4. Admission Procedure

- The admission will be purely on the basis of the marks secured in the VITEEE-2015, conducted by VIT University.
- **Candidates who have not appeared for the VITEEE are not eligible for admission.**
- The candidates will be short-listed based on their entrance examination marks and will be called for the counselling.

5. Schedule of VITEEE-2015 – Computer Based Test (CBT)

- VIT Engineering Entrance Examination will be conducted from **08.04.2015 to 19.04.2015**
- The duration of the entrance examination will be of **2 hours 30 minutes.**
- Please refer to slot booking for further details in **www.vit.ac.in** from **March - 2015 onwards.**

6. Pattern of the Entrance Examination – CBT

6.1. Question Paper:

- All Questions will be of **OBJECTIVE TYPE.**
- PART-I – Physics
- PART-II – Chemistry
- PART-III – Mathematics / Biology
- **Candidates attempting Physics, Chemistry & Mathematics are eligible for all the 15 programmes offered.**
- **Candidates attempting Physics, Chemistry & Biology are eligible for B.Tech. Bio-Medical Engineering, Biotechnology and Computer Science and Engg (Spec. in Bioinformatics) programmes only.**

- **The selection of pattern (Physics/ Chemistry / Mathematics or Biology) has to be decided at the time of slot booking.**
- All the questions will be mostly from the State Board of Higher Secondary Education and the CBSE syllabus only. The syllabus for the Entrance Examination is given in APPENDIX-IV of this Brochure.
- Each part has 40 questions and each question carries one mark.
- Each question is followed by 4 alternative answers. The candidate will have to choose the correct answer and click the same.
- No negative marks for wrong answers.

6.2. Language of the Question Paper:

The Question paper will be in English only.

7. Important Instructions pertaining to VITEEE - 2015 - CBT

The salient features of the Computer Based Test are:

- The candidate sits in front of the computer and the questions are presented on the monitor.
- The candidate submits his or her answer through the use of mouse.
- The computer is connected to the server, which delivers the encrypted test in real time through a secure and reliable connection.
- Entrance test assumes that the candidate has familiarity with the use of computer like use of keyboard and mouse operation.
- It is the responsibility of the candidate to acquire these basic computer skills before appearing for the entrance test and the University cannot take the responsibility for the same.

Computer Based Test Procedure

- The candidates must ensure that the computer allotted to them is switched on and any problem with the computer should be informed to the invigilator immediately.
- The questions appearing on the screen will be in English. All questions will be of the Multiple Choice Question (MCQ) type. Each MCQ consists of a stem which may be in the form of a question or an incomplete statement and four responses labeled A, B, C and D. Only one of the four responses is the correct answer. Candidate needs to choose that answer. Candidates can navigate freely through the questions back and forth.

Important Note

- The number of examination days will be estimated based on the total number of applications received for the particular group of courses and the test centre choices given by the candidates in the application form.
- In the rare and unlikely event of a technical failure during the test, the candidate may be required to attempt the test again. Candidate must visit www.vit.ac.in regularly to obtain latest news, information and updates on the entrance test.
- VIT reserves the **rights to reschedule** the examination for a candidate. In rare and unlikely event of a technical failure during the test, the candidate may be required to attempt the test again. The candidate will not be charged any additional entrance exam fee if the re-schedule is initiated from VIT. However, the candidate has to make his/her own arrangements at his/her cost similar to the original schedule to take the test for the revised schedule.

7.1 Online Test Booking System

- Online Test booking system is a web based online scheduling system available at www.vit.ac.in.
- Candidate should first choose the Test City (This should be the same as chosen in the application form) and then the date and the batch for the exams.
- The schedule bookings are done on a 'first-come first served basis', and are subject to the availability of the test centre date and time.

Online Test Booking Password

- For both OMR and online applicants, the password will be sent by email to the email address mentioned in the application form. Therefore, it is mandatory to give valid email address.
- University will not be responsible for non receipt of the email, if the email address given is incomplete or incorrect.
- The security of your Online Test Booking Password is totally your responsibility. VIT University will not be held accountable or responsible for any claim or loss that results directly or indirectly from any unauthorized use or misuse of your online test booking password.
- The Online Test Booking Password must be kept confidential. Do not disclose it to others or write them down or store them in a file on your computer or as auto save password.
- Your Online Test Booking Password is required only for the purpose of booking a schedule given by the University. Please note that the online test booking system will not allow the candidates to book a slot after the booking date ends.

Online Test Booking Procedure

- While booking your test schedule, please ensure that you have a photocopy of the application form you submitted and the Online Test Booking Password.

- After logging into the Online Test Booking System you have to select the test you wish to apply for i.e. you have to select Physics / Chemistry / Mathematics or Physics / Chemistry / Biology from the drop down menu to proceed further.
- A slot once booked cannot be changed. Request for change of test city, date or slot will not be entertained under any circumstances.
- In case of non availability of slots in a test centre of choice, the candidate may choose to book a slot in an alternative centre / date.
- The online test booking system is available only for those eligible candidates who have submitted the application forms complete in all respects on or before the last date mentioned.
- It is the responsibility of the candidates to book their test schedule in ONLINE TEST BOOKING SYSTEM within the given time frame. VIT will not be held accountable for the non bookings. The entrance test fee will not be refunded under any circumstances for such cases.
- The confirmation mail will be automatically sent to the candidate's email address after he/she has booked his/her schedule through the Online Test Booking System.
- Also once the booking is complete, the e-Admit card will be generated which needs to be printed by the student from our website www.vit.ac.in

8. Application Forms**8.1. Issue of Application Forms - Online**

Candidates can also apply online at www.vit.ac.in through the following mode :

- Net banking /Credit card/Debit card
- DD mode (online applicants need to pay ₹ 940/- only).

The online applicants applying through DD mode should send the hardcopy of the application form to the University addressed to the "Director - UG Admissions", VIT University, Vellore-632014.

8.2. Issue of Application Forms - OMR

- The Prospectus and the information brochure for the B.Tech. programme, along with the necessary enclosures which include the Application Form and a printed self addressed envelope, can be obtained against cash payment of ₹ 990/- from the various post offices as given in the VIT website: www.vit.ac.in

Candidates can obtain the application form in person from the

- VIT University, Vellore Campus
- VIT University, Chennai Campus
- Anna Nagar Office,

New No. 6, (Old No. W-73), Second Street (Opposite Towers Club), Anna Nagar, Chennai – 600 040, by handing over a Demand Draft for ₹ 990/- drawn in favour of 'VIT University', payable at Vellore.

- Candidates can also obtain the application form through post by sending a Demand Draft for ₹990 /-drawn in favour of 'VIT University', payable at Vellore, with a covering letter addressed to "Director - UG Admissions", VIT University, Vellore-632014, requesting for the application form and indicating their complete postal address. On receipt of the DD, the application form with the enclosures will be sent by post. The postal charges will be borne by the Institute. Candidate should write his/her name, Mobile Number and address on the reverse of the DD.
- Candidates are advised to purchase the information brochure/ application form only through means mentioned above and not from any private publishers/ vendors. Fake application forms will not be processed and will be rejected.

8.3. Returning the Completed OMR Application:

The application form duly completed should be checked, if all the items have been correctly filled and appropriate codes indicating your exact choice have been put in the right spaces provided against each. You are advised to go through the checklist available on the inside front cover of the brochure. Also ensure that you have adhered to the instructions for completing the computerized OMR application form (section-19 in the brochure) before mailing the application. The application should be refolded along the original fold only and inserted in the envelope provided.

Your application should be sent either by Registered Post or Speed Post in the self-addressed envelope provided by VIT so as to reach the office positively on or before **February 27, 2015**. Before despatching the application form ensure that you have filled in the correct Test City Code and tick the checklist on the envelope provided.

Note:

Incomplete application form shall not be considered and no correspondence shall be made in this regard.

The application form once sold shall not be taken back under any circumstances nor the application fee, refunded in any case.

8.4. Receipt of Completed Application Form:

The last date for the receipt of completed application forms at VIT is February 27, 2015.

Any application received after the last date will not be accepted. Any delay in receiving the application by the candidate will not be considered a valid reason for late submission. The Institute will not accept responsibility for any postal delay, irregularity or loss in postal transit. Do not enclose any document with the application form.

9. e-Tracking / SMS

For the benefit of the candidates, the following arrangements have been made to inform the status of the application, venue of the entrance examination and results.

Once the application is received at VIT, a message will be sent through SMS to the candidates stating that their application has been received at VIT. This would, however, be possible only if the mobile number is correctly shaded in the application form. The candidates may also track the status of their application by typing their application number in the

VIT website. However, this feature can be availed only after about 3 weeks of despatch of their application.

At the time of publication of the results, the rank will be intimated through SMS and it will also be made available in the website as mentioned in 12.2.

10. Test Cities for VITEEE-2015

The VITEEE - 2015 will be held in 112 cities. The list of Test Cities along with their corresponding codes is found in APPENDIX- III of this information brochure.

11. e-Admit Card

11.1. Important Information:

- The e-Admit card will be generated once the candidate has booked his/her schedule through the Online Test Booking System.
- The e-Admit card will be auto-generated for only those candidates who book a slot using the Online Test Booking system before the last date.
- The e-Admit card will indicate the e-Admit card number, photograph of the student, address of the test center, test date and time selected by the candidate. Discrepancies, if any, must be brought to the notice of VIT University immediately.
- The e-Admit card will be made available for candidates on **www.vit.ac.in**. Candidate should provide the application form number and Online Test Booking password to download the e- Admit card.
- The copy of the e-Admit card will also be emailed to the candidate.
- **Candidates must provide valid email ID in the application form. The e-Admit card will not be despatched to candidates via post or fax.**
- Candidates should ensure that a printer is connected to their computer while printing the e-Admit card.
- Candidates should take a print out of the e-Admit card using the print option on A4 size paper only. Please ensure that all information on the e-Admit card including photograph is clearly visible on the print out.
- Candidates will not be permitted to appear for the test without valid e-Admit card.
- Candidates must not mutilate the e-Admit card or change any entry made therein after it has been authenticated and received by them. Impersonation is a legally punishable offence.
- The e-Admit card is an important document and it must be preserved and produced at the time of Counselling / admission.

Candidate should report to the selected test centre with

1. e-Admit card
2. Photocopy of the application form and
3. Any one of the following for photo identification.
 - a. Passport

- b. Driving License
- c. Voter ID card
- d. IT Pan card
- e. School or college Photo ID card
- f. Twelfth Standard board exam hall ticket (or) admit card bearing photo

11.2. Admit card will not be processed if the Application is incomplete:

- In the case of an eligible candidate, whose application form is incomplete (For eg. Declaration not signed, no signature below the photograph, photograph not affixed on the application form, address not clearly written, invalid email id etc.), the application will not be processed for the issue of an Admit Card. VIT does not take the responsibility to inform such candidates.
- Candidates are advised to check the application form thoroughly (online / OMR) before posting.

11.3. Biometric Verification:

- **Biometric registration** is a part of attendance and hall ticket verification process and VIT reserves the right to carry out the same either before or during the examination or both. Candidates who do not cooperate during the biometric registration process will not be allowed to take the examination and VIT reserves the right to disqualify such candidates. Biometric authentication will be carried out again for the shortlisted candidates during counselling and joining. All candidates are expected to cooperate and plan their time accordingly.
- Candidates are not allowed to carry any item other than the documents mentioned in the information brochure (Refer Page number: 5, item: 11.1) to the examination hall. VIT will not be responsible for any loss of Valuables.

Mock / Demo Test :

A mock test will be available to the candidates on the website www.vit.ac.in. This is mainly designed to provide the candidates awareness of the procedure and to get used to the various components of the exam. The mock test will give the candidate an idea of all the features of the entrance test. The mock test will be in the form of a flash file that can be downloaded to the system and the candidate can go through the entire flash file of the demo/mock test any number of times.

Do's for the candidates

- Be present at the test centre as per the reporting time mentioned in the e-Admit card.
- Register your name in the registration counter and carry the e-Admit card and a valid ID proof for verification.
- Sit in your allotted seat only.

- Maintain perfect silence and work on your testing process only.
- Sign the attendance sheet in the presence of invigilator.

Don'ts for the candidates

- Not allowed to carry any text material, printed or written, bits of papers or any material except the e-Admit card inside the test hall.
- Not permitted to carry any electronic devices like mobile phones, paging devices, calculators, spy cameras and music systems.
- Not allowed to go outside the test hall till the completion of the entire duration of the exam time.
- Not allowed to eat or drink anything (snacks, tea, coffee and cool drinks etc.) inside the test hall. Plain water bottles with nothing written or printed on them will be allowed.

- Violation of any instruction and adoption of any unfair means in the examination hall will make the candidate ineligible for admission.
- Impersonation (or any such crimes) will be reported to Police.

12. Results

12.1. Rank List:

A merit list will be prepared using Equating Methodology for VITEEE – 2015.

Note: There is no provision to send the marks of the candidates (selected or otherwise) by post. At the time of publication of the results, the rank will be intimated through SMS, if the mobile number of the applicant is provided.

Since the final grades are scrutinized with extreme care, there is no provision for re-grading and re- totaling. The photocopies of the answer sheets will not be made available. No correspondence in this regard will be entertained.

12.2 Announcement of Results:

The entrance examination results will be available in the following websites:

- * www.vit.ac.in
- * www.schools9.com
- * www.minglebox.com
- * www.bharathedu.com
- * www.indiaresults.com
- * www.shiksha.com
- * www.examresults.net

12.3 Equating Methodology:

Equating is a statistical process that is used to adjust scores on test forms (that are approximately equivalent) so that scores on the forms can be used interchangeably. Thus, equating is used to adjust scores of candidates who have taken different forms of a test, in order to facilitate meaningful and fair comparison for merit list and ranking of these candidates. The statistical procedure of Equipercentile Equating

would be used by VIT to identify the percentile ranks for candidates, such that scores on different forms with the same percentile rank are considered to be equivalent. Thus, Percentile Rank is a unique and invariant position of the test taker in that group. A percentile Rank, say 90 Percentile Rank denotes that there are 90 percent of test takers scores below this score level and 10 percent above this test score. Candidates are advised not to make assumptions and predictions of their score or rank based on their own estimates of raw scores.

13. Scholarship under “GV School Development Programme” (GVSDP)

Performance	Scholarship*
Toppers of each State Board and Central Board	100% Tuition fee waiver for all the four years.
VITEEE rank holders of 1 to 50	75% Tuition fee waiver for all the four years.
VITEEE rank holders of 51 to 100	50% Tuition fee waiver for all the four years.
VITEEE rank holders of 101 to 1000	25% Tuition fee waiver for all the four years.

*Terms&Conditions apply

14. Tuition and Special Fees

Please refer to our website www.vit.ac.in

15. Counselling

15.1. Advance Payment :

The selected candidates will have to submit a DD for ₹ 30,000 /- in favour of ‘VIT University’, payable at Vellore, on the confirmation of seat and acceptance of branch allotted. This includes ₹ 10,000 /- towards counselling fee. **Counselling fee is NON-REFUNDABLE**, but it will be adjusted in the tuition fees once the candidate joins the University.

Details of various branches offered under the B.Tech programme in the current year, the total number of seats allocated for each branch at the time of counselling, number of seats still available will be displayed at the counselling centre for the benefit of candidates to make their choice. Based on the availability, the candidate will be allotted the branch.

VIT will in no way be responsible for counselling information not reaching the candidates. They should check the VIT website: www.vit.ac.in for information on counselling.

No change of date / time of counselling is permissible. If a candidate does not personally appear before the Admission Committee for counselling on the date specified, his/her seat shall be offered to the next candidate in the order of merit.

15.2. Counselling procedure for allocation of seats/ branch:

The counselling for allocation of branches to the short-listed candidates is based on their All India Rank (AIR) in the VITEEE-2015. A candidate may obtain this information on our website or by calling the VIT office, on the day after the declaration of the results of VITEEE-2015.

The intimation regarding counselling dates will be displayed in VIT website. SMS also will be sent to the qualified candidates after declaration of the results. Common selection and Admission procedure will be followed through single window counselling at Vellore and Chennai campus for all the B.Tech programmes offered in both the campuses of VIT University.

However, due to unforeseen reasons, if a candidate is unable to attend the counselling on the specified date and time, he / she can attend on a subsequent time / date, after duly intimating the office, regarding this. But the candidate can only opt for the branch available at that time and cannot claim any other branch as per his / her original turn / seniority.

After the counselling for a particular day is over, the number of seats (branchwise) still available for allotment on the next day of counselling will be published in the website and will also be displayed on the notice board of the Institute for the benefit of candidates.

If the mark statement of the qualifying exam has not been received before the date of counselling, the candidate would have to furnish an undertaking stating that if he/she fails to qualify as per the norms, it would lead him / her to forego his / her seat.

Candidates who have been shortlisted for counselling should also attend the same in person either in Vellore or Chennai campus.

Advance payment for Hostel

To take care of possible absentees, the number of qualified candidates is kept more than the number of seats available in VIT University. The fact that a candidate has qualified in the VITEEE-2015 and has been called for the counselling does not guarantee admission to him/her. This depends upon the candidate's All India Rank (AIR) in the entrance examination and the availability of seats.

Candidate requiring hostel accommodation will have to submit a separate crossed Demand Draft for ₹ 21,000/- drawn in favour of ‘VIT University’, payable at Vellore and Student needs to mention the choice of bed in the online student profile, while filling online

counseling form. Payment of Hostel Advance does not necessarily guarantee Hostel Accommodation. Hostel Accommodation will be made subject to availability.

Submission of Documents at the Time of Counselling

The candidates should produce the following **documents in original along with one set of photocopies while reporting for counselling**. Candidates will not be allowed to participate in the counselling process without these documents.

- VITEEE-2015 e-Admit Card and VITEEE Result copy
- Class X Board Certificate as a proof of date of birth or any age proof Certificate
- Marks Sheet of Qualifying Examination (if available)
- Community Certificate (For SC/ST only)
- Nativity Certificate (For candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura).
- DEMAND DRAFT for ₹ 30,000/- drawn in favour of 'VIT University', payable at Vellore.

Candidates without DD for the above said amount will not be permitted to attend counselling.

Candidates will be allowed to participate in the counselling process, only after verification of documents, Authentic records pertaining to identification, age, marks sheet of qualifying examination, community, nativity (if applicable) and other eligibility criteria as specified in section-3. If a candidate fails to produce any of these documents, he/she will not be considered for admission.

A candidate should decide for certain on whether he / she should join the programme based on the branch allotted to him / her at the time of counselling before the payment of the fee.

Allotment of branch & Campus once made is final and cannot be changed under any circumstances.

16. Payment of Balance Fees

The balance fee in the form of a DD drawn in favour of 'VIT University', payable at Vellore along with a covering letter should reach the **Director-UG Admissions** within the date specified in the provisional admission letter. The candidates should write their name, application number, Rank and the branch allotted at the time of counselling on the reverse of the DD. Intimation will not be sent separately in this regard.

Accordingly candidates admitted in Chennai campus should send the DD directly to the Chennai Campus address mentioned in the form issued at the time of counselling.

DD received after the due date (mentioned in the provisional admission letter) will not be entertained.

17. Submission of documents on admission

The following documents in original are required to be submitted at the time of Admission:

- Qualifying examination mark statements of all attempts
- Transfer Certificate / School Leaving Certificate
- Migration Certificate (if issued by the board)
- Conduct Certificate
- Community Certificate (For SC/ST only)
- Nativity Certificate (For candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura).
- Provisional Admission Letter. (photo copy)
- Recent Passport size colour photos – 4 nos.
- Affidavit to be signed separately by Student, Parent & Hostel affidavit in ₹ 20/- Stamp Paper. (Format available in www.vit.ac.in)
- Physical Fitness Certificate.
- 2 sets of photocopies of all original documents. (except Affidavit & Physical Fitness Certificate)

Students hailing from Andhra Pradesh Intermediate Board of Education should make it a point to submit their Pass Certificate Cum Memorandum of Marks at the time of admission.

Candidates can download the acknowledgement for the documents submitted from the VIT website. No written acknowledgement will be issued.

All the above mentioned documents shall be handed over to the Admissions Office at the time of admission, failing which the provisional admission accorded will stand cancelled.

17.1. Submission of 'No Dues' Certificate

A student once enrolled for a course is expected to complete the same. He/ She cannot withdraw from the University without informing the Registrar in writing. Otherwise he / she will be liable to pay fees for the period and his / her name remains on the rolls.

A candidate who desires to leave the University after joining the programme will have to submit a 'NO DUES' Certificate from his / her respective school of study at VIT to get back the certificates. This should be accompanied by the application for withdrawal duly signed by the Parent/Guardian (Fax / e-mail request will not be considered) and the original fee receipt and provisional admission letter.

The certificates will be issued only on production of 'NO DUES' Certificate in the prescribed form, obtained from the Admissions Office.

17.2. Refund of Fees

The refund will be made as per the norms of the UGC. **The Counselling fee (₹ 10000/-) is NON-REFUNDABLE**, but will be adjusted in the tuition fees once the candidate joins the University. All refundable deposits will be returned, after deductions if any, at the time of completion of the course or on cancellation of admission.

Refund will be made only after submission of original fee receipt, Provisional Admission letter and No Dues Certificate. Refund DD will be made in the name of candidate only.

17.3. General Discipline

All candidates admitted to the Institute shall maintain good conduct, pay the requisite tuition fees and other charges by the due dates, attend their classes regularly and abide by the rules and regulations of the Institute. If at any point of time, the conduct and character of a candidate is not satisfactory or is of a suspicious nature, the Management reserves the right, without assigning any reason, to make him /her vacate the hostel or expel him/her from the University.

Initial admission applies only to the first semester. Admitted students are expected to maintain registration until the completion of the course, to the satisfaction of the Institute.

All students have to comply with the rules and regulations that are already in force or may be amended from time to time by the competent authority during the period of study.

17.3A. General Instructions

The date of commencement of classes will be mentioned in the provisional admission letter. No communication will be sent to the candidates regarding this. Candidates are advised to visit the University website for changes, if any.

Candidates should report to classes within 7 days from the date of commencement of classes, failing which, the admission granted will be cancelled automatically.

Semester scheme is followed and the medium of instruction and examination is in English.

17.4. Measures for prevention of ragging at the institution level:-

Ragging is totally prohibited in the institution, and anyone found guilty of ragging and / or abetting ragging, whether actively or passively, or being a part of a conspiracy to promote ragging, is liable to be punished in accordance with these regulations as well as under the provisions of any penal law for the time being in force.

Ragging juniors in any form is forbidden. If any one is found ragging his/her juniors, he/she can be rusticated from the Institute.

It is mandatory that candidates and parents who are attending counselling to sign an undertaking as the information given in (as per UGC Regulations-2009, www.ugc.ac.in Annexure - I, II, IVA & IVB in ₹ 20/- non-judicial bond paper. Format is also available on www.vit.ac.in

18. Hostel - Vellore and Chennai Campus

Hostel Accommodation:

Separate hostel accommodation is available for boys and girls in both Vellore and Chennai campus.

Hostel accommodation will be provided only to those candidates whose residence is beyond 100 kms radius from the University Campus. Single room accommodation will not be available for first year undergraduate students.

For details regarding Establishment Charges, Mess, etc., please visit www.vit.ac.in

19. Instructions for completing the computerised OMR application form

- The application form should be filled by the candidate in his/her own handwriting.
- **It is suggested that the candidate make a photocopy of the form and use it for practice. ONLY THE ORIGINAL APPLICATION FORM SHOULD BE SENT.**
- Read the instructions carefully before filling the application form. Requests for corrections will not be entertained later. Refer to the specimen copy enclosed in this brochure.
- Your application form will be Machine-processed. **First, write in CAPITAL LETTERS the required information or enter the relevant code with a black ball-point pen in the box(es) (wherever provided). Shade the alphabet/numeral circle corresponding to the above using HB pencil only.** What you write in the boxes is only for your guidance and for verification that you are shading the correct alphabet / numeral option.
- If you wish to change a marking, erase the shaded spot completely and then shade the appropriate alphabet / numeral.
- **Do not scribble, cut, tear or wrinkle the application form. Do not put any stray pencil marks anywhere on the application form.**
- **Do not write or make any marks on the Barcode.**
- Your photograph, signature and address are to be machine scanned. The machine recognizes only good quality images. You are, therefore, to paste a good quality colour photograph with light colour background taken not more than two months earlier and write your address and signature in black ball-point pen only.
- **Please note that your name, your parent's / guardian's name and your date of birth should be exactly the same as given in your High school / +2 / Intermediate/Pre-University examination certificate.**
- Your application must be complete in all respects. **An incomplete application or application filled in a language other than English will summarily be rejected. Options filled by you in the application form cannot be changed at a later stage.**
- Please note down the ten digit application number for future reference.

Item-1-Name of the Candidate

Write your name in capital letters as it appears or would appear in your XII Std certificate. Write only a single letter in a box. Do not leave any blank box between the letters in a name. **One box should be left blank between consecutive words of your name.** If your name has several initials, leave one blank after each of them. Shade the corresponding alphabet underneath each letter of the name. Do not write Mr., Miss, Km. etc before your name.

Item-2-Date of Birth

Write the date, month and year of your birth as per the English calendar and as recorded in your School Board/+2/ Intermediate/ Pre-University examination certificate. Use numerals 01 to 31 for DATE, numerals 01 to 12 for MONTH, and the last two digits for the YEAR of birth. For example, if born on **1st July 1993**, the date should be entered as follows: 01 07 93. Shade the corresponding numerals for date, month and year in each column.

Item-3-Gender**Item-4-Religion (For statistical purpose only)****Item-5-Nationality****Item-6-Community**

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code, in all the above items. Candidates belonging to MBC category should use the same code as OBC / BC (for statistical purpose only).

Item-7-Mother Tongue

Use the language codes as given below. Enter the correct code in the space provided and shade the numerals below to correspond with the code entered.

Assamese - 01	Kashmiri -07	Sindhi -13
Bengali - 02	Malayalam -08	Tamil -14
English - 03	Marathi -09	Telugu -15
Gujarati - 04	Marwari -10	Urdu -16
Hindi - 05	Oriya -11	Others -17
Kannada - 06	Punjabi -12	

Item-8-Native State

Refer to the codes for various States given in **APPENDIX-I** of the Information Brochure and enter the appropriate code in the box provided. Shade the numerals below to correspond with the code entered. Please mention the particular state, candidate belongs to.

Item-9-Hostel Accommodation

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-10-Blood Group

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-11-Valid e-mail ID

Give your correct email id. It is mandatory that you should produce your correct email id (in capital letters), as all the future correspondence will be communicated through email.

Item-12-Complete Postal Address

Write the complete postal address to which any communication is to be sent. The address must include your name, C/O name and all other details including the correct PINCODE, Phone No. with the correct STD code and Mobile number. Please note that this block will be machine scanned and therefore, it should be **written very clearly and**

in CAPITAL LETTERS in black ballpoint pen only. In case you make any mistake, cover the entire box with an exact sized white paper slip and write your address on it. **Your address must not overflow this box.** The use of address of any coaching centre / Institution is strictly prohibited. If anybody uses the address of any coaching centre/ Institution in his / her application form, it will be rejected.

Item-13-Pincode

Write the PINCODE number in the space provided. Shade the corresponding numeral under each digit.

Item-14-Name of the Parent / Guardian

Write the name of one parent or guardian in capital letters and shade accordingly. Write only a single letter in a box. Do not leave any blank box between the letters in a name. **One box should be left blank between consecutive words of the name.** If the name has several initials, leave one blank after each of them.

Item-15-Parent's / Guardian's Occupation

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-16-Medium of Instruction

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-17-Mode of Study

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-18-XII Board

Refer to the codes for various School Education Boards given in **APPENDIX-II** of the Information Brochure and write the appropriate code in the box provided. Shade the corresponding numeral under each digit of the code.

Candidates who have studied in Regular, Full time and Formal Education alone are eligible to apply.

Item-19-Choice of campus

Write the appropriate code in the box provided and then shade the appropriate circle to correspond with the code.

Item-20-Mobile Number

Write your mobile number in the space provided and shade the corresponding numeral under each digit.

Item-21-Alternate Mobile Number

Write your alternate mobile number in the space provided and shade the corresponding numeral under each digit.

Item-22-Test City

Refer to the codes for Test Cities in **APPENDIX-III** of the Information Brochure and write the appropriate code in the space provided. Shade the corresponding numeral under each digit of the code.

Item-23–Details of the Qualifying Exam passed / appearing for

Write the relevant details as Registration number/ Roll number / Complete school address with pincode in each box clearly in black ball-point pen only.

In case you have not yet been allotted your Registration No./ Roll No., please leave the column blank.

Item-24– Where did you see our Admission Advertisement

Please specify the Name of the Newspaper / Website (or) any other source where you have seen the Admission Advertisement (write in CAPITAL LETTERS only)

Item-25–Declaration

The candidate must sign the declaration. The place and date should also be written. Applications without signatures will be treated as incomplete and rejected.

The Declaration by the candidate must be Countersigned by the Parent / Guardian.

Affix one recent, good quality, coloured photograph in the space earmarked for this in the Application Form. Paste a good quality colour photograph with light colour background taken not more than two months earlier. Your photograph should be plain and professional and specifying clearly name and the date of the photograph taken. Avoid photograph with a cap or goggles. Spectacles if being used regularly are allowed. Polaroid photos will not be accepted. The photograph should be firmly affixed to the application form with gum or fevicol. Before affixing write your Application No. and Name at the back of your photograph. It should not be pinned or stapled.

Candidates are advised to retain the negative of the same photograph for future use at the time of Entrance Examination/ Counselling / Admission. **Do not sign on the photograph. Do not have it attested.**

It is expected that the candidate will have the same appearance at the time of the examination and counselling as in the photograph affixed in the application form. In case his/her appearance changes, he/she would be required to bring two new photographs at the time of the examination / counselling.

NOTE: Photograph should not be larger than the space provided in the box for pasting it.

Put your usual signature using a **black ball-point pen**, within the box provided. Your signature must not overflow or touch the border of the box. Your signature establishes your identity.



20. Check List

20.1. Documents to be Submitted at the time of Counselling:

1. VITEEE-2015 e-Admit Card and VITEEE Result copy
2. Class X Board Certificate as a proof of date of birth or any age proof certificate.
3. Marks Sheet of Qualifying Examination (if available)
4. Transfer Certificate / School Leaving Certificate
5. Migration Certificate (if issued by the Board)
6. Community Certificate (For SC/ST only)
7. Nativity Certificate (For candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura).
8. DEMAND DRAFT for ₹ 30,000 /- drawn in favour of 'VIT University', payable at Vellore.
9. For hostel admission, DD for ₹ 21,000/- drawn in favour of 'VIT UNIVERSITY' payable at Vellore.

20.2. Documents to be Submitted at the time of Admission:

The following documents in original are required to be submitted at the time of admission:

- Qualifying examination mark statements of all attempts.
- Transfer Certificate / School Leaving Certificate
- Migration Certificate (if issued by the Board)
- Conduct Certificate
- Community Certificate (For SC/ST only)
- Nativity Certificate (For candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura).
- Any age proof certificate (Photocopy only)
- Provisional Admission Letter. (Photo copy)
- Recent Passport size colour photos – 4 nos.
- Affidavit has to be given by the Student, Parents and Hostel affidavit separately as per Annexure - I, II, IVA & IVB
- Physical Fitness Certificate as per Annexure - V
- 2 sets of photocopies of all original documents.

If you have any suggestions to improve our Information Brochure or Application Forms please e-mail to ugadmission@vit.ac.in

- Thanks

APPENDIX - I

Codes of The State / Union Territory

State	Code
Andhra Pradesh	10
Arunachal Pradesh	11
Assam	12
Bihar	13
Chhattisgarh	14
Delhi	15
Goa	16
Gujarat	17
Haryana	18
Himachal Pradesh	19
Jammu and Kashmir	20
Jharkhand	21
Karnataka	22

State	Code
Kerala	23
Madhya Pradesh	24
Maharashtra	25
Manipur	26
Meghalaya	27
Mizoram	28
Nagaland	29
Orissa	30
Punjab	31
Rajasthan	32
Sikkim	33
Tamil Nadu	34
Telangana	35

State	Code
Tripura	36
Uttar Pradesh	37
Uttarakhand	38
West Bengal	39
Andaman and Nicobar Islands (UT)	40
Chandigarh (UT)	41
Dadra and Nagar Haveli (UT)	42
Daman and Diu (UT)	43
Lakshadweep (UT)	44
Puducherry (UT)	45

APPENDIX - II

Codes of The School Education Boards of Class XII

State	Code
Board of Intermediate Education (Andhra Pradesh/Telangana)	01
Assam Higher Secondary Education Council	02
Bihar Intermediate Education Council	03
Central Board of Secondary Education	04
Chhattisgarh Madhyamik Shiksha Mandal	05
Council for the Indian School Certificate Examinations	06
Goa Board of Secondary and Higher Secondary Education	07
Gujarat Secondary Education Board	08
Haryana Board of Education	09
H P Board of School Education	10
J & K State Board of School Education	11
Jharkhand Academy Council	12
Karnataka Board of Pre-University Education	13
Kerala Board of Public Examinations	14
Madhya Pradesh Board of Secondary Education	15
Maharashtra State Board of Secondary and Higher Secondary Education	16

State	Code
Manipur Council of Higher Secondary Education	17
Meghalaya Board of Secondary Education	18
Mizoram Board of School Education	19
Nagaland Board of School Education	20
Orissa Council of Higher Secondary Education	21
Punjab School Education Board	22
Rajasthan Board of Secondary Education	23
Tamil Nadu Board of Higher Secondary Education	24
Tripura Board of Secondary Education	25
U.P. Board of High School & Intermediate Education	26
Uttaranchal Shiksha Evam Pariksha Parishad	27
West Bengal Council of Higher Secondary Education	28
International Baccalaureate	29
University of Cambridge	30
GCE at Advanced Level	31
Others	32

* Candidates who have studied in regular, full time and formal education alone are eligible to apply.

Codes of the Test Cities – VITEEE – 2015

State	Test City	Code	State	Test City	Code	State	Test City	Code
Andaman and Nicobar Islands	Port Blair	101	Jharkhand	Bokaro	138	Rajasthan	Ajmer	173
	Andhra Pradesh	Ananthapur		102	Dhambad		139	Bikaner
Guntur		103		Janshedpur	140		Jaipur	175
Kurnool		104		Ranchi	141		Jodhpur	176
Nellore		105		Bangalore	142		Kota	177
Rajahmundry		106		Hubli	143		Udaipur	178
Tirupati		107		Mangalore	144		Gangtok	179
Vijayawada		108		Kochi	145		Chennai	180
Vishakhapatnam		109		Kozhikode	146		Coimbatore	181
Telangana	Hyderabad	110		Thiruvananthapuram	147		Kumbakonam	182
	Warangal	111	Thirissur	148	Madurai	183		
Arunachal Pradesh	Ita Nagar	112	Madhya Pradesh	Bhopal	149	Salem	184	
	Assam	Dibrugarh		113	Gwalior	150	Tiruchirappalli	185
Guwahati		114		Indore	151	Tirunelveli	186	
Silchar		115		Jabalpur	152	Vellore	187	
Bihar		Bhagalpur		116	Ujjain	153	Agartala	188
		Gaya		117	Amravati	154	Agra	189
		Muzaffarpur		118	Aurangabad	155	Aligarh	190
Chandigarh		Patna		119	Latur	156	Allahabad	191
		Chandigarh		120	Mumbai	157	Bareilly	192
Chattisgarh	Bhilai	121		Nagpur	158	Gorakhpur	193	
	Bilaspur	122	Nashik	159	Jhansi	194		
Delhi	Raipur	123	Pune	160	Kanpur	195		
	Delhi	124	Thane	161	Lucknow	196		
Goa	Goa	125	Manipur	Imphal	162	Mathura	197	
Gujarat	Ahmedabad	126		Shillong	163	Meerut	198	
	Rajkot	127		Aizawl	164	Moradabad	199	
	Surat	128	Berhampur	165	Noida	200		
	Vadodra	129	Bhubaneswar	166	Rae Bareli	201		
	Haryana	Faizabad	130	Rourkela	167	Saharanpur	202	
Gurgaon		131	Puducherry	168	Varanasi	203		
Hissar		132	Amritsar	169	Dehradun	204		
Kurukshetra		133	Bathinda	170	Pant Nagar	205		
Dharmasala		134	Jalandhar City	171	Roorkee	206		
Himachal Pradesh	Shimla	135	Ludhiana	172	Asansol	207		
	Jammu & Kashmir	136	Dubai	211	Durgapur	208		
Jammu & Kashmir	Srinagar	137	Kuwait	212	Kolkata	209		
					Siliguri	210		

APPENDIX – IV

VITEEE – 2015 – SYLLABUS

PART – 1 - PHYSICS

1. Electrostatics

Charges and their conservation; Coulomb's law-forces between two point electric charges - Forces between multiple electric charges-superposition principle.

Electric field – electric field due to a point charge, electric field lines; electric dipole, electric field intensity due to a dipole - behaviour of a dipole in a uniform electric field.

Electric potential - potential difference-electric potential due to a point charge and dipole-equipotential surfaces – electrical potential energy of a system of two point charges.

Electric flux-Gauss's theorem and its applications to find field due to (i) infinitely long straight wire (ii) uniformly charged infinite plane sheet (iii) two parallel sheets and (iv) uniformly charged thin spherical shell (inside and outside)

Electrostatic induction-capacitor and capacitance – dielectric and electric polarisation – parallel plate capacitor with and without dielectric medium – applications of capacitor – energy stored in a capacitor - Capacitors in series and in parallel – action of points – Lightning arrester – Van de Graaff generator.

2. Current Electricity

Electric Current – flow of charges in a metallic conductor – drift velocity and mobility and their relation with electric current.

Ohm's law, electrical resistance - V-I characteristics – electrical resistivity and conductivity-classification of materials in terms of conductivity – Carbon resistors – colour code for carbon resistors - combination of resistors – series and parallel – temperature dependence of resistance – internal resistance of a cell – potential difference and emf of a cell - combinations of cells in series and in parallel.

Kirchoff's law – illustration by simple circuits – Wheatstone's Bridge and its application for temperature coefficient of resistance measurement - Metrebridge - special case of Wheatstone bridge - Potentiometer principle - comparing the emf of two cells.

3. Magnetic Effects of Electric Current and Magnetism

Magnetic effect of electric current – Concept of magnetic field - Oersted's experiment – Biot-Savart law-Magnetic field due to an infinitely long current carrying straight wire and circular coil – Tangent galvanometer – construction and working – Bar magnet as an equivalent solenoid – magnetic field lines.

Ampere's circuital law and its application.

Force on a moving charge in uniform magnetic field and electric field – cyclotron – Force on current carrying conductor in a

uniform magnetic field – Forces between two parallel current carrying conductors - definition of ampere.

Torque experienced by a current loop in a uniform magnetic field - moving coil galvanometer – conversion to ammeter and voltmeter – current loop as a magnetic dipole and its magnetic dipole moment - Magnetic dipole moment of a revolving electron.

Para, dia and ferro-magnetic substances with examples – Electromagnets – Permanent Magnets

4. Electromagnetic Induction and Alternating Current

Electromagnetic induction - Faraday's law - induced emf and current - Lenz's law.

Self induction - Mutual induction - self inductance of a long solenoid - mutual inductance of two long solenoids.

Methods of inducing emf - (i) by changing magnetic induction (ii) by changing area enclosed by the coil and (iii) by changing the orientation of the coil (quantitative treatment).

AC generator - commercial generator. (Single phase, three phase).

Eddy current - applications - transformer - long distance transmission.

Alternating current - measurement of AC-AC circuit with resistance - AC circuit with inductor - AC circuit with capacitor - LCR series circuit - Resonance and Q - factor - power in AC circuits.

5. Optics

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula. Magnification, power of a lens, combination of thin lenses in contact, combination of a lens and a mirror. Refraction and dispersion of light through a prism.

Scattering of light-blue colour of sky and reddish appearances of the sun at sunrise and sunset.

6. Electromagnetic Waves and Wave Optics

Electromagnetic waves and their characteristics - Electromagnetic spectrum-radio, microwaves, infra-red, visible, ultra-violet, X rays, gamma rays.

Wavefront and Huygens's principle - Reflection, total internal reflection and refraction of plane wave at a plane surface using wavefronts.

Interference - Young's double slit experiment and expression for fringe width - coherent source - interference of light-Formation of colours in thin films - analytical treatment - Newton's rings.

Diffraction - differences between interference and diffraction of light- diffraction grating.

Polarisation of light waves - polarisation by reflection - Brewster's law - double refraction - nicol prism - uses of plane polarised light and Polaroids - rotatory polarisation - polarimeter.

7. Atomic and Nuclear Physics

Atomic structure – discovery of the electron – specific charge (Thomson's method) and charge of the electron (Millikan's oil drop method) – alpha scattering – Rutherford's atom model.

Bohr's model – energy quantization – energy and wave number expressions – Hydrogen spectrum – energy level diagrams – sodium and mercury spectra – excitation and ionization potentials.

Nuclear properties - nuclear radii, masses, binding energy, density, charge - isotopes, isobars and isotones - nuclear mass defect - binding energy - stability of nuclei - Bainbridge mass spectrometer.

Nature of nuclear forces - Neutron - discovery - properties - artificial transmutation - particle accelerator.

Radioactivity - alpha, beta and gamma radiations and their properties- α -decay, β -decay and γ -decay - Radioactive decay law - half life - mean life - artificial radioactivity - radio isotopes - effects and uses - Geiger - Muller counter.

Radio carbon dating - biological radiation hazards.

Nuclear fission - chain reaction - atom bomb - nuclear reactor - nuclear fusion - Hydrogen bomb - cosmic rays - elementary particles.

8. Dual Nature of Radiation and Matter

Photoelectric effect - Light waves and photons - Einstein's photoelectric equation - laws of photoelectric emission - particle nature of light - photo cells and their applications.

Matter waves - wave nature of particles – de Broglie relation – de Broglie wavelength of an electron –Davisson Germer experiment – electron microscope

9. Semiconductor Devices and their Applications

Semiconductor theory - energy band in solids (Qualitative ideas only) - difference between metals, insulators and semiconductors based on band theory - semiconductor doping - Intrinsic and Extrinsic semiconductors.

Formation of P-N Junction - Barrier potential and depletion layer- P-N Junction diode - Forward and reverse bias characteristics - diode as a rectifier - Zener diode-Zener diode as a voltage regulator - LED - seven segment display - LCD.

Junction transistors - characteristics - transistor as a switch - transistor as an amplifier - transistor as an oscillator .

Logic gates - NOT, OR, AND, EXOR using discrete components - NAND and NOR gates as universal gates -Laws and theorems of Boolean algebra

PART – II - CHEMISTRY

1. Atomic Structure:

Bohr's atomic model-Sommerfeld's extension of atomic structure; Electronic configuration and Quantum numbers; Shapes of s,p,d,f orbitals - Pauli's exclusion principle - Hund's Rule of maximum multiplicity- Aufbau principle. Emission spectrum, absorption spectrum, line spectra and band spectra; Hydrogen spectrum – Lyman, Balmer, Paschen, Brackett and Pfund series; deBroglie's theory; Heisenberg's uncertainty principle – wave nature of electron – Schrodinger wave equation (No derivation). Eigen values and eigen functions. Hybridization of atomic orbitals involving s,p,d orbitals.

2. p,d and f – Block Elements:

p-block elements – Phosphorous compounds; PCl_3 , PCl_5 – Oxides. Hydrogen halides, Inter halogen compounds. Xenon fluoride compounds. General Characteristics of d – block elements – Electronic Configuration – Oxidation states of first row transition elements and their colours. Occurrence and principles of extraction: Copper, Silver, Gold and Zinc. Preparation, properties of CuSO_4 , AgNO_3 and $\text{K}_2\text{Cr}_2\text{O}_7$.

Lanthanides – Introduction, electronic configuration, general characteristics, oxidation state – lanthanide contraction, uses, brief comparison of Lanthanides and Actinides.

3. Coordination Chemistry and Solid State Chemistry

Introduction – Terminology in coordination chemistry – IUPAC nomenclature of mononuclear coordination compounds. Isomerism, Geometrical isomerism in 4-coordinate, 6-coordinate complexes. Theories on coordination compounds – Werner's theory (brief), Valence Bond theory. Uses of coordination compounds. Bioinorganic compounds (Haemoglobin and chlorophyll).

Lattice – unit cell, systems, types of crystals, packing in solids; Ionic crystals – Imperfections in solids – point defects. X-Ray diffraction – Electrical Property, Amorphous solids (elementary ideas only).

4. Thermodynamics, Chemical Equilibrium and Chemical Kinetics

I and II law of thermodynamics – spontaneous and non spontaneous processes, entropy, Gibb's free energy – Free energy change and chemical equilibrium – significance of entropy.

Law of mass action – Le Chatlier's principle, applications of chemical equilibrium. Rate expression, order and molecularity of reactions, zero order, first order and pseudo first order reaction – half life period. Determination of rate constant and order of reaction . Temperature dependence of rate constant – Arrhenius equation, activation energy.

5. Electrochemistry

Theory of electrical conductance; metallic and electrolytic conductance. Faraday's laws – theory of strong electrolytes – Specific resistance, specific conductance, equivalent and molar conductance – Variation of conductance with dilution – Kohlrausch's Law – Ionic product of water, pH and pOH – buffer solutions – use of pH values. Cells – Electrodes and electrode potentials – construction of cell and EMF values, Fuel cells, Corrosion and its prevention.

6. Isomerism in Organic Compounds

Definition, Classification – structural isomerism, stereo isomerism – geometrical and optical isomerism. Optical activity- chirality – compounds containing chiral centres – R – S notation, D – L notation.

7. Alcohols and Ethers

Nomenclature of alcohols – Classification of alcohols - distinction between 1^o, 2^o and 3^o alcohols – General methods of preparation of primary alcohols, properties. Methods of preparation of dihydric alcohols: Glycol – Properties – Uses. Methods of preparation of trihydric alcohols - Properties – Uses. Aromatic alcohols – preparation and properties of phenols and benzyl alcohol.

Ethers – Nomenclature of ethers – general methods of preparation of aliphatic ethers - Properties – Uses. Aromatic ethers – Preparation of Anisole – Uses.

8. Carbonyl Compounds

Nomenclature of carbonyl compounds – Comparison of aldehydes and ketones. General methods of preparation of aldehydes – Properties – Uses. Aromatic aldehydes – Preparation of benzaldehyde – Properties and Uses. Ketones – general methods of preparation of aliphatic ketones (acetone) – Properties – Uses. Aromatic ketones – preparation of acetophenone – Properties – Uses, preparation of benzophenone – Properties. Name reactions; Clemmenson reduction, Wolff – Kishner reduction, Cannizzaro reaction, Claisen Schmidt reaction, Benzoin Condensation, aldol Condensation. Preparation and applications of Grignard reagents.

9. Carboxylic Acids and their derivatives

Nomenclature – Preparation of aliphatic monobarboxylic acids – formic acid – Properties – Uses. Monohydroxy mono carboxylic acids; Lactic acid – Synthesis of lactic acid. Aliphatic dicarboxylic acids; Preparation of oxalic and succinic acid. Aromatic acids; Benzoic and Salicylic acid – Properties – Uses. Derivatives of carboxylic acids; acetyl chloride (CH₃COCl) – Preparation – Properties – Uses. Preparation of acetamide, Properties – acetic anhydride – Preparation, Properties. Preparation of esters – methyl acetate – Properties.

10. Organic Nitrogen Compounds

Aliphatic nitro compounds – Preparation of aliphatic nitroalkanes – Properties – Uses. Aromatic nitro compounds – Preparation – Properties – Uses. Distinction between aliphatic and aromatic nitro compounds. Amines; aliphatic amines – General methods of preparation – Properties – Distinction between 1^o, 2^o and 3^o amines. Aromatic amines – Synthesis of benzylamine – Properties, Aniline – Preparation – Properties – Uses. Distinction between aliphatic and aromatic amine. Aliphatic nitriles – Preparation – properties – Uses. Diazonium salts – Preparation of benzene diazoniumchloride – Properties.

11. Biomolecules

Carbohydrates – distinction between sugars and non sugars, structural formulae of glucose, fructose and sucrose, with their linkages, invert sugar – definition, examples of oligo and polysaccharides,

Amino acids – classification with examples, Peptides-properties of peptide bond,

Lipids - Definition, classification with examples, difference between fats, oils and waxes.

PART – III - MATHEMATICS

1. Applications of Matrices and Determinants

Adjoint, inverse – properties, computation of inverses, solution of system of linear equations by matrix inversion method.

Rank of a matrix – elementary transformation on a matrix, consistency of a system of linear equations, Cramer's rule, non-homogeneous equations, homogeneous linear system and rank method.

2. Complex Numbers

Complex number system - conjugate, properties, ordered pair representation.

Modulus – properties, geometrical representation, polar form, principal value, conjugate, sum, difference, product, quotient, vector interpretation, solutions of polynomial equations, De Moivre's theorem and its applications.

Roots of a complex number - n^{th} roots, cube roots, fourth roots.

3. Analytical Geometry of two dimensions

Definition of a conic – general equation of a conic, classification with respect to the general equation of a conic, classification of conics with respect to eccentricity.

Equations of conic sections (parabola, ellipse and hyperbola) in standard forms and general forms- Directrix, Focus and Latus rectum - parametric form of conics and chords. - Tangents and normals – cartesian form and parametric form- equation of chord of contact of tangents from a point (x_1, y_1) to all the above said curves.

Asymptotes, Rectangular hyperbola – Standard equation of a rectangular hyperbola.

4. Vector Algebra

Scalar Product – angle between two vectors, properties of scalar product, applications of dot products. vector product, right handed and left handed systems, properties of vector product, applications of cross product.

Product of three vectors – Scalar triple product, properties of scalar triple product, vector triple product, vector product of four vectors, scalar product of four vectors.

5. Analytical Geometry of Three Dimensions

Direction cosines – direction ratios - equation of a straight line passing through a given point and parallel to a given line, passing through two given points, angle between two lines.

Planes – equation of a plane, passing through a given point and perpendicular to a line, given the distance from the origin and unit normal, passing through a given point and parallel to two given lines, passing through two given points and parallel to a given line, passing through three given non-collinear points, passing through the line of intersection of two given planes, the distance between a point and a plane, the plane which contains two given lines (coplanar lines), angle between a line and a plane.

Skew lines - shortest distance between two lines, condition for two lines to intersect, point of intersection, collinearity of three points.

Sphere – equation of the sphere whose centre and radius are given, equation of a sphere when the extremities of the diameter are given.

6. Differential Calculus

Derivative as a rate measurer - rate of change, velocity, acceleration, related rates, derivative as a measure of slope, tangent, normal and angle between curves, maxima and minima.

Mean value theorem - Rolle's Theorem, Lagrange Mean Value Theorem, Taylor's and Maclaurin's series, L' Hospital's Rule,

stationary points, increasing, decreasing, maxima, minima, concavity, convexity and points of inflexion.

Errors and approximations – absolute, relative, percentage errors - curve tracing, partial derivatives, Euler's theorem.

7. Integral Calculus and its Applications

Simple definite integrals – fundamental theorems of calculus, properties of definite integrals.

Reduction formulae – reduction formulae for $\int \sin^n x dx$ and $\int \cos^n x dx$, Bernoulli's formula.

Area of bounded regions, length of the curve.

8. Differential Equations

Differential equations - formation of differential equations, order and degree, solving differential equations (1st order), variables separable, homogeneous and linear equations.

Second order linear differential equations - second order linear differential equations with constant co-efficients, finding the particular integral if $f(x) = e^{mx}$, $\sin mx$, $\cos mx$, x , x^2 .

9. Probability Distributions

Probability – Axioms – Addition law - Conditional probability – Multiplicative law - Baye's Theorem - Random variable - probability density function, distribution function, mathematical expectation, variance

Theoretical distributions - discrete distributions, Binomial, Poisson distributions- Continuous distributions, Normal distribution.

10. Discrete Mathematics

Mathematical logic – logical statements, connectives, truth tables, logical equivalence, tautology, contradiction.

Groups-binary operations, semigroups, monoids, groups, order of a group, order of an element, properties of groups.

PART – IV- BIOLOGY

1. Taxonomy

Linnaean system of classification and Binomial nomenclature; history and types of classification; status of bacteria and viruses; classification of angiosperms up to sub-class level (Bentham and Hooker' systems); salient features of non-chordates up to phyla levels and chordates up to class levels.

2. Evolution

Modern concepts of organic evolution, evidences of organic evolution (Fossil records and biochemical evidences). Darwinism

and neo – Darwinism, Lamarckism, Neo-Lamarckism, sources of variation, mutation, recombination, gene flow - genetic drift, migration, natural selection. Origin and concepts of species: speciation and isolation (geographical pre-mating and post-mating or post zygotic), adaptive radiations; human evolution.

3. Cell and Molecular Biology

Discovery of cell, cell as a contained unit, pro and eukaryotic cells and its ultra structure. Cell division: amitosis, mitosis and meiosis. The cell: cell wall, cell membrane and cell organelles (Plastids, mitochondria, endoplasmic reticulum, Golgi bodies, ribosomes, lysosomes, vacuoles and centrioles)

DNA and RNA, DNA as genetic material, RNA as genetic material, replication, transcription, genetic code, translation, splicing, gene expression and regulation, protein synthesis, DNA repair.

4. Reproduction

Reproduction in Plants: asexual and sexual reproduction, vegetative propagation, sexual reproduction in flowering plants, structure of flowers, pollination, fertilization, development of seeds and fruits, apomixis and poly-embryony

Human reproduction and Reproductive health: reproductive system in male and female, menstrual cycles, production of gametes, fertilization, implantation, embryo development, pregnancy, parturition and lactation, Assisted reproductive technologies.

5 Genetics

Chromosomes: structure and types, linkage and crossing over, recombination of chromosomes, mutation, chromosomal aberration, Mendelian inheritance, chromosomal theory of inheritance, deviation from Mendelian ratio (gene interaction, incomplete dominance, co-dominance, complimentary gene, multiple allelism), sex determination in humans, chromosomal disorders in humans.

6. Microbiology and Immunology

Introduction to microbial diversity, history of medical microbiology, discovery of antibiotics, pasteurization, microscopes. Fungi, bacteria, virus, protozoa, algae – beneficial and harmful. Parasites and pathogens. Structure of microbes and diseases caused by them. Basic concepts of immunology: Innate and humoral immunity, lymphoid organs, lymph nodes and spleen, antibodies, vaccines, transplantation immunology, immune system disorders.

7. Biochemistry

Structure and function of carbohydrates, lipids, proteins. Disaccharide, starch, glycogen, fats, cholesterol, amino acids, peptides. Primary, Secondary and Tertiary structure of proteins. Enzymes, structure and mechanism of enzyme catalysis, specificity of enzymes, co factors and co-enzymes.

8. Physiology: Plant and Human

Plant Physiology: Movement of water, food, nutrients, gases and minerals. Respiration, photosynthesis (light and dark reactions), Factors affecting photosynthesis, electron transport chain (ETC), glycolysis, Krebs' cycle, pentose phosphate pathway, hormones and growth regulators, Photo-periodism and vernalization.

Human Physiology: Digestion and absorption, breathing and respiration, body fluids and circulation, excretory system, endocrine system, nervous system, skeletal and muscular systems: locomotion, and movement, growth, aging and death. Hormones; types of hormones and its functions.

9. Biotechnology and its applications

Recombinant DNA technology, applications in health, agriculture and industries; genetically modified organisms; bio-safety issues, insulin and Bt cotton, transgenic plants and microbes, plant tissue culture and its application; plant growth regulators; Microbes in food processing; industrial production of microbial products, Sewage treatment, waste management and energy generation.

10. Biodiversity, ecology and environment

Ecosystems: components, types and energy flow in ecosystem; species, population and community, ecological adaptations, centers of diversity and conservation of bio-diversity, Red data book, botanical gardens, national parks, sanctuaries and museums, environmental issues, human population explosion, green house effects, ozone layer depletion, Environmental issues and Pollution control.

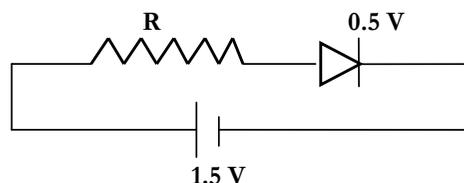
11. Applied biology and human welfare

Bio-pesticides, genetically modified foods, bio-war, bio-piracy, bio-pattern, sustainable agriculture and medicinal plants, economic important plants (food crops, oil seeds, fiber yielding, sugar crops and timber yielding), bio-pharming, pesticides, organic agriculture. Population and birth control, contraception and MTP, sexually transmitted diseases, infertility, cancer and AIDS. Adolescence and drug or alcohol abuse.

APPENDIX – V
SAMPLE QUESTIONS

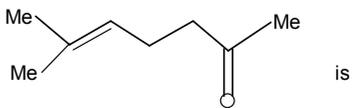
PHYSICS

1. The capacitance of two concentric spheres of radii R_1 and R_2 is ($R_2 > R_1$)
 A) $4\pi \epsilon_0 \frac{R_1 R_2}{R_2 - R_1}$ B) $4\pi \epsilon_0 R_1$ C) $4\pi \epsilon_0 R_2$ D) $4\pi \epsilon_0 \frac{(R_2 - R_1)}{R_1 R_2}$
2. A magnet of length 10 cm and magnetic moment 1 Am^2 , is placed along the side AB of an equilateral triangle ABC. If the length of side AB is 10 cm, the magnetic field at point C is
 A) 10^{-9} T B) 10^{-4} T C) 10^{-5} T D) 10^{-7} T
3. In an inductor, the current I (in Ampere) varies with time t (in second) as $I = 5 + 16t$. If the emf induced in the inductor is 10 mV, then its self inductance is
 A) $6.25 \times 10^{-4} \text{ H}$ B) $6.25 \times 10^{-3} \text{ H}$ C) $7.5 \times 10^{-4} \text{ H}$ D) $7.5 \times 10^{-3} \text{ H}$
4. The fringe width obtained in Youngs double – slit experiment conducted in a medium of refractive index 3 is 2 mm. The fringe width in vacuum is
 A) 5 mm B) 1.5 mm C) 6 mm D) 1 mm
5. Three equal charges $+Q$ each are placed on the vertices of an equilateral triangle. A charge $+q$ is initially placed at the centre of the triangle. If this charge ($+q$) is slightly displaced towards a vertex and left free, the charge will
 A) continue moving towards the corresponding vertex
 B) move away from the corresponding vertex
 C) return back to the centre
 D) oscillate about the centre
6. Three capacitors of capacitances $2\mu\text{F}$, $4\mu\text{F}$ and $X \mu\text{F}$ are connected in series. If the resultant capacitance is $12/11 \mu\text{F}$, what is the value of X ?
 A) $6 \mu\text{F}$ B) $8 \mu\text{F}$ C) $5 \mu\text{F}$ D) $4 \mu\text{F}$
7. Two electron beams having velocities in the ratio of 1:2 are separately subjected to regions of magnetic field strength in the ratio of 1:2, respectively. The ratio of the radii of the circular paths they will traverse will be
 A) 1:4 B) 4:1 C) 1:2 D) 1:1
8. An ideal transformer with a step up ratio of 100 operates with an input voltage of 230 V and current of 5 A. The output current at the secondary will be
 A) 0.05 A B) 0.5 A C) 0.005 A D) 500 A
9. The ratio of the ionization energy of Bohr's hydrogen atom and hydrogen like Lithium atom is
 A) 1:1 B) 1:3 C) 1:9 D) 9:1
10. The diode used in the circuit shown in the figure has a constant voltage drop of 0.5 V at all currents and a maximum power rating of 100 mW. What should be the value of the resistor R connected in series with the diode for obtaining maximum current



- A) 1.5Ω B) 5Ω C) 6.67Ω D) 200Ω

CHEMISTRY

1. Which of the following product is formed in the reaction
 $\text{CH}_3\text{MgBr} \xrightarrow{\text{Dry Ice / acid}} ?$
 A) CH_3COOH B) CH_4 C) CH_3OH D) $\text{CH}_3\text{CH}_2\text{CHO}$
2. The ground state electronic configuration of an element of atomic number 47 is
 A) $[\text{Kr}] 4d^9 5s^2$ B) $[\text{Xe}] 4d^{10} 5s^1$ C) $[\text{Kr}] 4d^{10} 5s^1$ D) $[\text{Kr}] 4d^6 5s^2 5p^3$
3. The colour of the precipitate forms when AgNO_3 solution reacts with S^{2-} ion
 A) red B) black C) white D) yellow
4. Which of the following is an effective reducing agent?
 A) H_2O B) H_2S C) H_2Te D) H_2Se
5. The IUPAC name of $[\text{CuCl}_2\{\text{O}=\text{C}(\text{NH}_2)_2\}_2]$ is
 A) dichloridobis(urea)copper(II) B) bis(urea)dichloridocopper(II)
 C) dichloridobis(ureaido)copper(II) D) bis(ureaido)dichloridocopper(II)
6. In the Hydrogen-Oxygen fuel cell, which of the following overall reaction takes place?
 A) $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{l})$ B) $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{g})$
 C) $2\text{H}_2(\text{l}) + \text{O}_2(\text{l}) \rightarrow 2\text{H}_2\text{O}(\text{s})$ D) $2\text{H}_2(\text{l}) + \text{O}_2(\text{l}) \rightarrow 2\text{H}_2\text{O}(\text{l})$
7. Lower boiling point of ethers in comparison to those of alcohols of comparable molecular masses is due to
 A) polarity of ether B) dipole moment of ether
 C) absence of extensive hydrogen bonding D) both A and B
8. The structure of boron nitride is similar to that of
 A) acetylene B) graphite C) phosphine D) sodium chloride
9. The IUPAC name of the compound
 is
 A) 4 - methyl - 3 - hepten - 2 - one B) 2 - methyl - 2 - hepten - 6 - one
 C) 6 - methyl - 5 - hepten - 2 - one D) 4 - methyl - 3 - hepten - 2 - one
10. Benzamide can be converted to bezylamine using
 A) Br_2/KOH B) PCl_5 C) LiAlH_4 D) NaBH_4

MATHEMATICS

1. The line passing through the points A(1, -2, -3) and B(4, -5, -6) intersects the plane $z = 1$ at the point
 A) $\left(\frac{7}{3}, -\frac{10}{3}, 1\right)$ B) $\left(-\frac{7}{3}, -\frac{10}{3}, 1\right)$ C) (-3, 2, 1) D) (-3, 6, 1)
2. A box contains 8 items of which 2 are defective. A person draws 3 items from the box. Determine the expected number of defective items.
 A) 0.75 B) 0.3 C) 0.2 D) 0.1
3. If $a = \cos \alpha + i \sin \alpha$, $b = \cos \beta + i \sin \beta$, $c = \cos \gamma + i \sin \gamma$ and $a + b + c = 0$, the value of $a^{-1} + b^{-1} + c^{-1}$ is
 A) 1 B) 0 C) -1 D) 2
4. The value of λ for which the system of equations $x+y-2z=0$, $2x-3y+z=0$, $x-5y+4z=\lambda$ is consistent is
 A) 1 B) -1 C) 0 D) 2
5. Suppose \vec{a} and \vec{b} are vectors such that $\vec{a} \times \vec{b} = 2\hat{i} + \hat{j} - \hat{k}$ and $\vec{a} + \vec{b} = \hat{i} - \hat{j} + \hat{k}$. The least value of $|\vec{a}|$ is
 A) $\frac{1}{\sqrt{2}}$ B) 2 C) $\sqrt{2}$ D) $\sqrt{2} - 1$
6. A general solution to $y'' - \sqrt{5}y = 0$ is
 A) $y = c_1 e^{\sqrt{5}t} + c_2 t$ B) $y = c_1 \cos \sqrt{5}t + c_2 \sin \sqrt{5}t$
 C) $y = c_1 e^{\sqrt{5}t} + c_2 t e^{\sqrt{5}t}$ D) $y = c_1 e^{4\sqrt{5}t} + c_2 e^{-4\sqrt{5}t}$
7. In a binary communication channel, the probability that a transmitted zero is received as zero is 0.95 and the probability that a transmitted one is received as one is 0.90. If the probability that a zero is transmitted is 0.4, then the probability that a one was transmitted, given that a one was received is
 A) $\frac{17}{28}$ B) $\frac{27}{37}$ C) $\frac{29}{37}$ D) $\frac{27}{28}$
8. If $(\vec{a}, \vec{b}, \vec{c})$ are three vectors such that if $\vec{a} \times \vec{b} = \vec{c}$ and $\vec{b} \times \vec{c} = \vec{a}$, then
 A) If \vec{a}, \vec{b} and \vec{c} are pair-wise perpendicular
 B) $|\vec{a}| = |\vec{b}| = |\vec{c}| = 1$
 C) $|\vec{a}| = |\vec{b}| = |\vec{c}| \neq 1$
 D) $|\vec{a}| \neq |\vec{b}| \neq |\vec{c}|$
9. If $[\times]$ denotes the greatest integer $\leq \times$, then the value of the integral $\int_4^{10} \frac{[x^2] dx}{[x^2 - 28x + 196] + [x]^2}$ is
 A) 0 B) 1 C) 3 D) 4
10. The proposition $p \wedge (P \vee q)$ is
 A) a tautology
 B) a contradiction
 C) logically equivalent to $p \wedge q$
 D) logically equivalent to $p \vee q$

BIOLOGY

1. Chitin, a component of fungal cell walls, is a polymer of
A) N-acetylglucosamine B) Sialic Acid
C) N-acetylmuramic Acid D) A disaccharide containing glucose and mannose
2. A mixed cranial nerve is
A) Auditory B) Abducens C) Facial D) Oculomotor
3. Okazaki fragment refers to
A) DNA segment involved in recombination
B) RNA primer segments in the leading strand
C) Chain of nucleotide segments in the lagging strand
D) DNA segment formed by endonuclease action
4. Evolution is irreversible. This is known as
A) Allen's rule B) Dollo law C) Bergman's rule D) Cope's rule
5. Cholesterol is a
A) derived lipid B) phospholipid C) glycolipid D) simple lipid
6. Which one of the following algae is used for production of agar agar?
A) Acetabularia B) Macroalgae C) Gelidium D) Rhododymenia
7. Whose classification system is universally accepted, according to which herbarium sheet is arranged and its dimensions are?
A) Bentham and Hooker, 11.50 cm-16.50 cm B) Carl Linnaeus, 11.5 inch – 16.50 inch
C) Bentham and Hooker, 29 cm-41 cm D) R.H.Whittaker, 29 cm-41 inch
8. In angiosperms, if the number of chromosomes in endosperms is 30, what will be the number of chromosomes in nucleus?
A) 15 B) 30 C) 20 D) 40
9. Bt cotton is toxic for some insects but not for animals, because
A) Animals have Bt toxin resistant genes
B) Insects are small in size so toxicity will be not expressed
C) Bt toxin is effective for only flyable organism
D) Toxin becomes active in insect by alkaline pH of its gut
10. Removal of RNA polymerase III from nucleoplasm will affect the synthesis of
A) mRNA B) tRNA and mRNA C) tRNA D) hnRNA

ANNEXURE I
AFFIDAVIT BY THE STUDENT

(This matter has to be typed on a non-judicial stamp paper of ₹ 20)

- 1) I _____ (full name of student with admission/ registration/enrolment number) S/o D/o Mr./Mrs./Ms, _____ having been admitted to _____ (name of the institution), have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the "Regulations") carefully read and fully understood the provisions contained in the said Regulations.
- 2) I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
- 3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulation and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
- 4) I hereby solemnly aver and undertake that
 - (a) I will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.
 - (b) I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.
- 5) I hereby affirm that, if found guilty of ragging, I am liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.
- 6) I hereby declare that I have not been expelled or debarred from admission in any institution on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, I am aware that my admission is liable to be cancelled.
Declared this _____ day of _____ month of _____ year.

Signature of deponent

Name:

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at(place) on this the (day), of..... (month),(year).

Signature of deponent

Solemnly affirmed and signed in my presence on this the (day) of (month),(year) after reading the contents of this affidavit.

OATH COMMISSIONER / ADVOCATE AND NOTARY PUBLIC

ANNEXURE II**AFFIDAVIT BY THE PARENT / GUARDIAN**

(This matter has to be typed on a non-judicial stamp paper of ₹ 20)

- 1) Mr./Mrs./Ms _____ (full name of parent / guardian) father/mother/guardian of, (full name of student with admission/registration/enrolment number), have been admitted to _____ (name of the institution), have received a copy of the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009, (hereinafter called the "Regulations"), carefully read and fully understood the provisions contained in the said Regulations.
- 2) I have, in particular, perused clause 3 of the Regulations and am aware as to what constitutes ragging.
- 3) I have also, in particular, perused clause 7 and clause 9.1 of the Regulations and am fully aware of the penal and administrative action that is liable to be taken against my ward in case he/she is found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
- 4) I hereby solemnly aver and undertake that
 - a) My ward will not indulge in any behavior or act that may be constituted as ragging under clause 3 of the Regulations.
 - b) My ward will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under clause 3 of the Regulations.
- 5) I hereby affirm that, if found guilty of ragging, my ward is liable for punishment according to clause 9.1 of the Regulations, without prejudice to any other criminal action that may be taken against my ward under any penal law or any law for the time being in force.
- 6) I hereby declare that my ward has not been expelled or debarred from admission in any institution on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, the admission of my ward is liable to be cancelled.

Declared this dayof month..... of year.

Signature of Deponent
Name:
Address:
Telephone / Mobile No:

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or misstated therein.

Verified at..... (place) on this the.....(day), of..... (month),.....(year).

Signature of deponent

Solemnly affirmed and signed in my presence on this the (day), of (month), (year) after reading the contents of this affidavit.

OATH COMMISSIONER / ADVOCATE AND NOTARY PUBLIC

ANNEXURE III
CERTIFICATE TO PROVE NATIVITY

(For candidates hailing from Jammu and Kashmir and the North Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura)

Certified that Mr. / Ms. _____ an applicant for admission to B.Tech. Degree programme in the year _____, son / daughter of Shri./Smt _____ residing at _____ in _____ District of _____ State, is a native of _____ State.

Signature of Tahsildar or Revenue Authority

Name :

Designation :

Place :

Date :

Office Seal :

Office Seal

THE FORM OF CASTE CERTIFICATE FOR SC / ST

Certified that Mr. / Ms. _____ an applicant for admission to B.Tech. Degree programme in the year _____, son / daughter of Shri. / Smt _____ residing at _____ in _____ District of _____ belongs to the _____ Caste / Tribe, which is recognized as a Scheduled Caste / Scheduled Tribe under the Constitution (Scheduled Castes) Order 1950 / The Constitution (Scheduled Tribes) Order, 1950, as amended by the Scheduled Castes and Scheduled Tribes Orders Amendment Act, 1976.

Signature of Competent Authority

Name :

Designation :

Place :

Date :

Office Seal

Authorities empowered to issue Scheduled Caste / Scheduled Tribe Certificate

District Magistrate / Additional District Magistrate / Collector / Deputy Collector / Deputy Commissioner / 1st Class Stipendiary Magistrate / City Magistrate / Sub-Divisional Magistrate / Taluk Magistrate / Executive Magistrate / Extra Assistant Commissioner.

Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate

Revenue Officer not below the rank of Tahsildar

Sub-Divisional Officer of the area where the candidate and / or his family normally resides

ANNEXURE IV-A

JOINT AFFIDAVIT BY PARENT / GUARDIAN AND STUDENT

(This matter has to be typed on a non-judicial stamp paper of ₹ 20/-)

Mr. /Mrs. /Ms..... (Full name of parent /guardian) father/mother/ guardian of (Full name of student with admission/registration/enrolment number), have been admitted to..... (Name of the Program and Institution). I/we have read and understood the hereunder specified Rules and Regulations of VIT Men's Hostel. I/we agree to obey by the Hostel Rules and Regulations. I/we will also read the detailed rules given in (www.vit.ac.in/CampusLife/hostelsanddining/) and follow them.

Highlights of Rules and Regulations of VIT Men's Hostel

DAY	IN - TIME	
	Campus Main Gate	Hostel Sub-way Gate
Instructional days	7.00 pm	8.30 pm
Weekends & University holidays	5.00 pm	8.00 pm

NOTE: 4 Times in a month, 6 Hour long outing (within Vellore limits) is permitted only during weekends and Holidays with prior approval.

- Students should be available in their respective rooms as attendance will be taken in your respective blocks at 9.00 pm every night.
- Students should stay only in the room allotted to them. Staying in other's room is not permitted.
- Any physical/mental harassment towards fellow students including ragging, quarrelling, using abusive language and violent behavior is prohibited.
- Smoking is strictly prohibited inside the Hostel premises and University Campus.
- Hostel is meant for facilitating students for studies. Therefore, silence should be maintained especially from 9.00 pm to 6.00 am. Students should not disturb other student by conducting any kind of parties, playing music, talking loudly over mobile phone etc.
- Multi-Level Marketing (MLM) and gambling in any form including playing cards in the hostel is prohibited.
- If liquor (or empty liquor bottles) is found in any room, all the students staying in that room are liable to be suspended for one semester. In addition, any student who consumes liquor in the hostel tries to bring liquor into the hostel or enters the hostel after consuming liquor will also be suspended for one semester.
- If narcotics or related substances are found in any room, all the students staying in that room will be expelled from VIT. Students who consume/ trade/ possess narcotics inside/outside the hostel shall be expelled from VIT. Substance abuse is prohibited.
- Anyone causing damage to the hostel property will be penalized suitably.
- Hostel students shall not bring any day-scholar/ ex-VITian/ non-VITian inside the hostel premises.
- If any student is going out for an overnight stay, he should obtain prior permission before leaving the hostel as per procedure.
- Hostellers are not allowed to keep or operate any kind of motor vehicles. However Bicycle can be used.
- Students in the hostel are not allowed to keep air coolers/ cassette record players/ TV/ electric iron box/ any other electrical & electronic equipment/gadgets. Unauthorised possession will lead to confiscation of the goods. Cooking in the rooms is strictly prohibited.
- Students are personally responsible to safeguard their belongings. Students are advised not to keep huge amount of cash or valuables like gold, costly wristwatch/ laptop/ mobile phone, expensive Jewellery etc., in their rooms.
- Student who wants to vacate the hostel and stay out side has to produce written consent letter from their parents.
- The hostel fee is valid only till last Term End Exam + 5 days

Signature of the Student

Signature of the Parent/Guardian

(Name:)

(Name:)

Application No:

Date:

Place:

ANNEXURE IV-B
JOINT AFFIDAVIT BY PARENT / GUARDIAN AND STUDENT

This matter has to be typed on a non-judicial stamp paper of ₹ 20/-)

Mr. / Mrs. / Ms..... (Full name of parent / guardian) father / mother / guardian of (Full name of student with admission / registration / enrolment number), have been admitted to..... (Name of the Program and Institution) I/ we have read and understood the hereunder specified Rules and Regulations of VIT Ladies Hostel. I/we agree to obey by the Hostel Rules and Regulations. I/we will also read the detailed rules given in (www.vit.ac.in/CampusLife/hostelsanddining/) and follow them.

Highlights of Rules and Regulations of VIT Ladies Hostel

DAY	IN - TIME	
	Campus Main Gate	Hostel Sub-way Gate
Instructional days	7.00 pm	8.30 pm
Weekends & University holidays	5.00 pm	8.00 pm

- Students have to record their attendance everyday between 8:30pm - 09:45pm in the biometric machines without fail.
- Students should stay only in the room allotted to them. Staying in other rooms is not permitted.
- Any physical / mental harassment towards fellow students including ragging, quarrelling, using abusive language and violent behavior is prohibited.
- Smoking is strictly prohibited inside the Hostel premises and University campus.
- Hostel is meant for facilitating studies. Therefore, silence should be maintained especially from 9.00 pm to 6.00 am. Students should not disturb other students by conducting parties, playing music, talking loudly over mobile phones, etc.,
- Multi-Level Marketing (MLM) and gambling in any form including playing cards in the hostels is prohibited.
- If liquor (or empty liquor bottles) is found in any room, all the students staying in that room are liable to be suspended for one semester. In addition, any student who consumes / possesses liquor in the hostel or enters the hostel after consuming liquor will also be suspended for one semester.
- If narcotics or related substances are found in any room, all the students staying in that room will be expelled from VIT. Students who consume/ trade/ possess narcotics inside/outside the hostel shall be expelled from VIT. Abuse of any chemicals is prohibited.
- Anyone causing damage to the hostel property will be penalized suitably.
- Hostel students should not bring any day-scholar or ex-VITian or non-VITian inside the hostel Premises.
- If a student is going out for an overnight stay, she should obtain prior permission before leaving the hostel as per procedure.
- Hostellers are not allowed to keep any kind of motor vehicles. However, bicycle can be used.
- Students in the hostel are not allowed to keep air coolers, musical instruments and cassette record players, TV, electric iron box or any other electrical equipment/gadgets. Unauthorised possession will lead to confiscation of the goods. Cooking in the rooms is strictly not permitted because of fire safety reasons.
- Students are personally responsible to safeguard their belongings. Students are advised not to keep large amounts of cash or valuables like gold, costly wristwatch/laptops/cell phone, expensive jewellery etc., in their rooms.
- For security reasons, girl students will not be permitted to stay as day boarders outside the campus unless parent stays with them.
- First year students will be permitted for outings only after 3 months of joining (on submission of bond and local guardian details).
- Students will be permitted to go on leave to Home town / Local guardian's place only once in a month.
- Parent's permission is required for outings and leave.
- The hostel fee is valid only till last Term End Exam + 5 days.

I / We have read and understood the rules. I agree to obey by the rules. I will also read the detailed rules given in VIT's website and follow them.

Signature of the Student

Signature of the Parent/Guardian

Name:.....

Name:.....

Application No:.....

ANNEXURE - V

CERTIFICATE OF PHYSICAL FITNESS

PERSONAL DETAILS		Application no.	
Name			
Gender			
Date of Birth		Age (in years)	
Blood Grouping			
Identification Marks			
History of Allergy if any			
History of Medical illness if any			
History of Hospitalization / previous Surgery if any			
History of Current Medication for any illness			
Vaccinate now for		Chicken Pox :	
		Hepatitis A:	
		Hepatitis B:	
		Typhoid :	
		TT :	
		Cholera :	
		Others if any:	

CERTIFICATE OF PHYSICAL FITNESS

NAME OF THE CANDIDATE:

Application no.

Pulse		/Min	Height		Cms
BP		Mm/ Hg	Weight		Kgs
Bodily Infirmary		BMI			
Communicable Disease		Build			
Pallor	Icterus	Clubbing	Cyanosis	Lymphadenopathy	Oedema
Tonsils		Glands		Teeth	
C V S	Heart Sounds			Murmurs	
R S	Breath Sounds			Added Sounds	
G I S	Liver		Spleen		Any Mass
C N S	Cranial Nerves		Motor System		Sensory System
G.U.S (Male)	Hydrocele		Piles		Phymosis
G.U.S.(Female)	Menstrual History				
Skin					
Hearing		Vision (NV/DV) Normal / Corrected (Power)		Colour Vision	
Other Findings / remarks if any.					

(Signature of the candidate)_____
(Signature of the Parent)

I do hereby certify that I / We have examined Mr. / Ms. _____, a candidate for student under VIT University, _____ Campus and whose signature is given above, and cannot discover that he / she has any disease, communicable, otherwise or constitutional affection or bodily infirmity except that his / her weight is in excess of / below the standard prescribed or except _____

I also certify that he / she has been vaccinated and had booster against Hepatitis A, B, TT, Typhoid, Chicken pox & Measles

Name of the Doctor :
Signature of the Doctor :
Designation :
Date & Place :
Seal with Reg.No. :

Photograph of
the candidate to
be affixed and
attested by the
Doctor

IMPORTANT DATES

Last date for Receipt of Application form - Saturday, February 27, 2015

VIT Engineering Entrance Examination (VITEEE-2015) - April 8 to April 19, 2015

Declaration of Results (Tentative) - Thursday, April 30, 2015

Commencement of Classes (Tentative) - Vellore Campus

B.Tech. – ECE, EEE, EIE	Friday, July 03, 2015.
B.Tech. – CSE, IT, Computer Science Engg with (spec. in Bioinformatics)	Monday, July 06, 2015.
B.Tech. – Bio-Medical, Biotech, Civil, Chemical, Mechanical, Mech(spec. in Energy Engg), Mech(spec. in Chemical Process Engg), Mech (spec. in Automotive Engg), Production & Industrial Engineering	Wednesday, July 08, 2015.

For Admission details contact:**Director - UG Admissions**

VIT University
Vellore – 632 014, Tamil Nadu, INDIA
Phone: +91-416-2202125,2202168, 2202157
Fax: +91-416 224 5544, 224 0411
Email: ugadmission@vit.ac.in
Website: www.vit.ac.in

For Hostel details contact:**Chief Warden,**

VIT University
Vellore – 632 014, Tamil Nadu, INDIA
Phone: 0416-220 2028 (2 lines), 220 2528
Email: chiefwarden@vit.ac.in
Mens Hostel: +91-416-220 2028, 220 2528
Fax: +91-416 224 4705
Ladies Hostel: +91-416-220 2710
Fax: +91-416 420 7074

Commencement of Classes (Tentative) – Chennai Campus

B.Tech. – Civil, CSE, ECE, EEE, Mechanical

Monday July 06, 2015.

For Admission details contact:**Administrative Officer**

Vandalur - Kelambakkam Road
Chennai - 600 127
Tel : +91 44 3993 1555
Fax : +91 44 3993 2555
Email : admin.chennai@vit.ac.in

For Hostel details contact:**Chief Warden,**

VIT University Chennai Campus
Vandalur - Kelambakkam Road
Chennai - 600 127.
Tel : +91 44 3993 1205
Mens Hostel : +91 44 3993 1205
Ladies Hostel : +91 44 3993 1251
Fax : +91 44 3993 2555

Scholarship under “GV School Development Programme” (GVSDP)

Performance	Scholarship*
Toppers of each State Board and Central Board	100% Tuition fee waiver for all the four years.
VITEEE rank holders of 1 to 50	75% Tuition fee waiver for all the four years.
VITEEE rank holders of 51 to 100	50% Tuition fee waiver for all the four years.
VITEEE rank holders of 101 to 1000	25% Tuition fee waiver for all the four years.

*Terms & Conditions apply

- We do not accept cash. We collect fees in the form of Demand Draft only.
- We do not have any agents.
- If any one demands any cash, please report it to vigilance@vit.ac.in to enable us to take legal action.

VIT – A place to learn; A chance to grow

Legal Jurisdiction

All Suits and actions arising out of or relating to VIT University shall be instituted within the jurisdiction of courts at Vellore, Tamil Nadu only. The Registrar of the University shall be the legal person in whose name the University may sue or be sued.



VIT[®]
UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)

VELLORE ■ CHENNAI

Vellore - 632014, Tamil Nadu, India
www.vit.ac.in