

IMPORTANT INSTRUCTIONS

- 1) Please make sure that you are using the correct application form.
- 2) Your application will be machine-processed. The machine picks up only dark pencil marks. Therefore, darken the alphabet / numeral / oval using HB pencil only.
- 3) First, write in CAPITAL LETTERS the required information or enter the relevant code with a black ball point pen in the boxes (wherever provided) and then darken with an HB pencil the appropriate alphabet / numeral under each letter or against the relevant option. What you write in the boxes is only for your guidance and for verification that you are darkening the correct alphabet / numeral / option.
- 4) Do not scribble, smudge, tear or wrinkle the application form. Do not put any stray pencil marks anywhere on the application form.
- 5) 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 in black ball point pen only.
- 6) Write the complete address giving your name and PIN CODE carefully and legibly. Please note that this block will appear as such in all our correspondence with you. Therefore, write clearly in black ball point pen only. 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.
- 7) Do not staple or pin anything on the application form. Paste only the photograph and nothing else on the form.
- 8) You are requested to ensure the correctness of your mailing address, PIN CODE, e-mail, telephone number with correct STD CODE and mobile No. if any. Please note that VIT will not be responsible if communications do not reach you due to incomplete or illegible address, e-mail and telephone number.
- 9) You must quote your application number as reference in all your future correspondence.
- 10) The application form should be inserted in the smaller envelope provided. (Do not put any other enclosures in the cover with the application form).

The cover containing the application form and the other enclosures that should accompany it, should be put together in to the larger envelope provided, addressed to "Admissions Officer", VIT University, Vellore-632014 and sent through Registered Post or Speed Post, so as to reach the office of Admissions on or before May 25, 2010.

- 11) VIT will not accept responsibility for any postal delay / irregularity or loss in postal transit.
- 12) Your application should be 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.

CHECK LIST

Before posting the application please ensure that

- You have read the instructions before filling in the Application Form.
- You have used a Black ball-point pen to enter the codes in the boxes and a HB Pencil to darken the alphabet / numeral / oval as indicated.
- You have affixed a good quality recent, colour photograph in the space provided.
- You have not got the photograph attested.
- You have clearly and legibly written your complete postal address to which communication is to be sent.
- You have entered your correct PINCODE.
- You have indicated your correct STD code and Phone No. / Your Mobile No.
- You have mentioned your correct e-mail address.
- You have signed in the space provided below the photograph and in the declaration form.
- Your parent / guardian has signed in the declaration form.
- You have not used any pins or stapler in your application
- You have retained a photocopy of your application.

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1. INTRODUCTION

VIT University is fast gaining prominence as an Institution of International repute. The holistic model of education, conceived and enriched by its illustrious founder, **Dr. G.Viswanathan**, offers refreshingly new perspectives to young minds and facilitates the accomplishment of their creative talent. Its contribution in extending the frontiers of knowledge in critical areas as also in the regeneration of effloresce of the community values is well manifest through its alumni who form a great chain of distinguished personalities throughout the world, occupying key positions in varied professional domains.

VIT offers facilities that are exceptional in every way. The environment friendly green campus is home to a wealth of well equipped modern laboratories, a state-of-the-art library, smart class-rooms, computing facilities for a new digital generation, excellent placement and training services and much more, to provide a perfect ambience conducive for growth through learning.

The national ethos of the University is reflected in the richly diverse student and teaching community transcending regional, lingual, religious and even national boundaries. Foreign students from Africa, Asia, Australia, England, Europe, Middle East and the United States provide an international aroma to this great seat of learning.

VIT has long since been devoted to providing quality education in various Engineering disciplines of Science and Technology and of late proliferated into frontiers of Research as well. The MCA and M.Tech. programmes, meticulously planned, are regularly updated to prepare students take on challenging jobs in the ever changing industrial scenario and to pursue extensive research work. The University strives at incorporating the latest technology in its academic curriculum, with an intention to evolve a new breed of Post Graduate Engineers endowed with both professional and application skills to bridge the gap between academia and industry.

2. PROGRAMMES OFFERED

| PROGRAMMES | DURATION |
|--|--------------------------|
| Master of Computer Applications [MCA] [Vellore & Proposed Chennai Campus] | 3 years (6 semesters) |
| M.Tech. Programmes in <ul style="list-style-type: none"> <input type="checkbox"/> Automotive Electronics <input type="checkbox"/> Automotive Engineering <input type="checkbox"/> Biomedical Engineering <input type="checkbox"/> Biotechnology <input type="checkbox"/> Communication Engineering <input type="checkbox"/> Computer Aided Design / Computer Aided Manufacturing <input type="checkbox"/> Computer Science And Engineering <input type="checkbox"/> Energy and Environmental Engineering <input type="checkbox"/> Information Technology [Networking] <input type="checkbox"/> Mechatronics <input type="checkbox"/> Nanotechnology <input type="checkbox"/> Power Electronics And Drives <input type="checkbox"/> Sensor System Technology <input type="checkbox"/> Structural Engineering <input type="checkbox"/> VLSI Design (Very Large Scale Integrated Circuits Design) | 2 years (4 semesters) |

3. COLLABORATIVE PROGRAMMES

VIT has signed MoUs with Foreign Universities / Indian Research Centres for faculty and student exchange in the following M.Tech. programmes:

| | |
|---|--|
| Automotive Engineering | <i>Automotive Research Association of India (ARAI), Pune; University of Applied Science, Esslingen & Dresden, Germany; Concordia University, Montreal, Canada; Laurence Technological University, Southfield, Michigan, USA; ESTACA, France</i> |
| Automotive Electronics | <i>TIFAC-CORE & Industries; Laurence Technological University, Southfield, Michigan, USA</i> |
| Biotechnology | <i>University of East London; University of Sunderland; University of Aberdeen, Scotland, UK; Universita 'Degli Studi Della Tuscia Di Viterbo, Viterbo, Italy; Chungnam National University, Korea; Cheju National University, Cheju, Korea; University of Sussex, UK; Staffordshire University, UK; Leibniz University of Hannover, Germany; University of Malaga, Spain; University of Maribor, Slovenia</i> |
| Bio-Medical Engineering | <i>University of Applied Science, Gelsenkirchen, Germany; University of Aberdeen, Scotland, UK; Chungnam National University, Korea; Cheju National University, Cheju, Korea</i> |
| CAD / CAM | <i>Technical University, Dresden, Germany</i> |
| Computer Science and Engineering | <i>University of Applied Science, Dresden & University of Glamorgan, UK; Konkuk University, Seoul, Korea; Korea Aerospace University, Seoul, Korea; Rochester Institute of Technology, USA</i> |
| Energy and Environmental Engineering | <i>University of Applied Science, Aachen & Darmsdadt, Germany; University of Applied Science, Gelsenkirchen, Germany; Technical University, Eindhoven, Netherlands; Leibniz University of Hannover, Germany</i> |
| Information Technology | <i>Monash University, Australia; Kookmin University, Seoul, Korea; Leibniz University of Hannover, Hannover, Germany; University of Information Technology Management in Rzeszow, Poland</i> |
| Mechatronics | <i>Concordia University, Montreal, Canada; University of Applied Science, Karlsruhe, Germany; University of Sunderland, UK; Laurence Technological University, Southfield, Michigan, USA; Rochester Institute of Technology, USA</i> |
| Nanotechnology | <i>University of Mississippi, Oxford, USA; CINVESTAV, Mexico</i> |
| Power Electronics and Drives | <i>University of Applied Science, Darmsdadt, Germany; Korea Aerospace University, Seoul, Korea; University Paris-Sud 11, France</i> |
| Sensor System Technology | <i>University of Applied Science, Karlsruhe, Germany; University of Mississippi, Oxford, USA</i> |

4. ELIGIBILITY

4.1. Nationality

The applicant for admission should be a Resident Indian National and should have graduated from Institutions located in India.

4.2. Eligibility Criteria

- Candidates should have graduated with a full-time degree from any recognized University with a minimum aggregate of 60% for MCA and 50% for M.Tech. degree programmes.
- Consistent Record in X Std. and XII Std. is required.
- Candidates appearing for their final degree exam / final semester exam in the current year are also eligible to apply.
- Candidates should have completed their final Semester/year exams before the selection interview at VIT University.
- It is compulsory for candidates selected to produce their final year marks' statement and Provisional degree certificate before **August 15th, 2010**, failing which, their admission will stand cancelled.

4.3. Academic Qualifications

The minimum academic qualification required for admission to the various M.Tech. / MCA programmes is given below:

| Programme | Eligibility |
|---|---|
| Biotechnology | B.E./B.Tech. Degree in Chemical / Leather Technology / Biotechnology / Industrial Biotechnology / Bio-chemical Engineering or a Bachelor's Degree in Pharmacy or M.Sc. Degree in Biochemistry / Biotechnology / Microbiology / Bio-Physics / Biology / Botany / Zoology/ Genetics / M.Sc.(Ag) & M.V.Sc.. |
| Biomedical Engineering | B.E./ B.Tech. Degree in Bio-Medical Engg. / Bio-Medical Instrumentation / Medical Electronics / Electronics & Communication/ Electronics & Instrumentation / M.Sc. in Biophysics / Electronics / Physics / Bio-Medical Sciences / Bioinformatics or MBBS / Degree in physiotherapy / occupational therapy of 4 years degree programme |
| Computer Science and Engineering | B.E. / B.Tech. Degree in CSE, IT, M.Sc., & MS (IT) / M.Sc. (CS) / M.Sc. & M.S. Software Engineering and MCA (or) B.E./B. Tech degree in ECE, EEE, EIE, Instrumentation & Control and any equivalent degree with valid GATE score in Computer Science. |
| Power Electronics and Drives | B.E./B.Tech. Degree in Electrical / Electronics / Electrical & Electronics / Electronics & Communication / Electronics & Instrumentation or any equivalent degree. |
| Automotive Electronics in collaboration with TIFAC-CORE industry partners | B.E./B.Tech. Degree in ECE / Telecommunication / CSE / EIE / EEE / Mechatronics or any equivalent degree. |
| Communication Engineering | B.E./B.Tech. Degree in Electrical / Electronics / Electrical & Electronics / Electronics & Communication / Telecommunication/ Electronics & Instrumentation / Computer Sciences>(* Bridge course needed) M.Sc. Physics with Electronics spl. / Electronics or any equivalent degree. |

| Programme | Eligibility |
|--|--|
| Nanotechnology | B.E./B.Tech. Degree in ECE / VLSI / E&I / M.Sc. Physics with Spl. in Electronics / Material Science / Solid State Physics or any equivalent degree. |
| Sensor System Technology | B.E. / B.Tech. Degree in EEE / ECE / E&I / CSE Instrumentation & Control / M.Sc. Physics with Electronics or any equivalent degree.. |
| VLSI Design (Very Large Scale Integrated Design) | B.E./B.Tech. Degree in Electrical / Electronics / Electrical & Electronics / Electronics & Communication / Electronics & Instrumentation / M.Sc. Physics with Electronics or any equivalent degree. |
| Information Technology (Networking) | B.E. / B.Tech. Degree in CSE, IT, ECE, EEE, EIE, M.Sc. & M.S. (IT) / M.Sc. (CS) / M.Sc. & M.S. Software Engineering & MCA (OR) any equivalent degree with valid GATE score in Computer Science |
| Automotive Engineering <i>Run in collaboration with Automotive Research Association of India, (ARAI), Pune.</i> | B.E./B.Tech. Degree in Mechanical / Automobile / Production / Manufacturing Engineering or Mechatronics or any equivalent degree. |
| Computer Aided Design / Computer Aided Manufacturing | B.E./B. Tech. Degree in Mechanical / Automobile or Production Engineering or any equivalent degree. |
| Energy and Environmental Engineering | B.E./B.Tech. Degree in Civil / Chemical / Mechanical /Automobile / Energy / Biotechnology / Biochemical / M.Sc. Environmental Science / Physics / Chemistry / Applied Sciences or any equivalent degree with Mathematics as one of the subjects in Higher Secondary level. |
| Mechatronics | B.E. / B. Tech. Degree in Mechanical / Automobile or Production / Electrical & Electronics / Electronics & Communication / Electronics & Instrumentation / Instrumentation & Control / Computer Science/ Information Technology / Mechatronics or any equivalent degree. |
| Structural Engineering | B.E. / B. Tech. Degree in Civil Engineering / Civil & Structural Engineering or any equivalent degree. |
| MCA | BCA and B.Sc. (CS) degree or a Bachelor's Degree with Mathematics / Statistics / Business Mathematics as one of the subjects in any one of the semester or year in addition to Mathematics at +2 level. |

5. ADMISSION PROCEDURE

- Admission to both **MCA, M.Tech** and **Research** programmes will be based on the Candidates performance in the Entrance Examination conducted by VIT University on **6th June 2010**.
- The names of short-listed candidates selected to attend an interview will be published in our website: **www.vit.ac.in** on **15th June 2010**.
- Candidates selected to attend the interview will be informed of the date and time through the website and also through SMS if mobile number is provided.
- Candidates selected would have to pay a deposit of **Rs.10,000** at the time of the interview as an advance. This amount would be adjusted against their first year fee.
- This amount should be paid by way of a Demand Draft drawn in favour of "**VIT University**", payable at Vellore.
- Candidates who fail to pay the advance at the interview will not be considered eligible for Admission.

Details of the Entrance Examination Centres will be published in our website **www.vit.ac.in** in the last week of May 2010.

5.1. General information

- Preference will be given to GATE qualified candidates with high GATE scores. However, candidates are advised to attempt the entrance examination to be on the safer side.
- There are few seats reserved for candidates sponsored by Research Organisations / Industries in the M.Tech. degree programmes.
- Sponsored candidates are exempted from appearing for the Entrance Examination.
- Sponsored candidates would have to submit their applications through the proper channel in a proforma given in Appendix-IV.

6. The Entrance Examination

- The VIT Masters Entrance Examination will be held on **Sunday, 6th June 2010**.
- The duration of the Entrance Examination will be **2 hours**.
- The Entrance Examination will be held from **10.00 am to 12 noon**.

6.1. Important Instructions pertaining to the Entrance Examination:

- The examination room / hall will be opened 30 minutes before the commencement of the exam. Candidates should take their seat immediately after the opening of the examination hall. If the candidates do not report on time, they are likely to miss the general instructions given in the Examination Hall.
- Candidates are requested to keep the Admit Card safely with them and bring it when they come to the examination. It should be produced on demand. **A candidate who does not possess the Admit Card issued** by the Institute **shall not be permitted** for the examination under any circumstances.
- Candidates should write their Registration Number (as given in the Admit Card) in the specified place in the response sheet.
- Candidates will not be permitted to enter the examination hall, after 10.30 a.m.
- Candidates will not be permitted to leave the examination hall before 11.30 a.m.
- Each candidate will be allotted a seat indicating his or her Registration Number. The candidate should find out and occupy the allotted seat. If this is not done his / her candidature will be cancelled.
- Candidates are not be allowed to carry any text material, calculators, slide rulers, log tables, electronic watches with facilities of calculator, printed or written material, bits of papers, mobile phone, pager or any other device, except the Admit Card into the Examination room / hall.
- The test will start exactly at the time mentioned in the Admit Card and an announcement to this effect will be made by the invigilator.
- During the examination time, the invigilator will check the Admit Card to verify the identity of each candidate. The invigilator will also put his/her signature in the place provided in the Response sheet.
- The candidates shall bring their own **Black Ball point pens** of good quality. These will not be supplied by the University.
- After completing the paper and before handing over the Response sheet, the candidate **should check** again that all the particulars required in the Response sheet have been correctly written.

- A signal will be given at the beginning of the examination and at half time. A signal will also be given before the closing time when the candidate must stop marking the answers.
- The candidate should ascertain the test-booklet contains as many numbers of pages as are written on the top of the first page of the test booklet.
- The candidates must sign the attendance sheet at the appropriate places.
- **The Admit Card should be preserved and produced for verification at the time of Interview / admission.**
- **Violation of any instruction and adoption of any unfair means in the examination hall will make the candidate ineligible for admission.**

6.2. Test Cities

The Entrance Examination will be held in the following Test Cities.

| CITY | CODE |
|------------|------|
| BANGALORE | 10 |
| BHOPAL | 11 |
| CHENNAI | 12 |
| CHANDIGARH | 13 |
| COIMBATORE | 14 |
| HYDERABAD | 15 |
| JAIPUR | 16 |
| KOCHI | 17 |
| KOLKATA | 18 |
| LUCKNOW | 19 |
| MADURAI | 20 |
| NAGPUR | 21 |
| NEW DELHI | 22 |
| PATNA | 23 |
| PUNE | 24 |
| VELLORE | 25 |
| VIJAYAWADA | 26 |

6.3. The Question Paper

The question papers will be set in the following subjects.

| Code | Subjects |
|------|---|
| CI | Civil Engineering |
| CS | Computer Science and Engineering & Information Technology |
| CE | Chemical Engineering |
| CH | Chemistry |
| EE | Electrical and Electronics Engineering |
| EI | Instrumentation Engineering |
| EC | Electronics and Communication Engineering |
| LS | Life Sciences |
| ME | Mechanical Engineering |
| PM | Pharmacy |
| PH | Physics |
| MA | Mathematics |
| MB | Research Aptitude & Quantitative Ability |
| GG | Geology and Geophysics |
| MC | MCA |

A candidate can choose only one subject from the ones given above based on the subject specialized in at the qualifying degree level or which ever is related and the same is to be specified in the application form.

6.4. Pattern of the Question Paper

- The Question Paper will contain 110 questions, with a maximum of 100 marks.
- All Questions will be of OBJECTIVE TYPE.
- Each question will be followed by 4 alternative answers. The candidate will have to choose the right option and mark against it as per the instructions given on the top of the question paper.
- NO negative marks for wrong answers.

7. APPLICATION FORMS

7.1. Issue of Application Forms

The Application Forms will be issued from **19-04-2010 to 25-05-2010**.

The Main Brochure and the Information Brochure for the MCA / M.Tech./Research degree programmes, along

with the necessary enclosures which include the application form and a printed self-addressed envelope, can be obtained against cash payment of **Rs.900/-** from the designated branches of the **GPOs / HPOs** as mentioned in the website: www.vit.ac.in and through online at www.vit.ac.in/vitmee2010

Candidates can obtain the application form from the VIT University at Vellore or from the Administrative Office, New No. 6, (Old No. W-73), Second Street (Opposite Towers Club), Anna Nagar, Chennai-600040 (Phone: 044-42016555 / 65480555, Fax: 044-26222555), by handing over a Demand Draft for Rs. 900/- drawn in favour of "**VIT University**", payable at Vellore.

Candidates can also obtain the application form through post by sending a Demand Draft for Rs.900/-drawn in favour of "**VIT University**", payable at Vellore, with a covering letter addressed to "**Admissions Officer**", 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. Candidates should write their name and address on the reverse of the DD.

Candidates are advised to purchase the 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.

Your application should be sent through either Registered Post/ Speed Post in the self addressed envelope provided by VIT.

7.2. Returning the Completed Application Form

The application form duly completed should be first checked if all the items have been correctly filled and appropriate codes indicating the 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 this brochure and also see that you have adhered to the instructions for completing the computerized OMR application form (Section: 14) in the brochure before mailing the application.

The application should be refolded only along the original fold and inserted in the smaller envelope provided. (Do not put any other enclosures in the cover of the application form). The cover containing the application form and the other enclosures that should accompany it, should be put together into the larger envelope provided.

Your application along with the other enclosures should be sent through either Registered Post/ Speed Post only in the self-addressed envelope provided by VIT so as to reach positively by 25.05.2010.

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.

7.3. Receipt of Completed Application Forms

The last date for the receipt of completed application forms at VIT is 25.05.2010.

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

8. Documents to Accompany the Application Form

Candidates are required to send the attested copies of the following certificates along with their application form.

- X and XII Std. Marks statement
- Mark Sheets of all semesters / years of the qualifying examination upto pre-final / final year as applicable
- Qualifying Degree / Provisional Certificate (If already received)
- Transfer Certificate obtained from the Institute last studied (If already received)
- Valid GATE score card for Candidates applying for M.Tech. (if applicable)
- Service Certificate issued by the Employer. (For sponsored candidates - for M.Tech. programmes only)

The application submitted without the mark statements of all semesters (Except Final semester, in case of candidates appearing for the examination in April / May 2010) will not be considered for admission.

9. ADMIT CARD

- The Admit Card will be issued only to those candidates who have submitted their application forms complete in all respects before the last date.

- Admit cards will be despatched through post. Admit Card will not be faxed or sent by e-mail.
- The candidates must not mutilate the Admit card or alter any entry made therein after it has been authenticated and received by them.
- The Admit card is not transferable to any other person. Impersonation is a legally punishable offence.
- The Admit card will contain your name, registration number, photograph, signature and your postal address and also the address of your test centre, test schedule and a set of instructions for you to read carefully and prepare accordingly for the test.
- The candidate should carefully examine the Admit card once received. Any discrepancy as such should be immediately brought to the notice of the institute.
- No candidate will be permitted to write the test without a valid Admit Card. The Admit Card should be presented to the invigilators for verification.
- The Admit Card is an important document. It should be preserved and produced at the time of Interview and Admission.

10. INTERVIEW

- The candidate should produce the admit card at the time of interview.
- Candidates will be short-listed for an interview on the basis of their performance in the Entrance Examination conducted by VIT University on the following dates.

M.Tech. Automotive Engineering - 28.06.2010.

Other M.Tech. programmes - 29.06.2010 &
30.06.2010

MCA - 28.06.2010.

- Candidates with valid GATE Scores will be short-listed based on their scores.
- Selected candidates should pay an advance of Rs.10,000/-, which will be adjusted while paying the first year fees.
- This amount should be paid by means of Demand Draft drawn in favour of "VIT University", payable at Vellore.
- The candidate's name will be removed from the admission list, if he / she fails to pay the advance at the time of the Interview.

10.1. Documents to be produced at the time of Interview

The Candidate shall produce the following documents in original for verification, along with one-set of photocopies while reporting for the Interview. Candidates will not be allowed to participate in the interview without these documents.

- Admit Card of the Entrance Examination
- X and XII Std. Marks statement
- Mark Sheets of all semesters / years of the qualifying examination upto pre-final / final year as applicable
- Qualifying Degree / Provisional Certificate (If already received)
- Transfer Certificate obtained from the Institute last studied (If already received)
- Valid GATE score card for Candidates applying for M.Tech. (if applicable)
- Service Certificate issued by the Employer. (For sponsored candidates - for M.Tech. programmes only)
- Community Certificate (for all categories except OC/General).
- DEMAND DRAFT for Rs.10,000, drawn in favour of "VIT University", payable at Vellore.

Verification of documents would be done and only then the candidates will be allowed to participate in the Interview. Authentic records pertaining to marks sheet of the qualifying examination and the state of eligibility, as indicated in section 4, will be checked. If a candidate fails to produce any of the above documents, he/she will not be considered for admission.

After remittance of the non-refundable deposit and obtaining the provisional admission letter, if the candidate fails to qualify in the prescribed qualifying examination, the provisional admission accorded will get cancelled.

Allotment of seat for a programme once made is final and cannot be changed under any circumstances.

11. DOCUMENTS TO BE SUBMITTED AT THE TIME OF ADMISSION

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

- X and XII Std. Marks statement
- Mark Sheets of all semesters / years of the qualifying examination upto pre-final / final year as applicable

- Qualifying Degree / Provisional Certificate (If already received)
- Transfer Certificate obtained from the Institute last studied. (If already received)
- Valid GATE score card for Candidates applying for M.Tech.
- Service Certificate issued by the Employer. (For sponsored candidates - for M.Tech. programmes only)
- Community Certificate (for all categories except OC/General)
- Conduct Certificate
- Admission letter and a photocopy of the programme fee receipt
- 4-recent passport size colour photographs
- An undertaking for good conduct and behaviour in a prescribed form (to be issued by the University at the time of admission)
- Two Xerox sets of all the original certificates (Candidates are advised to make a required number of photocopies for their future use before handing over their originals to the Admissions Office)

12. TUITION AND SPECIAL FEES

12.1. MODE OF PAYMENT

All payments are to be made only in the form of a crossed Demand Draft drawn in favour of "VIT University", payable at Vellore.

Various tiers of scholarships and teaching assistantships are available for many students with high scores in GATE and VITMEE.

TUITION FEE WITH MAXIMUM SCHOLARSHIP

| | (per annum) |
|--|-------------------|
| MCA | Rs. 90,000 |
| M.Tech. Automotive Electronics | Rs. 1,10,000 |
| M.Tech. Nanotechnology | |
| M.Tech. Automotive Engg. | |
| M.Tech. Computer Science & Engg. | |
| M.Tech. Communication Engg. | |
| M.Tech. IT (Networking) | |
| All other M.Tech. programmes | Rs. 85,000 |
| Admission Fee (one time payment) | Rs. 5,000 |
| Special Fee [Inclusive of Examination fee, Library etc] | Rs. 13,500 |
| Caution Deposit [one time payment, refundable] | Rs. 2,000 |
| TOTAL | Rs. 20,500 |

It is mandatory that the students own a laptop. They can bring their own laptop and show it to us OR they can buy it through VIT. VIT will let the student know how much it would cost and what the configuration is. Students can pay the amount at the time of admission [Compulsory for M.Tech. CSE, IT and MCA candidates].

12.2. SCHOLARSHIPS

- 100% tuition fee waiver will be given for GATE top scorers. In addition, a total sum of Rs.1,68,000 will be awarded for 2 years as a stipend (paid on monthly basis).
- A stipend of Rs.5,000/- per month for candidates with high GATE scores for M.Tech. Nanotechnology. In addition, Rs.25,000/- per annum as contingency under DST-Nanotechnology initiative programme.
- A stipend of Rs.25,000/- per month will be given by DAAD fellowship for M.Tech. Sensor Systems Technology (One year at VIT and one year at UAS, Karlsruhe, Germany). Preference will be given to those candidates with high score in VITMEE or GATE.

12.3. Refund of Fees

The refund will be made as per the norms of the UGC.

12.4. Submission of 'No Dues' Certificate

A candidate who desires to leave the Institute after joining the programme will have to submit a 'NO DUES' Certificate from his/her respective Dean to get back the certificates. This should be accompanied by the application for withdrawal and the original fee receipt.

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

13. HOSTEL

13.1. Accommodation

Hostel accommodation will be provided only to the students whose residence is beyond 100 kms radius from the University Campus.

13.2. HOSTEL FEES

HOSTEL CHARGES

| | |
|--|-------------|
| Hostel Admission Fee (Non-Refundable, one-time payment) | Rs. 5,000/- |
| Hostel Caution Deposit (Refundable, one-time payment) | Rs. 5,000/- |

Room Rent and the Establishment charges for various types of rooms in the campus are given for Information. However, the nature of accommodation will be decided by the authorities concerned purely based on the availability of rooms. Hostel charges are to be paid only after getting written confirmation from the Chief Warden.

13.3. ROOM RENT AND OTHER CHARGES

| Single Rooms for Men's Hostels | (per annum) |
|---------------------------------------|--------------------|
| Single bedded A/c Room | Rs. 32,000/- |
| Electricity Charges (Advance) | Rs. 10,000/- |
| Single bedded Non-A/c Room | Rs. 25,000/- |

| Shared Rooms for both Men's and Ladies' Hostels | (per annum) |
|--|--------------------|
| (per head) | |
| 2 Bedded A/C Room (Men only) | Rs. 21,000/- |
| 2 Bedded A/C Room K&L Block (Men only) | Rs. 23,000/- |
| Electricity Charges (Advance) | Rs. 10,000/- |
| 3 Bedded A/C Room | Rs. 18,000/- |
| Electricity Charges (Advance) | Rs. 10,000/- |
| 4 Bedded A/C Room | Rs. 14,000/- |
| Electricity Charges (Advance) | Rs. 8,000/- |
| 4 Bedded A/C Room - F Block (Ladies) | Rs. 16,000/- |
| Electricity Charges (Advance) | Rs. 8,000/- |
| 6 Bedded A/C Room - F Block (Ladies) K&L Block (Men's Hostel) | Rs. 14,000/- |
| Electricity Charges (Advance) | Rs. 8,000/- |
| 2 Bedded non A/C Room (Men Only) | Rs. 18,000/- |
| 2 Bedded Non A/C Room K&L Block (Men's only) | Rs. 20,000/- |
| 3 Bedded non A/C Room | Rs. 15,000/- |
| 4 Bedded non A/C Room | Rs. 12,000/- |
| 6 Bedded non A/C Room - F Block (Ladies) (K&L Block Men's Hostel) | Rs. 12,000/- |

ANNUAL ADVANCE TOWARDS MESS, ELECTRICITY & BREAKAGES IF ANY

| | (per annum) |
|-----------------------|--------------------|
| Mess (Vegetarian) | Rs. 30,000/- |
| Mess (Non-Vegetarian) | Rs. 35,000/- |
| Special Mess | Rs. 40,000/- |

The Advance is based on the Menu List and the fee is subject to revision

13.4. MODE OF PAYMENT

All payments are to be made only in the form of crossed Demand Draft drawn in favour of "VIT University", payable at Vellore, and a covering letter addressed to the Chief Warden with the following details.

- Name of the Candidate
- Programme to which admitted
- Total Amount to be paid including the Admission Fee, Caution Deposit, Room Rent & Mess charges
- DEMAND DRAFT Number and Date
- Name of the bank and branch
- Filled application form with 4 nos. of recent passport size colour photos

13.5. REPORTING TO THE HOSTEL

- Admission to the Hostel will be allowed only after the payment of prescribed Tuition and the Hostel fees in full.
- A candidate will be allowed to join the hostel, two days before the date of commencement of the programme.
- The candidates have to submit the required application form in the Chief Warden's Office. The Chief Warden will allot a room accordingly. The candidate can occupy the rooms only after the room has been allotted officially.
- The candidates are instructed to follow the rules and regulations of the Hostel without any violation. If there is any violation he / she will be expelled out of the hostel with immediate effect.

13.6. RULES FOR REFUND OF HOSTEL FEES:

If a candidate, after paying the hostel fees, decides not to join the hostel, the entire amount after deducting **Rs. 5,000/- will be refunded.**

If a candidate, after joining the hostel, wishes to vacate the hostel **within one month**, from the date of payment of hostel fees, he / she will be entitled only to a refund of 50% of the room rent and the mess charges after deducting the proportionate mess charges and the refundable caution deposit.

If a candidate vacates the hostel after one month from the date of hostel fee payment, he / she will be entitled only to the refund of caution deposit and the mess charges after deducting the proportionate charges. The room rent and the hostel admission fee will not be refunded under any circumstances.

13.7. SUBMISSION OF 'NO DUES' CERTIFICATE

The candidate who desires to leave the hostel has to submit the "NODUES" certificate to get the eligible refund as per rule. This should be accompanied by the application for withdrawal and the original fee receipt.

The refund will be approved only on production of "NO DUES" Certificate in the prescribed form which can be obtained from the Admission Section.

13.8. GENERAL DISCIPLINE

All candidates admitted to the University 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 University. 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.

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 anyone is found ragging his / her juniors, he / she can be rusticated from the Institute.

14. INSTRUCTIONS FOR COMPLETING THE COMPUTERIZED 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 in the application form. Requests for corrections will not be entertained later.
- **First, write in capital letters the required information or enter the relevant code with a black ballpoint pen in the boxes (wherever provided). A machine will process your application form. The machine picks up only dark pencil marks. Therefore, darken the alphabet/numeral/oval using HB pencil only.** What you write in the boxes is only for your guidance and for verification that you are darkening the correct alphabet/ numeral /option.
- If you wish to change a marking, erase the darkened spot completely and then darken 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 scanned by a machine that 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 put your address and **signature in black ballpoint 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 application number for future reference.**

Item-1-Name of the Candidate

Write your name in CAPITAL LETTERS as it appears/ would appear in your original Degree 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. Darken the corresponding alphabet underneath each letter of the name. Do not write Mr., Miss, Km. etc before your name

Item-2-Programme opted :

Darken the appropriate oval in the order of preference.

Item-3-Mother Tongue**Item-4-Campus****Item-6-Gender****Item-7-Religion****Item-8-Category****Item-9-Nationality****Item-10-Community**

Write the appropriate code in the boxes provided and then darken the appropriate ovals to correspond with the code, in all the above items. Candidates belonging to MBC category should use the same code as OBC/ BC.

Item-5-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 MAY 1980, the date should be entered as follows: 01 05 80. Darken the corresponding numerals for date, month and year in each column.

Item-11-Test City Code**Item-12-Nativity State**

Refer to the test city codes as given in the section-6.2 of the Information Brochure and the codes for various states given in Appendix-II of the Information Brochure and enter the appropriate code in the boxes provided. Darken the numerals below to correspond with the code entered.

Item-13-Qualifying Exam

Write the appropriate code in the boxes provided and then darken the appropriate ovals to correspond with the code.

Item-14-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 (if required), and all other details including the correct PINCODE, for letters to reach you. Indicate your e-mail ID, Phone No. with the correct STD code and Mobile number, if any. Please note that this block will be machine scanned and therefore, it should be **written very clearly in black ball-point 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.

Item-15-Photograph

Affix one recent good quality colour photograph in the space ear-marked for this in the Application Form. Paste a

good quality colour photograph with light colour background taken not more than two months earlier, **indicating clearly your name and the date of taking the photograph**. Do not wear a cap or goggles. Spectacles if being used regularly are allowed. Polaroid photos are not acceptable.

The photograph should be firmly affixed to the application form with gum or fevicol. **It should not be pinned or stapled.**

- Candidates are advised to retain the negative of the same photograph for use at the time of Entrance Examination/ Interview / Admission. **Do not sign on the photograph or have it attested.**
- It is expected that the candidate will have the same appearance at the time of the examination and Interview 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.

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

Item-16-Signature

Put your usual **signature in 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. **Hence do not merely write your name in capital letters. This may lead to rejection of your application form.**

Item-17-Qualifying Degree**Item-18-Place of Study****Item-19-Mode of obtaining the degree****Item-20-Sponsored Candidate**

Write the appropriate code in the boxes provided and then darken the appropriate ovals to correspond with the code, in all the above items.

Item-21-Percentage of Marks obtained

Write the aggregate marks obtained in your X Std., XII Std. and also in the qualifying degree (if already passed). The percentage of marks should be rounded off to the nearest integer and darken the corresponding numerals under each digit in all the above items.

Item-22-GATE Score

Enter your valid GATE Score in the boxes provided and then darken the appropriate ovals to correspond with the numerals entered in the boxes above.

Item-23-Branch Opted

Refer to the programme codes given in Appendix-III of the Information Brochure and enter the appropriate codes in the boxes provided then darken the appropriate ovals to correspond with the numerals entered in the boxes above. You can enter maximum of 4 options in the order of preference based on the eligibility criteria.

Item-24-Question Paper Subject Code

Refer to the subject codes given under section-6.3 of the Information Brochure and enter the appropriate codes in the boxes provided then darken the appropriate ovals to correspond with the numerals entered in the boxes above.

Item-25-Name of the Parent/Guardian

Write the name of one parent or guardian in capital letters. 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. Darken the corresponding alphabet underneath each letter of the name.

Item-26-Relationship of the person at item 25 with the Candidate

Indicate the relationship of the person whose name you have entered in item 25, to you, by putting in the correct code in the box provided and then darkening the oval against the same.

Item-27-Parent/Guardian's Occupation

Write the appropriate code in the box provided and then darken the appropriate oval to correspond with the code.

Item-28-Details of the Qualifying Exam Passed/ Appearing

Complete the tabular column furnishing relevant details asked under each heading clearly in black ball-point pen only.

Item-29-Blood Group

Item-30-Mobile Number

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

Item-31-Pincode

Write the appropriate code in the box provided and then darken the appropriate oval to correspond with the code.

Item-32-Declaration

The Candidate must sign the declaration. The place and date should also be written. The two signatures, one below the declaration and the one below your photograph in the box (as in item 16) should be identical. Applications without signatures or with two different signatures at both places will be treated as incomplete and be rejected.

The declaration by the candidate must be countersigned by the Parent/ Guardian.

Item-33-Check List

Item-34-List of Enclosures

Read the instructions carefully and shade YES or NO.

15. CHECK LIST

15.1. Check List of originals to be produced for the Interview

- Admit Card of the Entrance Examination
- X and XII Standard Mark statements.
- Mark Sheets of all semester/years of your qualifying degree.
- Qualifying Degree / Provisional Certificate. (If already received).
- Transfer Certificate obtained from the Institute last studied. (If already received).
- Valid GATE score card for Candidates applying for M.Tech (if applicable).
- Service Certificate issued by the Employer. (For sponsored candidates - for M.Tech. programme only)
- DEMAND DRAFT for Rs.10,000, drawn in favour of "VIT University", payable at Vellore.

15.2. Check List of originals to be produced at the time of admission

- Admit Card of the Entrance Examination
- X and XII Standard Mark statements.
- Mark Sheets of all semester/years of your qualifying degree
- Qualifying Degree / Provisional Certificate. (If already received)
- Transfer Certificate obtained from the Institute last studied. (If already received)
- Valid GATE score card for Candidates applying for M.Tech (if applicable).
- Service Certificate issued by the Employer. (For sponsored candidates - for M.Tech. programmes only)
- Conduct Certificate
- Admission letter and a photocopy of the programme fee receipt
- 4-recent passport size colour photographs
- An undertaking for good conduct and behaviour in a prescribed form (to be issued by the University at the time of admission)
- Two Xerox sets of all the original certificates. Candidates are advised to make a required number of photocopies for their future use before handing over their originals to the Admissions Office).

INFORMATION BROCHURE

for

ADMISSION TO

**M. Phil / M. S. [by Research]/ Integrated Ph. D. &
Ph. D. Degree Programmes**

Research Profile of VIT University

VIT UNIVERSITY, founded in 1984 as *Vellore Engineering College*, has since grown from strength to strength to its present position as a premier academic institution in the country devoted to education and research in Science, Engineering, Technology, Management and Humanities. Declared as a Deemed University by UGC (under Section 3 of the UGC Act 1956) in 2001, VIT University comprises of different Schools and Centres of Research, based on the fields of study and domains of research.

VIT University offers academic course programmes leading to B.Sc., B.B.A., B.Com, M.Sc., M.S.(Software Engineering), B.Tech, M.Tech, MCA, MBA, MBA(IB) degrees and research programmes leading to M.Phil, M.S. (By Research) and Ph.D degrees in different disciplines. Presently the student-strength of VIT University is about 15,000 comprising Indian as well as foreign students. The faculty strength is 800 +. VIT is the first educational institution in India to be awarded the ISO 9002 certificate. Teaching Programmes at VIT University have been accredited previously by NBA (AICTE) and VIT University itself as an Institution by NAAC (UGC) with 'A' Grade. It is the first University in India to get international accreditation by Institute of Engineering & Technology [IET-UK] and Energy Institute [EI-UK]. The University has signed MOU's with a number of foreign universities in Germany, Australia, Canada and U.K. for cooperation in some of the advanced areas in the fields of Engineering Management, Mechatronics, Biomedical Engineering, Sensor Technology, Energy and Environmental Engineering. VIT University was the first university to be awarded the prestigious ABET accreditation for Civil and Mechanical engineering programmes in 2009. VIT University is now one of the top ten engineering and technological institutions of the country (Source: India Today, 2009), and is striving to attain the status of a world class

university by focusing on research activities of relevance to the society in particular and country in general. In this endeavour, VIT University is blessed with excellent faculty, infrastructural facilities and outstanding students.

In order to give a major fillip to the research activities, VIT University has allocated a substantial budget of more than Rs.800+Lakhs for research activities in the last academic year; and has awarded more than 100 research students in different disciplines, with VIT Research Associateships (Rs.10000/- or Rs. 12000/- per month), based on a rigorous selection process.

The university's research is managed by the office of Director of Academic Research. The Director, Academic Research oversees all the research activities of the university and monitors the M.Phil, M.S. [By Research] and Ph.D programmes from admission to the award of degrees ensuring quality in research and compliance with the rules and regulations of the university, which are at par with the best institutes of the country.

The admission to research programmes is through a written test followed by an interview conducted annually at VIT University. The award of research degrees is strictly based on the completion of various stringent milestones set by the office of the Director, Academic Research in consultation with the university's Academic Council and the Research Advisory Committee which comprises of well known academicians, researchers and persons of repute from the Indian industry.

VIT University encourages research activity by awarding research associateship to the deserving candidates, on the basis of the selection test and interview and has currently about 700 scholars pursuing active research towards their research degrees. Some of the major thrust areas of research at VIT University are:

- Materials Science & Technology
- Bio-Technology
- Bio-Medical Engineering
- Bio-mimetics
- Biosensors
- Sensor Technology
- Embedded Systems
- Sensors and Networks
- Fluid Mechanics
- Aerospace Engineering
- Energy Storage Systems
- Manufacturing Technology
- IT Enabled Technologies
- Natural Hazards Mitigation
- Nano-Science and Technology
- Networks and Communication Technology
- Fibre optics and Photonics
- Earth Sciences
- Proteomics, Bio-Separation Science and Technology
- Drug Design & Delivery
- GIS and Remote Sensing
- Signal and Image Processing
- Geotechnical and Structural Engineering
- Mechatronics
- Environmental Engineering
- Organic, Inorganic and Analytical Chemistry
- Organizational dynamics, Marketing and Finance
- Thin Films and Crystal Growth
- Operations Research and Management

1. Research Programmes Offered :

Ph.D, Integrated Ph.D & M.S (By Research) Degrees in Engineering Disciplines

Admissions to be accorded for the specializations mentioned below after the selection process:

Research Areas in School of Mechanical & Building Sciences (SMBS):

Manufacturing Engineering; Fracture Mechanics; FEM; Micro Machining; Industrial Engineering; Geotechnical Engineering; Environmental Engineering; Cryogenics; Remote Sensing & GIS Applications; Ground Water Resources; Structural Engineering; Computational Fluid Dynamics; Robotics; Shock & Vibration; Tribology (Wear Research); Special Alloys & Steels Technology; Earth Science; Environmental Fluid Mechanics; Surface Engineering; Nanomaterials Technology; Renewable Energy; Fuel Cells; Enhanced Heat Transfer; Efficient Engine Coolants; Composite Materials; Mechanical Design Analysis; Thermal Engineering.

Research Areas in School of Biosciences & Technology (SBST):

Bio-medical Engineering; Bio-informatics; Bio-sciences; Applied Microbiology; Medical Biotechnology; Plant Biotechnology; Protein Engineering; Medical Image Processing; Bio-Remediation; Computational Biology; Environmental Biotechnology; Clinical/Biomedical Research (CBMR); Biomolecules & Genetics.

Research Areas in School of Computing Sciences & Engineering (SCSE) and School of Information Technology & Engineering (SITE):

(A few candidates would be chosen if found exceptionally brilliant or promising)

Computer Graphics; Image Processing; Cryptography and Network Security; Computational Intelligence; Wired / Wireless Computer Networks; Data Mining; Software Engineering; Theoretical Computer Science; Computer Architecture; Parallel and Distributed Computing.

Research Areas in School of Electrical Engineering (SELECT):

(A few candidates would be chosen if found exceptionally brilliant or promising)

Nanoelectronics; MEMs; Sensors RF & Microwaves; Communication & Networking.

Research Areas in School of Electronics Engineering (SENSE):

(A few candidates would be chosen if found exceptionally brilliant or promising)

Control Optimization Computational Electromagnetics; Power Systems; Protection Switchgear & Control; Power

Electronics; Optimization Techniques for Power Electronics & Drives.

Research Areas in Centre for Bio-separation Technology (CBST):

Cancer Biology; Lipid Science; Monoclonal Antibody Development; Natural Product Research.

Research Areas in Centre for Disaster Mitigation & Management (CDMM):

Structural Engineering; Geology/Geomatics/Disaster Management.

Ph.D in Management

Research Areas in VIT-Business School (VITBS):

(A few candidates would be chosen if found exceptionally brilliant or promising)

Technology Management; Women Issues, HR, Marketing & Finance.

Ph.D & M.Phil. in Sciences & Languages

Research Areas in School of Social Sciences & Languages (SSL) :

Commerce; Economics; Languages -Tamil, Hindi & English.

Research Areas in School of Advanced Sciences (SAS):

Mathematics:

Geometric Function Theory; Stochastic Process; Numerical & Analytical Methods; Fuzzy Theory; Wavelet Analysis & Applications; Fluid Dynamics; Algebra; Graph Theory; Operational Research.

Physics:

Thin Films/Sensors/Energy Conservation; Crystal Growth; Gel Dosimetry/ Laser Spectroscopy; Nonlinear Fiber Optics/ Photonics; Bio Physics; Condensed Matter Physics; Material Science; Medical Physics/Nuclear Physics; X-Ray Crystallography; Ultrasonics; Thin Film Technology; Bio-Materials; Surface Engineering; Synthesis and Characterization of Nanomaterials.

Chemistry:

Analytical Chemistry; Synthetic Organic Chemistry; Battery Materials; Bioactive Molecule Using Plant Extract; Catalytic materials; Kinetic and Catalytic Studies Using Metal Ions/ Micellar System; Nano Materials: Synthesis of Nonmetals; Bioremediation; Electro Organic Chemistry; Environmental Electrochemistry; Inorganic Solid State Chemistry & Materials Science; Development of Nonmaterial's on Electrode Surface; Phyto Chemistry; Drug Metal Interactions, Catalysis; Corrosion Studies; Polymer Synthesis; Polymer Composites/Blends; Synthesis & Studies of MRI Contrast Agents; Natural Products/Biomaterials/Bio fuels;

Biochemistry & Pharma; Design & Synthesis of Heterocycles; Metallo-Organic Chemistry; Synthetic Organic Chemistry; Polymer Synthesis; Solar Cells; Colloids & Surface Chemistry; Environmental Analytical chemistry; In Vitro drug metal ion interactions through kinetic studies; Drug development; Biotechnology; Thin Films; Sensor Systems;

2. Minimum Qualification For Admission :

a. For Ph.D in Engineering:

- i) Master's degree in Engineering/Technology in the relevant discipline with a first class or a minimum of 60% marks/CGPA 6.5 on a 10 point scale in cases where the University/Institute does not award any class
(or)
- ii) Equivalent qualifications like M.Sc. (Engineering) / M.S. [By Research.]

b. For Integrated Ph.D in Engineering:

Bachelor's Students with outstanding academic record in the Bachelor's degree in engineering disciplines of Civil, Mechanical, Computer, and Electrical & Electronics, with an aptitude towards advanced scientific and technological research are eligible to apply. A minimum of 80% marks or a CGPA of 8.0 is the primary pre-requisite. Candidates who are appearing for the final examination can also apply provided they meet all the requirements before admission.

c. For M.S. (by Research) degree:

- i) A Bachelor's degree in Engineering/Technology or Master's degree in Science or Master's degree in Computer Applications (with Physics & Mathematics at Bachelor's level) with a first class or a minimum 60% marks/CGPA 6.5 on a 10 point scale in cases where the University/Institute does not award any class.
- ii) Associate membership of the following professional bodies with a pass in both Parts A & B with 60% marks. (Such candidates are eligible for admission to M.S. (by research) Programme in their parent discipline. Their eligibility for other disciplines will be decided on a case-to-case basis).

The Institution of Engineers (India)

The Aeronautical Society of India

The Indian Institute of Metals

The Indian Institute of Chemical Engineers

The Institution of Electronics and Telecommunication Engineering

d. For Ph.D / M.Phil. in Sciences / Languages:

Master's degree in the relevant discipline of Science with a first class (or a minimum of 60% marks/CGPA

6.5 on a 10 point scale in cases where the University/ Institute does not award any class). However for Languages, a Master's degree with a minimum of 55% marks is essential.

3. Categories and Eligibility:

a. Internal Full Time Candidates:

A candidate who wishes to work for Ph.D / Integrated Ph.D / M.S. (By Research) / M.Phil. degree on full time basis (including project staff working in sponsored projects being carried out at the Institute) should apply in the prescribed form on or before the specified date.

b. Internal Part Time candidates:

All the staff members of the Institute having the requisite minimum qualifications can work on a part time basis for Ph.D / M.S. (by research) / M.Phil. degree.

c. External Part Time candidates:

Teachers working in other colleges in a permanent position and candidates sponsored by R&D organisations of following categories are eligible to apply to work on a part time basis for Ph.D / M.S. (By Research) / M.Phil. degree:

- Laboratories run by the Council of Scientific and Industrial Research/ Department of Atomic Energy / Department of Space etc.
- Public Sector undertakings with R & D Units.
- Private Industries recognized by The Department of Scientific & Industrial Research Government of India as engaged in R&D work or contributing to R&D efforts. A copy of the certificate issued by the Department of Scientific and Industrial Research (DSIR) in this regard will be required to be produced in such cases.
- Medical Industry, Institutions and Hospitals with approved R&D in the relevant area. (A copy of the certificate issued by the appropriate authority to be produced).
- Sponsoring Institutions/ Industries should be located within 500 km.
- Candidates fulfilling these criteria may apply in the prescribed form along with NOC on or before the specified date.

d. International candidates:

Candidates of foreign nationality who hold Degrees from Indian Universities seeking admission to research programmes with the necessary clearance from the Government of India (The Ministry of Human Resource Development) and possess valid Visa will be

treated on par with Indian nationals for purposes of admission to the Institute.

Foreign nationals with foreign degrees must meet the minimum educational requirements as given in Section 2. Their degrees must be equivalent to Indian degrees mentioned in Section 2 in Engineering/ Technology/ Science and they should have a good academic record. International Students are expected to have a good working knowledge of English. Candidates with valid GRE and TOEFL scores will be given preference. The case of each foreign applicant will be examined and direct admission will be offered purely on merit.

4. Minimum Period of Registration for Research Programmes:

Doctor of Philosophy (Ph.D)

The minimum period of study and research from the date of registration for the Ph.D programme to the date of submission of thesis will be 2½ years for full-time research scholars and 3 years for part-time Research Scholars.

Integrated Ph.D:

The minimum period of study and research from the date of registration for the Integrated Ph.D programme to the date of submission of thesis will be 4 years for full time Research Scholars.

M.S. (By Research):

The minimum period of study and research required from the date of registration for the M.S. (by research) programme to the date of submission of thesis will be 2 years for full-time research scholars and 3 years for part-time Research Scholars.

Master of Philosophy (M.Phil):

The minimum period of study and research from the date of registration for the M.Phil programme

to the date of submission of thesis will be one academic year for full-time research scholars and two academic years for part-time Research Scholars.

Special cases, if any would be looked into by the Vice-Chancellor and or his Nominee.

5. Selection Procedure :

The candidates, who satisfy the criteria prescribed, will be called for the written test (VITMEE) which will be conducted at selected centres across India. **Candidates can choose an appropriate subject in VITMEE based on their background and their potential research interests.** Based on the performance in VITMEE, those candidates who satisfy the prescribed criteria and who have also secured more than the cut off score would be called for a personal interview to assess the technical skills, research and analytical aptitude and communication skills of the candidates. Final selection will be based on the previous academic records and the performances in the written test and interview. The weightages for arriving at the overall merit index will be as follows:

- | | |
|--|------|
| (i) For candidates with Bachelor's degree in Engineering/ Technology | |
| Bachelor's degree | 40% |
| Written test and / Interview | 60% |
| (ii) For candidates with Master's degree in Science/ Computer Applications | |
| Bachelor's degree | 20 % |
| Master's degree | 20 % |
| Written test and / Interview | 60 % |
| (iii) For candidates with Associate Membership | |
| Associateship Examination | 40% |
| Written test and / Interview | 60% |

6. Fees :

| | | | |
|---|--------------|---------------------------|-----------------|
| a. Registration fee | Rs. 600/- | | |
| b. Tuition fee per annum | Ph.D | M.S. (By Research) | M. Phil. |
| Internal Part Time Candidate | Rs. 5,000/- | Rs. 4,500/- | Rs. 4,000/- |
| Internal Full Time & External Part Time | Rs. 20,000/- | Rs. 15,000/- | Rs. 12,000/- |
| c. Thesis / Dissertation Fee * | Rs. 10000/- | Rs. 8000/- | Rs. 5000/- |
| d. Integrated Ph. D (Internal Full Time only) | Rs. 25,000/- | | |

**(To be paid at the time of submission of Synopsis & Thesis/Dissertation)*

Fee once paid will not be refunded under any circumstances.

The Candidates selected for admission have to pay the fees on or before July 08, 2010 through a Demand Draft only. The Demand Draft should be drawn in favour of "VIT University", and payable at Vellore.

7. Documents to accompany alongwith Completed Application Form :

- i. Attested copies of the following documents must be enclosed with the completed application form.
 - a. First page of SSLC / Higher Secondary / Matriculation or its equivalent certificate
 - b. All marks sheets / grade cards, degree certificates beginning from first degree towards proof of qualification. (Original certificates should not be enclosed)
 - c. Transfer certificate from the Institution last attended.
 - d. Service certificate and NOC from the present employer (This is a must for all applicants under External Part Time category)[Refer Appendix V].
- ii. Applications received without the above documents will not be considered and no correspondence thereof will be entertained.
- iii. The completed application form with "ADMISSION TO Ph.D/ M.S. (BY RESEARCH) / M.Phil. PROGRAMME" superscribed on the cover should reach the office of **The Admissions Officer, VIT University, Vellore 632 014, Tamil Nadu, India**, on or before 25th May 2010.

8. Joining the Research Programme:

The candidates admitted to Ph.D / M.S. (by research)/ Integrated Ph.D. / M.Phil degree programme will have to report by July 12th 2010 to the Admissions Officer and then the Director, Academic Research. All the original documents/ certificates should be produced for verification at the time of joining.

9. Scheme of Research Associateships (RA):

The scheme envisages providing financial assistance of Rs. 12,000/ Rs. 10,000 to outstanding to encourage them to earn their Ph.D degree at VIT University within the specified period.

Rules of the Scheme:

- i. The amount of Research Associateship would be as follows:

| | |
|--|--|
| a. Post-Graduates in Engineering, Technology & Management | Rs.12,000/- per month (consolidated) |
| b. Graduates in Engineering & Technology & Post-Graduates in Science, Computer Applications & Commerce (M.Sc., M.C.A and M.Com.) | Rs.10,000/- per month (consolidated) |
- ii. The duration of the award would be as follows:

| | |
|--|-------------|
| a. Post-Graduates in Engineering, Technology & Management and M.Phil. degree holders registered for Ph.D degree: | Three Years |
| b. Post-Graduates in Science and Commerce registered for Ph.D degree: | Three Years |
- iii. The awardees would be governed by the service rules of VIT University and the respective regulations for research conferments at VIT University and specific conditions of the Associateships.

Research Associateship & Tuition Subsidy for Integrated Ph.D Scholars:

Selected students will receive a monthly associateship of Rs.7000/-. The amount will be enhanced to Rs.12000/- after two years, subject to satisfactory performance. In addition, the candidates are eligible for ~80% subsidy on tuition fees and are therefore required to sign a contract to serve VIT University as faculty for a minimum tenure.

10. Other Information:

The candidates have to make their own arrangements for their stay at Vellore during their research programme. All legal suits and actions arising out of or relating to Vellore Institute of Technology shall be instituted within the jurisdiction of courts at Vellore, Tamil Nadu.

IMPORTANT DATES

| | | | |
|---|--------|----------|------------|
| Issue of Application Forms | FROM : | Monday | 19.04.2010 |
| | TO : | Tuesday | 25.05.2010 |
| Last date for the receipt of completed application forms at VIT | | Tuesday | 25.05.2010 |
| VIT Master's Engineering Entrance Examination (VITMEE) | | Sunday | 06.06.2010 |
| Interview | | Saturday | 26.06.2010 |
| Last date of payment of fees for selected Candidates | | Thursday | 08.07.2010 |

APPENDIX - I

SYLLABUS for ENTRANCE EXAMINATION

CI - CIVIL ENGINEERING

ENGINEERING MATHEMATICS

Linear Algebra

Matrix algebra, Systems of linear equations, Eigen values and eigenvectors.

Calculus

Functions of single variable, Limit, continuity and differentiability, Mean value theorems, Evaluation of definite and improper integrals, Partial derivatives, Total derivative, Maxima and minima, Gradient, Divergence and Curl, Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations

First order equations (linear and nonlinear), Higher order linear differential equations with constant coefficients, Cauchy's and Euler's equations, Initial and boundary value problems, Laplace transforms, Solutions of one dimensional heat and wave equations and Laplace equation.

Complex variables

Analytic functions, Cauchy's integral theorem, Taylor and Laurent series.

Probability and Statistics

Definitions of probability and sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Random variables, Poisson, Normal and Binomial distributions.

Numerical Methods

Numerical solutions of linear and non-linear algebraic equations Integration by trapezoidal and Simpson's rule, single and multi-step methods for differential equations.

STRUCTURAL ENGINEERING

Mechanics

Bending moment and shear force in statically determinate beams. Simple stress and strain relationship Stress and strain in two dimensions, principal stresses, stress transformation, Mohr's circle. Simple bending theory, flexural and shear stresses, unsymmetrical bending, shear centre. Thin walled pressure vessels, uniform torsion, buckling of column, combined and direct bending stresses.

Structural Analysis

Analysis of statically determinate trusses, arches, beams, cables and frames, displacements in statically determinate structures and analysis of statically indeterminate structures by force/ energy methods, analysis by displacement methods (slope deflection method), influence lines for determinate and indeterminate structures. Basic concepts of matrix methods of structural analysis.

Concrete Structures

Concrete Technology- properties of concrete, basics of mix design. Concrete design-basic working stress and limit state design concepts, analysis of ultimate load capacity and design of members subjected to flexure, shear, compression and torsion by limit state methods. Basic elements of prestressed concrete, analysis of beam sections at transfer and service loads.

Steel Structures

Analysis and design of tension and compression members, beams and beam columns, column bases. Connections-simple and eccentric, beam-column connections, plate girders and trusses. Plastic analysis of beams and frames.

GEOTECHNICAL ENGINEERING

Soil Mechanics

Origin of soils, soil classification, three - phase system, fundamental definitions, relationship and interrelationships, permeability and seepage, effective stress principle, consolidation, compaction, shear strength.

Foundation Engineering

Sub-surface investigations- scope, drilling bore holes, sampling, penetration tests, plate load test. Earth pressure theories, effect of water table, layered soils. Stability of slopes-infinite slopes, finite slopes. Foundation types-foundation design requirements. Shallow foundations-bearing capacity, effect of shape, water table and other factors, stress distribution, settlement analysis in sands and clays. Deep foundations - pile types, dynamic and static formulae, load capacity of piles in sands and clays, negative skin friction.

WATER RESOURCES ENGINEERING

Fluid Mechanics and Hydraulics

Properties of fluids, principle of conservation of mass, momentum, energy and corresponding equations,

potential flow, applications of momentum and Bernoulli's equation, laminar and turbulent flow, flow in pipes, pipe networks. Concept of boundary layer and its growth. Uniform flow, critical flow and gradually varied flow in channels, specific energy concept, hydraulic jump. Forces on immersed bodies, flow measurements in channels, tanks and pipes. Dimensional analysis and hydraulic modeling. Kinematics of flow, velocity triangles and specific speed of pumps and turbines.

Hydrology

Hydrologic cycle, rainfall, evaporation, infiltration, stage discharge relationships, unit hydrographs, flood estimation, reservoir capacity, reservoir and channel routing. Well hydraulics.

Irrigation

Duty, delta, estimation of evapo-transpiration. Crop water requirements. Design of lined and unlined canals, waterways, head works, gravity dams and spillways. Design of weirs on permeable foundation. Types of irrigation system, irrigation methods. Water logging and drainage, sodic soils.

ENVIRONMENTAL ENGINEERING

Water requirements

Quality standards, basic unit processes and operations for water treatment. Drinking water standards, water requirements, basic unit operations and unit processes for surface water treatment, distribution of water. Sewage and

sewerage treatment, quantity and characteristics of wastewater. Primary, secondary and tertiary treatment of wastewater, sludge disposal, effluent discharge standards. Domestic wastewater treatment, quantity and characteristics of domestic wastewater, primary and secondary treatment. Unit operations and unit processes of domestic wastewater, sludge disposal.

Air Pollution

Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

Municipal Solid Wastes

Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

Noise Pollution

Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.

TRANSPORTATION ENGINEERING

Highway Planning

Geometric design of highways, testing and specifications of paving materials, design of flexible and rigid pavements.

Traffic Engineering

Traffic characteristics, theory of traffic flow, intersection design, traffic signs and signal design, highway capacity.

CS - COMPUTER SCIENCE AND ENGINEERING & INFORMATION TECHNOLOGY

ENGINEERING MATHEMATICS

Differential and Integral Calculus

Limit-Continuity-Differentiability, Leibniz theorem, Mean Value Theorems, Taylor's theorem, Integrals, Improper integrals, Total Differentiation, Partial derivatives, Maxima and Minima.

Probability and Statistics

Probability, conditional probability, Baye's theorem, mean, median, mode, moments, standard deviation. Random variables, Uniform, Binomial, Poisson, normal distributions. Correlation and regression, Sampling and Tests of significance.

Discrete Mathematics

Sets, relations and functions, algebra of matrices and determinants, algebraic structures, Boolean algebra and

applications, order relations and structures, graph theory, logic and combinatorics.

Numerical Methods

Solutions to algebraic and transcendental equations (Bisection and Newton Raphsons' methods), simultaneous linear algebraic equations (Gauss elimination, Crouts, Gauss seidal and relaxation), Interpolation methods (forward, backward and central), numerical integration (Trapezoidal, Simpson's and Weddle's) eigen values and eigen vectors, Numerical solutions to ordinary (Euler, modified Euler, Runge Kutta 4th order) and partial differential (parabolic, elliptic and Hyperbolic) equations.

Theory of computation

Formal language and automata theory Regular languages and finite automata, context free languages and push down automata, recursively enumerable sets and Turing machines, undecidability

Analysis of algorithms and computational complexity

Asymptotic analysis (best, worst, average case) of time and space, Upper and lower bounds on the complexity of specific problems, NP-completeness.

Mathematical physics

Linear vector space, matrices, vector calculus; Linear differential equations; elements of complex analysis; laplace transforms, Fourier analysis, elementary ideas about tensors

COMPUTER HARDWARE**Digital logic**

Number systems and codes-Gates-TTL-circuits-Boolean algebra and Karnaugh maps-Arithmetic logic units-Flip flops-registers and counters-Memories - Combinational and sequential logic circuits .

Computer Architecture and organization

Machine instructions and addressing modes, ALU and data path, Register Transfer Language, hardware and micro programmed control, memory interface, RAM, ROM I/O interface (Interrupt and DMA modes), serial communication interface, instruction pipelining, Cache, main and second memory storage-Micro processors 8085, 8086, Interfacing and memory addressing.

Electronics

Network analysis, semiconductor devices; bipolar transistors, FET's; Power supplies, amplifier, Oscillators; Operational amplifiers; elements of digital electronics; logic circuits.

SOFTWARE SYSTEMS**Data structures**

Notion of abstract data types, stack, Queue, List, set, string. Tree, binary search trees, heap, graph

Programming methodology

C programming, program control, function, scope, binding, parameter passing, iteration and recursion, elementary concepts of object oriented, functional and logic programming, Java programming.

Algorithms for problem solving

Tree and graph traversal, connected components, spanning trees, shortest paths; Hashing, sorting, searching; design techniques (Greedy, dynamic programming, divide and conquer)

Programming language processors

Compiler, Interpreter, assembler, Linker, Loader, Macro processors; Compiler design-Lexical analysis, parsing-Top-down parsing and bottom up parsing, syntax directed translation, runtime environment, Symbol table, Code optimization, code generation.

Operating systems

Memory management, page faults, overlay, processor management, device management, dead lock. Processes, threads and interprocess communication, CPU scheduling, file systems, I/O systems, protection and security.

System & program development methodology

Software project phase-Life cycle of software development-steps of software development-principles of programming in any language -documentation

Management Information systems

Aspects of Management and Information systems- decision support and operation-support systems- systems approaches to MIS-computers and information system in business

Databases management systems

Data, database and DBMS-Data dictionary/directory-schema, description of database structure-forms of DBMS systems-Hierarchical, network and RDBMS-DDL, DML, stored data structure language and query language-Recent trends in database management systems-Memory management techniques used in computers, query languages (SQL), file structures (sequential files, indexing, B* trees) Transactions and concurrency control.

Computer networks & Data communications

Analog Vs Digital communication, modems, techniques, multiplexers, and concentrators, serial Vs parallel communication, simplex, duplex, and half duplex communication-synchronous and asynchronous communication- Error detection/correction methods, data link control protocols, balanced and unbalanced interfaces, communication media- ISO/OSI stack, Sliding window protocol, LAN Technologies (Ethernet, Token ring, TCP/UDP, IP, Basic concepts of switches; gateways, and routers).

CE - CHEMICAL ENGINEERING

Laws of thermodynamics - reversible and irreversible process - concept of ideal gas and real gas - equations of states - Maxwell relations - adiabatic and isothermal compression - phase equilibrium - Gibbs phase rule - system of variable composition - van Hoff's equation - applications of Gibbs - Duhem equation.

Law of conservation of mass and energy - material balance energy balance and their applications - unit operation and unit process - psychrometry - combustion calculations.

Classification of fluids - fluid statics - basic equations of fluid flow - Bernoulli's equation - laminar flow - friction in flow through beds of solids - packed beds - fluid moving machinery - classification of pumps and its characteristics.

Introduction to particulate solids - particle separation - size reduction - motion of a particle through fluid - classification of particulate solids - centrifugal classifier - sedimentation techniques - flotation - filtration equipments - agitation and mixing of liquids.

Fourier's law of heat conduction - concept of thermal conductivity - heat transfer through fins - convective heat transfer - transfer of heat in flowing fluids - laminar and turbulent flow - heat transfer with and without phase change - types of evaporators - multiple effect evaporators.

Differential and integral method of analysis of rate data - ideal reactor design - Residence time distribution - C, E and F curves.

Basic principles of unit operation and unit process - schematic representations of unit operations - manufacture of sulfur, hydrochloric acid, cement, glass, products used in photography, ceramics and refractory, industrial gases, paints, pigments, fertilizers - fermentation process for the production of ethanol - manufacture of citric acid, antibiotics, penicillin, soaps, detergents - petroleum refining process - process for the production of petrochemical precursors - production of resins, natural and synthetic rubber.

Diffusion in liquids - development of rate equation for mass transfer - contracting devices for improving mass transfer characteristics - humidification, drying and crystallization - distillation, continuous rectification operation, absorption, liquid-liquid extraction and leaching - fundamental principles and design of the pressure, reaction vessels and related equipments in the above process.

Overview of industrial biochemical processes - industrially important microbial strains - enzymes used in industry, medicine and food - industrial production, purification and immobilization of enzymes - reactor types, characteristics and design - growth characteristics of microbial cells - free cell and immobilized cell reactors - downstream processing and effluent treatment.

CH - CHEMISTRY**Atomic Structure**

Planck's quantum theory - wave particle duality - Heisenberg's principle - Schrodinger equation - particle in a box and hydrogen atom - VB and MO theories.

Spectroscopy

Rotational and vibrational spectra - harmonic unharmonic oscillator and Rigid Rotor - selection rules - fundamentals, overtones and combinational bands - calculation of force constants (diatomic molecules) - Group frequencies - electronic spectroscopy - potential energy diagram - term symbols - selection rules - LS and JJ coupling - Frank Condon principle - oscillator's strength - effect of solvent's on spectrum.

Thermodynamics

First law of thermodynamics - second law - third law terms and their relations.

Chemical kinetics and equilibrium

Rate constants of chemical reactions, temperature dependence, collision and transition state theories - consecutive and parallel reactions - chemical equilibrium and response of chemical equilibrium to temperature and pressure.

d and f block elements

General characteristics of d and f block elements; coordination chemistry structure and isomerism, stability, theories of metal-ligand bonding (CFT and LFT), mechanisms of substitution and electron transfer reactions of coordination complexes. Electronic spectra and magnetic properties of transition metal complexes, lanthanides and actinides. Metal carbonyls, metal-metal bonds and metal atom clusters, metallocenes; transition metal complexes with bonds to hydrogen, alkyls, alkenes and arenes; metal carbenes; use of organometallic compounds as catalysts in

organic synthesis. Bioinorganic chemistry of Na, K, Mg, Ca, Fe, Co, Zn, Cu and Mo.

Solid State

Crystal systems and lattices, Miller planes, crystal packing, crystal defects; Bragg's Law, ionic crystals, band theory, metals and semiconductors, different structures of AX, AX₂, AX₃ compounds, spinlals.

Instrumental methods of analysis

Atomic absorption and emission spectroscopy including ICP-AES, UV-visible spectrophotometry, NMR, Mass, Mossbauer spectroscopy (Fe and Sn), ESR spectroscopy, chromatography including GC and HPLC and electro-analytical methods (coulometry, cyclic voltammetry, polarography - amperometry, and ion selective electrodes). Determination of structures of organic and inorganic compounds using UV-visible, IR, NMR and mass spectroscopy.

Stereochemistry

Chirality of organic molecules with or without chiral centres. Specification of configuration in compounds having one or more stereogenic centres. Enantiotopic and diastereotopic atoms, groups and faces. Stereospecific synthesis. Conformational analysis of acyclic and cyclic compounds. Geometrical isomerism. Configurational and conformational effects on reactivity and selectivity/specificity.

Reaction Mechanism

Electrophilic and Nucleophilic substitution informations in aliphatic and aromatic compounds various mechanisms - Addition and Elimination reactions various mechanisms - Reaction intermediates carbocations, carbanions, carbenes, nitrenes and free radicals.

Organic synthesis

Synthesis, reactions, mechanisms and selectivity involving the following - alkenes, alkynes, arenes, alcohols, phenols, aldehydes, ketones, carboxylic acids and their derivatives, halides, nitro compounds and amines. Use of compounds of Mg, Li, Cu, B and Si in organic synthesis. Concepts in multistep synthesis - retrosynthetic analysis, disconnections, synthons, synthetic equivalents, reactivity umpolung, selectivity, protection and deprotection of functional groups.

Heterocyclic compounds

Structure and reactions of furan, pyrrole, thiophene, pyridine, indole and their derivatives.

Biomolecules

Structure, properties and reactions of mono- and disaccharides, physicochemical properties of amino acids, chemical synthesis of peptides, structural features of proteins, nucleic acids, steroids, terpenoids, carotenoids, and alkaloids.

EE - ELECTRICAL AND ELECTRONICS ENGINEERING

ENGINEERING MATHEMATICS

Linear Algebra: Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equation (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's and Euler's equations, Initial and boundary value problems, Partial Differential Equations and variable separable method.

Complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent' series, Residue theorem, solution integrals.

Probability and Statistics: Sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Random variables, Discrete and continuous distributions, Poisson, Normal and Binomial distribution, Correlation and regression analysis.

Numerical Methods: Solutions of non-linear algebraic equations, single and multi-step methods for differential equations.

Transform Theory: Fourier transform, Laplace transform, Z-transform.

ELECTRICAL ENGINEERING

Electric Circuits and Fields: Network graph, KCL, KVL, node and mesh analysis, transient response of dc and ac networks; sinusoidal steady-state analysis, resonance, basic filter concepts, ideal current and voltage sources, Thevenin's Norton's and Superposition and Maximum Power Transfer theorems, two-port networks, three phase circuits; Gauss Theorem, electric field and potential due

to point, line, plane and spherical charge distributions; Ampere's and Biot-Savart's laws; inductance; dielectrics; capacitance.

Signals and Systems: Representation of continuous and discrete-time signals; shifting and scaling operations; linear, time-invariant and causal systems; Fourier series representation of continuous periodic signals; sampling theorem; Fourier, Laplace and Z transforms.

Electrical Machines: Single phase transformer - equivalent circuit, phasor diagram, tests, regulation and efficiency; three phase transformers - connections, parallel operation; auto-transformer; energy conversion principles; DC machines - types, windings, generator characteristics, armature reaction and commutation, starting and speed control of motors; three phase induction motors - principles, types, performance characteristics, starting and speed control; single phase induction motors; synchronous machines - performance, regulation and parallel operation of generators, motor starting, characteristics and applications; servo and stepper motors.

Power Systems: Basic power generation concepts; transmission line models and performance; cable performance, insulation; corona and radio interference; distribution systems; per-unit quantities; bus impedance and admittance matrices; load flow; voltage control; power factor correction; economic operation; symmetrical components; fault analysis; principles of over-current, differential and distance protection; solid state relays and digital protection; circuit breakers; system stability

concepts, swing curves and equal area criterion; HVDC transmission and FACTS concepts.

Control Systems: Principles of feedback; transfer function; block diagrams; steady-state errors; Routh and Niquist techniques; Bode plots; root loci; lag, lead and lead-lag compensation; state space model; state transition matrix, controllability and observability.

Electrical and Electronic Measurements: Bridges and potentiometers; PMMC, moving iron, dynamometer and induction type instruments; measurement of voltage, current, power, energy and power factor; instrument transformers; digital voltmeters and multimeters; phase, time and frequency measurement; Q-meters; oscilloscopes; potentiometric recorders; error analysis.

Analog and Digital Electronics: Characteristics of diodes, BJT, FET; amplifiers - biasing, equivalent circuit and frequency response; oscillators and feedback amplifiers; operational amplifiers - characteristics and applications; simple active filters; VCOs and timers; combinational and sequential logic circuits; multiplexer; Schmitt trigger; multi-vibrators; sample and hold circuits; A/D and D/A converters; 8-bit microprocessor basics, architecture, programming and interfacing.

Power Electronics and Drives: Semiconductor power diodes, transistors, thyristors, triacs, GTOs MOSFETs and IGBTs - static characteristics and principles of operation; triggering circuits; phase control rectifiers; bridge converters - fully controlled and half controlled; principles of choppers and inverters; basic concepts of adjustable speed dc and ac drives.

EI - INSTRUMENTATION ENGINEERING

ENGINEERING MATHEMATICS

Linear Algebra: Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equation (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's and Euler's equations, Initial and boundary value problems, Partial Differential Equations and variable separable method.

Complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent' series, Residue theorem, solution integrals.

Probability and Statistics: Sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Random variables, Discrete and continuous distributions, Poisson, Normal and Binomial distribution, Correlation and regression analysis.

Numerical Methods: Solutions of non-linear algebraic equations, single and multi-step methods for differential equations.

Transform Theory: Fourier transform, Laplace transform, Z-transform.

INSTRUMENTATION ENGINEERING

Basics of Circuits and Measurement Systems: Kirchoff's laws, mesh and nodal Analysis. Circuit theorems. One-port and two-port Network Functions. Static and dynamic characteristics of Measurement Systems. Error and uncertainty analysis. Statistical analysis of data and curve fitting.

Transducers, Mechanical Measurement and Industrial Instrumentation: Resistive, Capacitive, Inductive and piezoelectric transducers and their signal conditioning. Measurement of displacement, velocity and acceleration (translational and rotational), force, torque, vibration and shock. Measurement of pressure, flow, temperature and liquid level. Measurement of pH, conductivity, viscosity and humidity.

Analog Electronics: Characteristics of diode, BJT, JFET and MOSFET. Diode circuits. Transistors at low and high frequencies, Amplifiers, single and multi-stage. Feedback amplifiers. Operational amplifiers, characteristics and circuit configurations. Instrumentation amplifier. Precision rectifier. V-to-I and I-to-V converter. Op-Amp based active filters. Oscillators and signal generators.

Digital Electronics: Combinational logic circuits, minimization of Boolean functions. IC families, TTL, MOS and CMOS. Arithmetic circuits. Comparators, Schmitt trigger, timers and mono-stable multi-vibrator. Sequential circuits, flip-flops, counters, shift registers. Multiplexer, S/H circuit. Analog-to-Digital and Digital-to-Analog converters. Basics of number system. Microprocessor applications, memory and input-output interfacing. Microcontrollers.

Signals, Systems and Communications: Periodic and aperiodic signals. Impulse response, transfer function and frequency response of first- and second order systems.

Convolution, correlation and characteristics of linear time invariant systems. Discrete time system, impulse and frequency response. Pulse transfer function. IIR and FIR filters. Amplitude and frequency modulation and demodulation. Sampling theorem, pulse code modulation. Frequency and time division multiplexing. Amplitude shift keying, frequency shift keying and pulse shift keying for digital modulation.

Electrical and Electronic Measurements: Bridges and potentiometers, measurement of R, L and C. Measurements of voltage, current, power, power factor and energy. A.C & D.C current probes. Extension of instrument ranges. Q-meter and waveform analyzer. Digital voltmeter and multimeter. Time, phase and frequency measurements. Cathode ray oscilloscope. Serial and parallel communication. Shielding and grounding.

Control Systems and Process Control: Feedback principles. Signal flow graphs. Transient Response, steady-state-errors. Routh and Nyquist criteria. Bode plot, root loci. Time delay systems. Phase and gain margin. State space representation of systems. Mechanical, hydraulic and pneumatic system components. Synchro pair, servo and step motors. On-off, cascade, P, P-I, P-I-D, feed forward and derivative controller, Fuzzy controllers.

Analytical, Optical and Biomedical Instrumentation: Mass spectrometry. UV, visible and IR spectrometry. X-ray and nuclear radiation measurements.

Optical sources and detectors, LED, laser, photo-diode, photo-resistor and their characteristics. Interferometers, applications in metrology. Basics of fiber optics. Biomedical instruments, EEG, ECG and EMG. Clinical measurements. Ultrasonic transducers and Ultrasonography. Principles of Computer Assisted Tomography.

EC - ELECTRONICS AND COMMUNICATION ENGINEERING

ENGINEERING MATHEMATICS

Linear Algebra: Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equation (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters,

Cauchy's and Euler's equations, Initial and boundary value problems, Partial Differential Equations and variable separable method.

Complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent' series, Residue theorem, solution integrals.

Numerical Methods: Solutions of non-linear algebraic equations, single and multi-step methods for differential equations.

Transform Theory: Fourier transform, Laplace transform, Z-transform.

NETWORK

Network graphs

Matrices associated with graphs; incidence, fundamental cut set and fundamental circuit matrices. Solution methods; nodal and mesh analysis. Network theorems; superposition, Thevenin and Norton's, maximum power transfer, wye-delta transformation, steady state sinusoidal analysis using phasors, fourier series, linear constant coefficient differential and difference equations; time domain analysis of simple RLC circuits. Laplace and Z transforms: frequency domain analysis of RLC circuits, convolution, 2-port network parameters, driving point and transfer functions, state equation for networks.

ANALOG CIRCUITS

Characteristics and equivalent circuits (large and small signal) of diodes, BJT, JFETs and MOSFET simple diode circuits: clipping, clamping, rectifier, biasing and bias stability of transistor and FET amplifiers. Amplifiers: single and multi-stage, differential, operational, feedback and power. Analysis of amplifiers; frequency response of amplifiers. Simple op-amp circuits. Filters. Sinusoidal oscillators: criterion for oscillation; single-transistor and op-amp configurations. Function generators and wave-shaping circuits, Power supplies.

DIGITAL CIRCUITS

Boolean algebra; minimization of Boolean functions; logic gates; digital IC families (DTL, TTL, ECL, MOS, CMOS). Combinational circuits: arithmetic circuits, code converters, multiplexers and decoders. Sequential circuits: latches and flip-flops, counters and shift-registers. Comparators, timers, multivibrators. Sample and hold circuits, ADCs and DACs. Semiconductor memories. Microprocessor (8085): architecture, programming, memory and I/O interfacing

CONTROL SYSTEMS

Basic control system components; block diagrammatic description, reduction of block diagrams, properties of systems: linearity, time-invariance, stability, causality. Open loop and closed loop (feedback) systems. Special properties of linear time-invariance (LTI) systems-transfer function, impulse response, poles, zeros, their significance and stability analysis of these systems. Signal flow graphs

and their use in determining transfer functions of systems; transient and steady state analysis of LTI system and frequency response. Tools and techniques for LTI control system analysis: Root, loci, Routh-Hurwitz criterion, Bode and Nyquist plots; Control system compensators: elements of lead and lag compensations, elements of proportional-integral-Derivative (PID) control. State variable representation and solution of state equation for LTI systems.

COMMUNICATION SYSTEMS

Fourier analysis of signals - amplitude, phase and power spectrum, auto-correlation and cross-correlation and their Fourier transforms. Signal transmission through linear time-invariant (LTI) systems, impulse response and frequency response, group delay phase delay. Analog modulation systems-amplitude and angle modulation and demodulation systems, spectral analysis of these operations, superheterodyne receivers, elements of hardware realizations of analog communication systems. Basic sampling theorems. Pulse code modulation (PCM), differential pulse code modulation (DPCM), delta modulation (DM). Digital modulation schemes: amplitude, phase and frequency shift keying schemes (ASK, PSK, FSK). Multiplexing - time division and frequency division. Additive Gaussian noise; characterization using correlation, probability density function (PDF), power spectral density (PSD). Signal-to-noise ratio (SNR) calculations for amplitude modulation (AM) and frequency modulation (FM) for low noise conditions.

ELECTROMAGNETICS

Elements of vector calculus: gradient, divergence and curl; Gauss and Stokes theorems, Maxwell's equation: differential and integral forms. Wave equation. Poynting vector. Plane waves: propagation through various media; reflection and refraction; phase and group velocity; skin depth Transmission lines: Characteristic impedance; impedance transformation; Smith chart; impedance matching pulse excitation. Wave guides: modes in rectangular waveguides; boundary conditions; cut-off frequencies; dispersion relations. Antennas; Dipole antennas; antenna arrays; radiation pattern; reciprocity theorem, antenna gain.

LS - LIFE SCIENCES

Biophysics

Levels of structures in Biological macromolecules. basic strategies in biophysics. Forces that determine protein and nucleic acid structure, Prediction of proteins structure nucleic acids, Properties of lipid bilayers, Biochemical Kinetics studies, unimolecular reactions, methods of determining macromolecular structures inclusive of the spectroscopic techniques like UV-vis absorption, IR absorption, circular dichroism fluorescence NMR and X-ray and neutron diffraction techniques.

Biochemistry

Structure and properties, Amino acids, peptides, proteins and conjugated proteins, protein hydration, coagulation, denaturation - gelation, protein-protein interactions, cytosolic and membrane properties, purines, pyrimidines, nucleosides, nucleotides, polynucleotides, Ribonucleic acids and deoxyribonucleic acids, TCA cycle, glycolysis, pentose phosphate pathway, Embden Meyerhof pathway, urea cycle, metabolic regulation, respiratory chain, TP cycle, energy rich compounds, integrated metabolism, Carbohydrates - linear and branched carbohydrates, N containing carbohydrates, cell wall carbohydrates, metabolism of carbohydrates, Fats and oils-structure and properties of saturated and unsaturated fatty acids, glycerolipids, phospholipids, sphingolipids, glycolipids, steroids, Vitamins and minerals-types, structure and functional properties of vitamins, utility of essential minerals sources and trace elements.

Biotechnology

Importance and economics of downstream processing in biotechnology process-problems and requirements of bioproduct purification, process design criteria, primary separation and recovery process, membrane based separations, precipitation methods, different types of purification and chromatographic techniques.

Types of reactors - ideal reactors, integral method of analysis for reactions, simultaneous, consecutive and combined reactions, models for non-ideal flow.

Industrial biotechnology - isolation, preservation and improvement of industrial microbes for overproduction of primary and secondary metabolites, economics of modern industrial processes, fermentation processes and biological waste treatment processes.

Introduction to bioinformatics - sequence databases, search and their use, sequence alignment, ultrasonic trees,

parsimony, phylogenetic alignment, connection between multiple alignment and tree construction, DNA mapping and sequencing, sequence assembly and gene prediction, molecular predictions with DNA strings.

Cell Structure and Function of the Organelles

Eukaryotic and Prokaryotic cells, cell division, mitosis & meiosis cell cycle and molecules that control cell cycle, endocytosis and Exocytosis. Ultrastructure of cellular organelles, viz. Mitochondria, ER, Golgi, Chloroplast, plasma membrane, centriole, nuclear and membrane bound receptors, Signal Transduction, Techniques of propagation of prokaryotic and Eukaryotic cells, Autocrine, Paracrine and Endocrine models of action, Cell line, generation of cell lines.

Molecular Biology

Structure of DNA and histone molecules, Replication of eukaryotic chromosomes, nucleoid the complex replication apparatus, process of transcription and, Structure of tRNA, mRNA, rRNA, Deciphering of the genetic code, Translation, Mutation. General principles of cloning.

Recombinant DNA

Genetic elements that control gene expression, method of creating recombinant DNA molecules creating transgenic animals, plants microbes, safety guidelines of creating recombinant DNA research, restriction enzymes and mapping of DNA, plasmid and phage and other vectors. Construction of genomic and cDNA libraries, methods of nucleic acid. Patents and methods of application of patents, legal implications bioremediation.

Environmental Sciences

Ecosystems, energy flow, ecological succession, pollution. Conventional and Non conventional sources of energy. Bio-geo chemical cycles. Biodiversity and wild life conservation. Social issues and the environment.

Genetics

Classical genetics, Mendel's genetics, crossing over, linkage, Chromosome maps, chromosomal theory of heredity, cytoplasmic inheritance, Sex determination, sex linked inheritance, microbial genetics, population genetics, polyploidy, pedigree analysis, eugenics, mutation.

Microbiology

Basic concepts of Microbiology, classification, morphology, anatomy, physiology of bacteria, viruses, fungi, parasite.

Microbes of various plant and animal diseases. Industrial microbiology, Microbial biotechnology, Microbial diversity and ecology.

Immunology

Basic concepts of immunology, types of immunity, biotechnological applications; organs of immune, response Innate and adaptive immunity, clonal selection theory, hypersensitivity, hybridoma technology, vaccine development, epitope mapping and immunomics,

immunological tolerance and transplantation biotechnology.

Plant Sciences

Taxonomy and systematic botany, Plant structure and development, morphology and anatomy, embryogenesis of mono and dicots. Phytohormones, respiration, nutrition, transpiration. Photosynthesis, C₃ and C₄, & CAM plants, photoperiodism, concepts of ecosystems and energy flow in biosphere.

ME - MECHANICAL ENGINEERING

Engineering Mathematics

Geometry Equations of straight line, common normal between straight lines in space; Equations of circles, ellipse, etc.; Parametric representation.

Linear Algebra

Matrix algebra, Systems of linear equations, Eigen values and eigenvectors.

Calculus

Functions of single variable, Limit, continuity and differentiability, Mean value theorems, Evaluation of definite and improper integrals, Partial derivatives, Total derivative, Maxima and minima, Gradient, Divergence and Curl, Vector identities, Directional derivatives,

Differential equations

First order equations (linear and nonlinear), Higher order linear differential equations with constant coefficients, Cauchy's and Euler's equations, Initial and boundary value problems, Laplace transforms, Solutions of one dimensional heat and wave equations and Laplace equation.

Control Theory

Open and closed loop systems; Laplace transforms; Transfer function; Block Diagram analysis; Concepts of stability; Input signals and system response; Nyquist stability criterion; Bode plot.

Probability and Statistics

Definitions of probability and sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Permutations and combinations, Random variables, Poisson, Normal and Binomial distributions. Properties of normal curve; Statistical quality control

APPLIED MECHANICS AND DESIGN

Engineering Mechanics

Free body diagrams and equilibrium; trusses and frames; virtual work; kinematics and dynamics of particles and of rigid bodies in plane motion, including impulse and momentum (linear and angular) and energy formulations; impact.

Strength of Materials

Stress and strain, stress-strain relationship and elastic constants, Mohr's circle for plane stress and plane strain, thin cylinders; shear force and bending moment diagrams; bending and shear stresses; deflection of beams; thermal stresses.

Theory of Machines

Displacement, velocity and acceleration analysis of plane mechanisms; dynamic analysis of slider-crank mechanism; flywheels.

Vibrations

Free and forced vibration of single degree of freedom systems; effect of damping; vibration isolation; resonance, critical speeds of shafts.

Technical drafting

Engineering drawing practice; Indian standards for technical drawing. Machine Elements Basic concepts of machine elements and their design; Stress concentration factor; Fatigue Strength and S-N curve; failure theories. FLUID MECHANICS AND THERMAL SCIENCES

Fluid Mechanics

Fluid properties; viscous flow of incompressible fluids; fluid statics, manometry, buoyancy; control-volume analysis of mass, momentum and energy; fluid acceleration;

differential equations of continuity and momentum; Bernoulli's equation; flow through pipes, head losses in pipes, bends etc.

Heat-Transfer

Modes of heat transfer; one dimensional heat conduction, fins; dimensionless parameters in free and forced convective heat transfer, radiative heat transfer, black and grey surfaces, shape factors; heat exchanger performance, LMTD and NTU methods.

Thermodynamics

Zeroth, First and Second laws of thermodynamics; thermodynamic system and processes; Carnot cycle. irreversibility and availability; behaviour of ideal and real gases, properties of pure substances, calculation of work and heat in ideal processes; analysis of thermodynamic cycles related to energy conversion.

Applications

Power Engineering

Steam Tables, Rankine, Brayton cycles with regeneration and reheat. I.C. Engines air-standard Otto, Diesel cycles. Sterling cycle.

Refrigeration and air-conditioning

Vapour refrigeration cycle, heat pumps, gas refrigeration, Reverse Brayton cycle; moist air psychrometric chart, basic psychrometric processes.

Turbo machinery

Pelton-wheel, Francis and Kaplan turbines, impulse and reaction principles, velocity diagrams.

MANUFACTURING AND INDUSTRIAL ENGINEERING

Engineering Materials

Structure and properties of engineering materials, heat treatment, stress-strain diagrams for engineering materials.

Metal Casting

Design of patterns, moulds and cores; solidification and cooling; riser and gating design, design considerations.

Forming

Load estimation for bulk (forging, rolling, extrusion, drawing) and sheet (shearing, deep drawing, bending) metal forming processes; principles of powder metallurgy

Joining

Physics of welding, brazing and soldering; adhesive bonding;

Machining and Machine Tool Operations

Mechanics of machining, single and multi-point cutting tools, tool geometry and materials, tool life and wear; economics of machining; principles of non-traditional machining processes; principles of work holding, principles of design of jigs and fixtures.

Metrology and Inspection

Limits, fits and tolerances; linear and angular measurements; comparators; gauge design; interferometry; form and finish measurement; alignment and testing methods; tolerance analysis in manufacturing and assembly.

Production Planning and Control

Forecasting models, aggregate production planning, scheduling, materials requirement planning.

Inventory Control

Deterministic and probabilistic models; safety stock inventory control systems.

Operations Research

Linear programming, simplex and duplex method, transportation, assignment, network flow models, simple queuing models, PERT and CPM.

SOME CURRENT TRENDS IN DESIGN AND MANUFACTURING

Mechatronics System Design

Pneumatic and hydraulic systems; Electro-pneumatic and electro-hydraulic systems; Pneumatic, hydraulic and electric motors and actuators; Concepts of microcontrollers, Feedback devices; Point-to-point, continuous-path and servo control; Types of CNC machines and robots. Programmable logic controllers; CNC and robot programming. Some current developments in modern machine tools, robotics, mechatronics; Basic topics related to micro-electro mechanical systems (MEMS).

Computer Integrated Manufacturing

Basic concepts of CAD/CAM and their integration tools. Exchange of product design and manufacturing data; CNC and robot programming methods. CAD/CAM Software and Virtual Product Development; Rapid Manufacturing

Technologies; Concepts of Machine vision and Jigless manufacturing;

Computer Aided Engineering

Finite Element Methods; Computational Fluid Dynamics; Mechanical Systems Simulation; Tools for conventional mechanisms and MEMS design.

PM - PHARMACY

Medicinal Chemistry

Structure, nomenclature, classification, synthesis, SAR and mechanism of action of the following categories of drugs, which are official in Indian pharmacopoeia and British pharmacopoeia. Introduction to drug design. Stereochemistry of drug molecules. Analgesics - NSAIDS, Antidepressants, Anxiolytics, Neuroleptics, Hypnotics and sedative. Anticonvulsants, Antihistaminics, Local anaesthetics, Antianginal agents, Cardiotonic agent, Diuretic, Cardiovascular drugs, Anticoagulants, Coagulants, Antihypertensive drugs - Adrenergic and Cholinergic drugs Cardiotonic agents, Antihypertensive agents, Hypoglycemic agents, Antiplatelet agent, Chemotherapeutic agents, Antibiotics, Antibacterials, Antiprotozoal drugs, Sulphonamides, Antimalarial, Antiviral, Antitubercular, Antimoebic drugs, Anticancer drugs, Diagnostic agents. Preparation and storage, and uses of official radio pharmaceuticals, Vitamines and Harmones, Eicosonoids and applications.

Natural Products

Pharmacognosy and Phytochemistry, Chemical tests for identification, chemistry, isolation, characterizations and estimation of phytopharmaceuticals belonging to the groups of terpenoids, steroids, Bioflavanoids, Purines, Alkaloids, Guggul lipids, Glycosides. Pharmacognosy of crude drugs that contain the above constituents. Standardization of raw materials and Herbal products, WHO guideline quantitative microscopy including modern techniques used for evaluation, Biotechnological principles and techniques for plant development, tissue culture.

Pharmaceutics

Formulation and preparation of cosmetics - lipstick, shampoo, nail preparation, creams, and dentifrices, quality control of tablets, capsules, liquid dosage forms, parenteral preparations of ointment and creams, suppositories, and controlled release product, Quality control of containers, closers, caps, and secondary packing material like paper

Automotive Engineering

Development in Bio-fuels, other alternative fuels and hydrogen as future fuel; Emission standards; Electronic injection systems; Passenger comfort and safety devices; Indian auto industry and Automotive vehicles in Indian market.

and board for pharmaceuticals, safety and legislation for cosmetic products, pharmaceutical calculations, Development, Manufacturing standards, Quality control limits, labeling, as per the pharmacopoeical requirement. Storage of different dosage forms and new drug delivery systems, Biopharmaceutics and pharmacokinetics and their importance in formulations.

Microbiology

Principles and methods microbiological assays as per pharmacopoeia, methods of preparations of official sera and vaccines, Serological and diagnostics tests, Enzymes immuno assay, concept and methodology, Sterility testing - methodology and interpretation, Applications of microorganisms in Bioconversions and in pharmaceutical industry.

Clinical Pharmacy

Adverse drug reaction, Drug - Drug interaction, and Drug - Food interactions, Medication History, interview and patient counseling. Therapeutic drug monitoring, Dosage regimen in pregnancy and lactation, pediatrics and Geriatrics, Renal and Hepatic impairment.

Pharmaceutical Analysis

Principles, Instrumentation and applications of the following, Absorption spectroscopy UV visible, IR, Flame photometry, Potentiometry, Fluorimetry, conductometry and Polarography, Pharmacopoeial assays. Principles of NMR, ESR, Mass spectroscopy, X-ray diffraction, optical Rotatory dispersion, statistical analysis and different chromatographic methods, Quality control of Radio pharmaceuticals and Radio Chemical methods in analysis.

Pharmaceutical Jurisprudence

Pharmaceutical Ethics, Pharmacy Acts, Drugs and Cosmetics Acts and rules with respect to manufacture, sales and storages.

Bio-chemistry

Metabolism of Carbohydrates, lipids, proteins, methods to determine, kidney and liver function, Lipid profiles,

General principles of immunology, immunological, Biochemical role of Hormones, Vitamines, Enzymes, Nucleic acids, Bio energetics.

Pharmacology

Pharmacology of Autocoids, Hormones, Hormone antagonists, Chemotherapeutic agents including

Anticancer drugs, Bioassays, Immuno Pharmacology, General Pharmacological Principles including toxicology, Drug interaction. Pharmacology of drug acting on central nervous systems, cardiovascular systems, Autonomic nervous systems, Gastro intestinal systems and Respiratory systems, Drug acting on the renal systems, Drug acting on the blood and blood forming organs.

PH - PHYSICS

Mathematical Physics

Fourier series - Fourier transform - properties - convolution theorem - Application to solve differential equations - Laplace's transform - properties - application to ordinary and partial differential equations - Cayley Hamilton Theorem - Eigen value problems

Classical Mechanics

Orthogonal transformations - Eulerian angles - Rotating frames of reference and coriolis force. Mechanics of rigid bodies Angular momentum and kinetic energy - Moment of inertia tensor - Euler's equations of motion - Torque - free motion - motion of a symmetrical top under gravity.

Electro Magnetic Theory

Faraday's laws of induction - Maxwell's displacement current - Maxwell's equations - vector and scalar potentials - Gauge invariance - wave equation and plane wave solutions - Coulomb and Lorentz Gauges - energy and momentum of the field - Poynting's theorem.

Quantum Mechanics

Justification of Schroedinger equation - the Schroedinger equation - probabilities and normalization - Applications - particle in a box - simple harmonic oscillator - time dependence - steps and barriers.

Statistical Mechanics

Equation of state - gas degeneracy - Bose-Einstein condensation - thermal properties of Bose-Einstein gas - liquid Helium - Tisza's two fluid model - Landau's theory of liquid Helium II - Black body radiation - phonons - Einstein and Debye models for lattice specific heat.

Experimental Design

Measurement of fundamental constants e , h , c - Measurement of High & Low Resistances, L and C - Detection of X-rays, Gamma rays, charged particles,

neutrons etc - Ionization chamber - proportional counter - GM counter - Scintillation detectors - Solid State detectors - Emission and Absorption Spectroscopy - IR spectroscopy - Measurement of Magnetic field - Hall effect, magnetoresistance - X-ray and neutron Diffraction - Vacuum Techniques - basic idea of conductance, pumping speed etc - Pumps - Mechanical Pump - Diffusion pump - Gauges Thermocouple - Penning - Pirani - Hot Cathode - Low Temperature Cooling a sample over a range upto 4 K and measurement of temperature.

Measurement of Energy and Time using electronic signals from the detectors and associated instrumentation Signal processing, A/D conversion & multichannel analyzers

Lasers

Ruby laser - Nd - YAG laser - colour centre lasers -- Helium - Neon laser - Carbondioxide laser - excimer lasers - liquid dye laser - semiconductor lasers - Homojunction laser - Heterojunction laser - Quantum well laser.

Nonlinear Fiber Optics

Introduction - Second harmonic generation (SHG) - optical mixing - phase matching - Third harmonic generation (THG) - parametric generation of light - Optical parametric oscillator - self-focussing of light.

Solid State Physics

Types of lattices - Miller indices - Simple crystal structures - Crystal diffraction - Bragg's law - Reciprocal Lattice (BCC, FCC) - Brillouin zone - Structure factor - Atomic form factor - Cohesive energy of ionic crystals - Madelung constant - Types of crystal binding.

Materials Science

Phase diagram - phase rule - single component system - binary phase diagram - microstructural changes during cooling - Lever rule - Magnesia - Alumina system - Copper - Zinc system - Iron - Carbon system - Applications of phase diagram.

Linear Algebra: Finite dimensional vector spaces; Linear transformations and their matrix representations, rank; systems of linear equations, eigen values and eigen vectors, minimal polynomial, Cayley-Hamilton Theorem, diagonalisation, Hermitian, Skew-Hermitian and unitary matrices; Finite dimensional inner product spaces, Gram-Schmidt orthonormalization process, self-adjoint operators.

Complex Analysis: Analytic functions, conformal mappings, bilinear transformations; complex integration: Cauchy's integral theorem and formula; Liouville's theorem, maximum modulus principle; Taylor and Laurent's series; residue theorem and applications for evaluating real integrals.

Real Analysis: Sequences and series of functions, uniform convergence, power series, Fourier series, functions of several variables, maxima, minima; Riemann integration, multiple integrals, line, surface and volume integrals, theorems of Green, Stokes and Gauss; metric spaces, completeness, Weierstrass approximation theorem, compactness; Lebesgue measure, measurable functions; Lebesgue integral, Fatou's lemma, dominated convergence theorem.

Ordinary Differential Equations: First order ordinary differential equations, existence and uniqueness theorems, systems of linear first order ordinary differential equations, linear ordinary differential equations of higher order with constant coefficients; linear second order ordinary differential equations with variable coefficients; method of Laplace transforms for solving ordinary differential equations, series solutions; Legendre and Bessel functions and their orthogonality.

Algebra: Normal subgroups and homomorphism theorems, automorphisms; Group actions, Sylow's theorems and their applications; Euclidean domains, Principle ideal domains and unique factorization domains. Prime ideals and maximal ideals in commutative rings; Fields, finite fields.

Functional Analysis: Banach spaces, Hahn-Banach extension theorem, open mapping and closed graph theorems, principle of uniform boundedness; Hilbert spaces, orthonormal bases, Riesz representation theorem, bounded linear operators.

Numerical Analysis: Numerical solution of algebraic and transcendental equations: bisection, secant method, Newton-Raphson method, fixed point iteration; interpolation: error of polynomial interpolation, Lagrange,

Newton interpolations; numerical differentiation; numerical integration: Trapezoidal and Simpson rules, Gauss Legendre quadrature, method of undetermined parameters; least square polynomial approximation; numerical solution of systems of linear equations: direct methods (Gauss elimination, LU decomposition); iterative methods (Jacobi and Gauss-Seidel); matrix eigenvalue problems: power method, numerical solution of ordinary differential equations: initial value problems: Taylor series methods, Euler's method, Runge-Kutta methods.

Partial Differential Equations: Linear and quasilinear first order partial differential equations, method of characteristics; second order linear equations in two variables and their classification; Cauchy, Dirichlet and Neumann problems; solutions of Laplace, wave and diffusion equations in two variables; Fourier series and Fourier transform and Laplace transform methods of solutions for the above equations.

Mechanics: Virtual work, Lagrange's equations for holonomic systems, Hamiltonian equations.

Topology: Basic concepts of topology, product topology, connectedness, compactness, countability and separation axioms, Urysohn's Lemma.

Probability and Statistics: Probability space, conditional probability, Bayes theorem, independence, Random variables, joint and conditional distributions, standard probability distributions and their properties, expectation, conditional expectation, moments; Weak and strong law of large numbers, central limit theorem; Sampling distributions, UMVU estimators, maximum likelihood estimators, Testing of hypotheses, standard parametric tests based on normal, X^2 , t , F - distributions; Linear regression; Interval estimation.

Linear programming: Linear programming problem and its formulation, convex sets and their properties, graphical method, basic feasible solution, simplex method, big-M and two phase methods; infeasible and unbounded LPP's, alternate optima; Dual problem and duality theorems, dual simplex method and its application in post optimality analysis; Balanced and unbalanced transportation problems, u - v method for solving transportation problems; Hungarian method for solving assignment problems.

Calculus of Variation and Integral Equations: Variation problems with fixed boundaries; sufficient conditions for extremum, linear integral equations of Fredholm and Volterra type, their iterative solutions.

MB - Research Aptitude & Quantitative Ability

(for research candidates only)

Verbal Comprehension

This section aims to test the candidate's comprehension of and interpretative abilities in English as a language of business. Given the potential manager's decision-making roles, this section seeks to examine the candidate's felicity with common forms of English expression, grammar and usage in business that would enable him/her to extract essential information from a variety of data, and arrive at an informed decision. Regular analysis of business articles and non-fiction prose, besides a firm grasp of communicative English grammar would be helpful in preparing for this section.

Logical Reasoning

This section consists of analytical reasoning, argument analysis, and analysis of explanation questions

Quantitative Ability

Basic Mathematics (Numbers; Operations; HCF and LCM; Fractions, Decimals and Percentages; Ratio and Proportion; Roots and Power; Progressions; Elementary Geometry and Mensuration; Introductory Set Theory), Linear Algebra (Equations and Inequalities; Matrices; Determinants; Simultaneous equations and solutions; Elementary Linear Programming; Elementary differential

calculus involving functions of one variable; Elementary integral calculus), and Probability and Statistics

(Types of Data; Frequency Distributions; Measures of Central Tendency and Dispersion; Probability Concepts: Basic Outcomes, Events, Sample Spaces; Probability Calculations: Counting Rules using Permutations and Combinations, Unions and Intersections, Complementary Events, Mutually Exclusive Events, Conditional Probability and Independent Events; Correlation and Simple Linear Regression) for their use in business applications such as Partnership and Shareholding;

Present Worth and Discounts; Depreciation; Demand and Supply; Cost and Revenue, and common applications such as Banking Transactions; Inventories; Mixtures; Time and Work; Time and Distance; Pipes and Tanks; Estimation of time, distance, area, volume, effort, etc.

Data Interpretation

Assess the ability of the examinee to make valid interpretations from a given data set. The section also assesses the ability of the examinee to understand data in different representative forms such as simple tables, histograms, pie charts, graphs, scatter diagrams, etc. Although involved calculations are not expected, simple data manipulations would be required.

GG - GEOLOGY AND GEOPHYSICS

(for research candidates only)

Common to Geology and Geophysics

Earth and Planetary system, size, shape, internal structure and composition of the earth; atmosphere and greenhouse effect; isostasy; elements of seismology; physical properties of the interior of the earth; continents and continental processes; physical oceanography; geomagnetism and paleomagnetism, continental drift, plate tectonics.

Weathering; soil formation; action of river, wind, glacier and ocean; earthquakes, volcanism and orogeny. Basic structural geology, mineralogy and petrology. Geological time scale and geochronology; stratigraphic principles; major stratigraphic divisions of India. Engineering properties of rocks and soils. Ground water geology. Geological and geographical distribution of ore, coal and petroleum resources of India.

Introduction to remote sensing. Physical basis and applications of gravity, magnetic, electrical, electromagnetic, seismic and radiometric prospecting for oil, mineral and ground water; introductory well logging.

Geology

Crystal symmetry, forms, twinning; crystal chemistry; optical mineralogy, classification of minerals, diagnostic physical and optical properties of rock forming minerals.

Igneous rocks - classification, forms and textures, magmatic differentiation; phase diagrams and trace elements as monitors of magma evolutionary processes; mantle melting models and derivation and primary magmas. Metamorphism; controlling factors, metamorphic facies, grade and basic types; metamorphism of pelitic, mafic and impure carbonate rocks; Igneous and metamorphic provinces of India; structure and petrology of sedimentary rocks; sedimentary processes and environments, sedimentary facies, basin analysis; association of igneous, sedimentary and metamorphic rocks with tectonic setting.

Stress, strain and material response; brittle and ductile deformation; primary and secondary structures; geometry and genesis of folds, faults, joints, unconformities; cleavage,

schistosity and lineation; methods of projection, tectonites and their significance; shear zone; superposed folding; basement cover relationship.

Morphology, classification and geological significance of important invertebrates, vertebrates, microfossils and palaeoflora; stratigraphic principles and Indian stratigraphy.

Geomorphic processes and agents; development and evolution of landforms; slope and drainage; processes on deep oceanic and near-shore regions; quantitative and applied geomorphology.

Ore mineralogy and optical properties of ore minerals; ore forming processes vis-a-vis ore-rock association (magmatic, hydrothermal, sedimentary and metamorphogenic ores); ores and metamorphism; fluid inclusions as an ore genetic tool; prospecting and exploration of economic minerals; sampling, ore reserve estimation, geostatistics, mining methods. Coal and petroleum geology; origin and distribution of mineral and fuel deposits in India; marine geology and ocean resources; ore dressing and mineral economics.

Cosmic abundance; meteorites; geochemical evolution of the earth; geochemical cycles; distribution of major, minor and trace elements; elements of geochemical thermodynamics, isotope geochemistry; geochemistry of waters including solution equilibria and water rock interaction.

Engineering properties of rocks and soils; rocks as construction materials; role of geology in the construction of engineering structures including dams, tunnels and excavation sites; natural hazards. Ground water geology - exploration, well hydraulics and water quality. Basic principles of remote sensing - energy sources and radiation principles, atmospheric absorption, interaction of energy with earth's surface, air-photo interpretation, multispectral remote sensing in visible, infrared, thermal IR and microwave regions, digital processing of satellite images. GIS - basic concepts, raster and vector mode operation.

Geophysics

The earth as a planet; different motions of the earth; gravity field of the earth, Clairaut's theorem, size and shape of earth; geochronology; seismology and interior of the earth; variation of density, velocity, pressure, temperature, electrical and magnetic properties of the earth; earthquakes-causes and measurements, magnitude and intensity, focal mechanisms, earthquake quantification, source

characteristics, seismotectonics and seismic hazards; digital seismographs, geomagnetic field, paleomagnetism; oceanic and continental lithosphere; plate tectonics; heat flow; upper and lower atmospheric phenomena.

Scalar and vector potential fields; Laplace, Maxwell and Helmholtz equations for solution of different types of boundary value problems in Cartesian, cylindrical and spherical polar coordinates; Green's theorem; Image theory; integral equations in potential theory; Eikonal equation and Ray theory. Basic concepts of forward and inverse problems of geophysics, Ill-posedness of inverse problems.

'G' and 'g' units of measurement, absolute and relative gravity measurements; Land, airborne, shipborne and bore-hole gravity surveys; various corrections in gravity data reduction - free air, Bouguer and isostatic anomalies; density estimates of rocks; regional and residual gravity separation; principle of equivalent stratum; upward and downward continuation; wavelength filtering; preparation and analysis of gravity maps; gravity anomalies and their interpretation - anomalies due to geometrical and irregular shaped bodies, depth rules, calculation of mass.

Earth's magnetic field - elements, origin and units of measurement, magnetic susceptibility of rocks and measurements, magnetometers, Land, airborne and marine magnetic surveys, corrections, preparation of magnetic maps, upward and downward continuation, magnetic anomalies-geometrical shaped bodies, depth estimates, Image processing concepts in processing of magnetic anomaly maps; Interpretation of processed magnetic anomaly data.

Conduction of electricity through rocks, electrical conductivities of metals, non-metals, rock forming minerals and different rocks, concepts of D.C. resistivity measurement, various electrode configurations for resistivity sounding and profiling, application of filter theory, Type-curves over multi-layered structures, Dar-Zarrouck parameters, reduction of layers, coefficient of anisotropy, interpretation of resistivity field data, equivalence and suppression, self potential and its origin, field measurement, Induced polarization, time and frequency domain IP measurements; interpretation and applications of IP, ground-water exploration, environmental and engineering applications.

Basic concept of EM induction, Origin of electromagnetic field, elliptic polarization, methods of measurement for different source-receiver configuration, components in EM measurements. Skin-depth, interpretation and

applications; earth's natural electromagnetic field, tellurics, magneto-tellurics; geomagnetic depth sounding principles, electromagnetic profiling, methods of measurement, processing of data and interpretation. Geological applications including groundwater, mining and hydrocarbon exploration.

Seismic methods of prospecting; Elastic properties of earth materials; Reflection, refraction and CDP surveys; land and marine seismic sources, generation and propagation of elastic waves, velocity - depth models, geophones, hydrophones, recording instruments (DFS), digital formats, field layouts, seismic noises and noise profile analysis, optimum geophone grouping, noise cancellation by shot and geophone arrays, 2D and 3D seismic data acquisition, processing and interpretation; CDP stacking charts, binning, filtering, dip-moveout, static and dynamic corrections, Digital seismic data processing, seismic deconvolution and migration methods, attribute analysis, bright and dim spots, seismic stratigraphy, high resolution seismics, VSP, AVO. Reservoir geophysics.

Geophysical signal processing, sampling theorem, aliasing, Nyquist frequency, Fourier series, periodic waveform, Fourier and Hilbert transform, Z-transform and wavelet transform;

power spectrum, delta function, auto correlation, cross correlation, convolution, deconvolution, principles of digital filters, windows, poles and zeros.

Principles and techniques of geophysical well-logging. SP, resistivity, induction, gamma ray, neutron, density, sonic, temperature, dip meter, caliper, nuclear magnetic, cement bond logging, micro-logs. Quantitative evaluation of formations from well logs; well hydraulics and application of geophysical methods for groundwater study; application of bore hole geophysics in ground water, mineral and oil exploration.

Radioactive methods of prospecting and assaying of minerals (radioactive and non radioactive) deposits, half-life, decay constant, radioactive equilibrium, G M counter, scintillation detector, semiconductor devices, application of radiometric for exploration and radioactive waste disposal.

Geophysical inverse problems; non-uniqueness and stability of solutions; quasi-linear and non-linear methods including Tikhonov's regularization method, Backus-Gilbert method, simulated annealing, genetic algorithms and artificial neural network

MC - Master of Computer Application (MCA)

English

Sentence correction and comprehension

Logical Reasoning

Questions on comprehension of a logical situation and questions based on the facts given in the passage.

Mathematics

Algebra: Indices, variation, arithmetic progression, geometric progression, harmonic progression, quadratic equations, permutation, combination, binomial theorem, logarithms, exponential series, logarithmic series.

Trigonometry: Sine and cosine of sum and difference of angles, sum and difference of sine and cosine, multiple angles, submultiple angle, general solution of trigonometric equation, properties of triangles, solution of triangles.

Analytic geometry (Two-dimensional): Rectangular Cartesian coordinates, distance between points, section ratio, straight line, circle, ellipse, parabola, hyperbola, tangent, normal.

Calculus: Function, limit, continuity, differentiation, chain rule, differentiation of implicit functions, parametric functions, application of differentiation, integration, integration by substitution, by parts, by partial fractions, definite integrals, application of definite integral.

Set Theory: Concept of set, set operations, cardinality, Cartesian product.

Matrices & Determinants: Addition, subtraction, multiplication and inverse of matrices, evaluation of determinant of order up to four.

Vector Algebra: Position vector, addition, subtraction, scalar multiplication, scalar product, vector product.

Statistics and probability

Frequency distribution, mean, median, mode, range, mean deviation, standard deviation, coefficient of variation, correlation, regression, probability, conditional probability, Baye's theorem, binomial, Poisson, normal distribution.

APPENDIX - II
CODES OF THE STATE / UNION TERRITORY

| State | Code |
|-----------------------------|------|
| Andaman and Nicobar Islands | 01 |
| Andhra Pradesh | 02 |
| Arunachal Pradesh | 03 |
| Assam | 04 |
| Bihar | 05 |
| Chandigarh | 06 |
| Chattisgarh | 07 |
| Delhi | 08 |
| Goa | 09 |
| Gujarat | 10 |
| Haryana | 11 |
| Himachal Pradesh | 12 |
| Jammu and Kashmir | 13 |
| Jharkhand | 14 |
| Karnataka | 15 |
| Kerala | 16 |
| Madhya Pradesh | 17 |
| Maharashtra | 18 |

| State | Code |
|-----------------------------|------|
| Manipur | 19 |
| Meghalaya | 20 |
| Mizoram | 21 |
| Nagaland | 22 |
| Orissa | 23 |
| Punjab | 24 |
| Rajasthan | 25 |
| Sikkim | 26 |
| Tamil Nadu | 27 |
| Tripura | 28 |
| Uttar Pradesh | 29 |
| Uttarakhand | 30 |
| West Bengal | 31 |
| Dadra and Nagar Haveli (UT) | 32 |
| Daman and Diu (UT) | 33 |
| Lakshadweep (UT) | 34 |
| Puducherry (UT) | 35 |

APPENDIX - III

CODES FOR M.TECH. DEGREE PROGRAMMES

| PROGRAMMES | CODES |
|---|-------|
| AUTOMOTIVE ELECTRONICS | 01 |
| AUTOMOTIVE ENGINEERING | 02 |
| BIO-MEDICAL ENGINEERING | 03 |
| BIOTECHNOLOGY | 04 |
| COMMUNICATION ENGINEERING | 05 |
| COMPUTER AIDED DESIGN / COMPUTER AIDED MANUFACTURING | 06 |
| COMPUTER SCIENCE AND ENGINEERING | 07 |
| ENERGY AND ENVIRONMENTAL ENGINEERING | 08 |
| INFORMATION TECHNOLOGY [NETWORKING] | 09 |
| MECHATRONICS | 10 |
| NANOTECHNOLOGY | 11 |
| POWER ELECTRONICS AND DRIVES | 12 |
| SENSOR SYSTEM TECHNOLOGY | 13 |
| STRUCTURAL ENGINEERING | 14 |
| VLSI DESIGN (Very Large Scale Integrated Circuits Design) | 15 |

APPENDIX - IV

PROFORMA FOR SPONSORED CANDIDATES

(To be filled in by the employer sponsoring the candidate)

Name of Employee seeking admission at VIT : _____

Employee's date of birth as per company record : _____

Designation : _____

Date of joining the organization : _____

Nature of the job : R&D / Design / Production / Marketing / Administrative /
Others (Specify _____)

Reasons for sponsorship : _____

Certified that Mr. /Ms. _____
employed as _____ in this organization is sponsored for admission to M.Tech. degree
programme at VIT. He / she will be on deputation from this organization during the study period of study from July 2008
to May 2010. On completion of the programme, he / she will continue to be employed by our organization.

Place :

Date :

Signature of Competent Authority with seal

Name :

Designation :

APPENDIX - V

No objection certificate for Research Candidate `

(External Part Time Candidates only)

Mr./ Ms. has been working in this Institution as.....
since His/Her application for admission to Ph.d./ M.S. (by research) M.Phil. is forwarded herewith.
He/she will be given necessary permission, if selected, to register for the above degree at VIT. He/She will also be
provided with the facilities to carry out the research work in our Institution and will be given leave of absence to visit VIT
and discuss the programme of the work with work the guide.

**Signature and Seal of the head of the Institution
Where the Candidates is working at present**

Place :

Date :

IMPORTANT DATES

| | | | |
|---|--------|---------|------------|
| Issue of Application Forms | FROM : | Monday | 19.04.2010 |
| | TO : | Tuesday | 25.05.2010 |
| Last date for the receipt of completed application forms at VIT | | Tuesday | 25.05.2010 |
| VIT Master's Engineering Entrance Examination (VITMEE) | | Sunday | 06.06.2010 |
| Declaration Results | | Tuesday | 15.06.2010 |

Tentative dates for Interview

| | | | |
|-------------------------------------|--|------------------------|--------------------------|
| M.Tech. Automotive Engineering | | Monday | 28.06.2010 |
| Other M.Tech. programmes | | Tuesday & Wednesday | 29.06.2010 30.06.2010 |
| MCA | | Monday | 28.06.2010 |
| Commencement of classes (Tentative) | | Monday | 12.07.2010 |

For further details contact:

Admissions Officer
VIT UNIVERSITY

Vellore - 632 014, Tamil Nadu, INDIA

Phone : 0416-2202168, 2202157

Fax : 0416 224 5544, 224 0411

Email : admission@vit.ac.in

Website : www.vit.ac.in

A place to learn; A chance to grow

Legal Jurisdiction

All Suits and actions arising out of or relating to VIT University, Vellore 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.