

Last date for filling Application Form online: 15.12.2012  
Last date for receipt of Confirmation Page at JEE (Main) Secretariat: 26.12.2012  
(By Registered/Speed post only)

## **Joint Entrance Examination (Main) - 2 0 1 3**

### INFORMATION BULLETIN



JEE (Main) Secretariat  
Central Board of Secondary Education  
PS-1-2, Institutional Area, I.P.Extn. Patparganj, Delhi-110 092.

#### DATE OF EXAMINATION

April 7, 2013 (Pen & Paper Based Examination)  
During April 8 - 25, 2013 (Computer Based Examination)

## IMPORTANT INSTRUCTIONS

1. Candidates of JEE (Main) - 2013 have to apply online only.
2. Please ensure that you are filling genuine application form available online at JEE (Main) website ([www.jeemain.nic.in](http://www.jeemain.nic.in)).
3. Please ensure your eligibility as per the criteria laid down for JEE (Main) as well as JEE (Advanced).
4. The fee (in Indian Rupees) for JEE (Main)-2013 is as follows:

Paper(s) Appearing	Pen and Paper Based Examination		Computer Based Examination (Paper-1 only)	
	(General/OBC)	(SC/ST/PwD)	(General/OBC)	(SC/ST/PwD)
JEE (Main) Paper-1 or JEE (Main) Paper-2 only	800 (Boys) 400 (Girls)	400 (Boys) 400 (Girls)	500 (Boys) 250 (Girls)	250 (Boys) 250 (Girls)
Both JEE (Main) Paper-1 and JEE (Main) Paper-2	1400 (Boys) 700 (Girls)	700 (Boys) 700 (Girls)	1100 (Boys) 550 (Girls)	550 (Boys) 550 (Girls)
FOR EXAMINATION CENTRE OPTED IN FOREIGN COUNTRY				
JEE (Main) Paper-1 or JEE (Main) Paper-2 only	2000 (Boys) 1000 (Girls)	1000 (Boys) 1000 (Girls)	2000 (Boys) 1000 (Girls)	1000 (Boys) 1000 (Girls)
Both JEE (Main) Paper-1 and JEE (Main) Paper-2	3000 (Boys) 1500 (Girls)	1500 (Boys) 1500 (Girls)	3000 (Boys) 1500 (Girls)	1500 (Boys) 1500 (Girls)

In case the examination fee is paid through credit/debit cards, the candidates will need to pay an additional processing charge of 1.20% of the examination fee plus the service tax as applicable.

Candidates who wish to appear in Paper-1 and Paper-2 both, may kindly note that Paper-2 will be conducted only in Pen and Paper based examination mode. If they opt for Paper-1 in Computer based examination mode, the Paper-1 will be held between 08.04.2013 and 25.04.2013 while Paper-2 will be held on 07.04.2013 in the cities for computer based examination during 02:00-05:00PM.

5. Candidates are allowed to submit only one application form. Multiple applications of a candidate are liable to be rejected.

6. The name in the application form must be the same as in class Xth pass certificate.
7. The fee may be submitted either by credit/debit card or through Demand Draft. In case of Demand Draft, the same may be made in favour of Secretary, CBSE, payable at Delhi.
8. In case the payment is made through Demand Draft, please mention your computer generated application no. and name on the reverse side of Demand Draft.
9. The computer generated Confirmation Page with photograph pasted, address written and signed by the candidate and his/her parent must reach the JEE (Main) office on or before 26<sup>th</sup> December 2012. The completed Confirmation Page must be sent only by registered/speed post to the Executive Director, JEE (Main) - 2013 at the given below address:

Executive Director  
JEE (Main) Secretariat  
Central Board of Secondary Education,  
PS-1-2, Institutional Area, I.P.Extn.  
Patparganj,  
Delhi-110 092.
10. After submission of an application no options can be changed at a later stage.
11. All correspondence related to JEE (Main) - 2013 should be addressed to the Executive Director, JEE (Main).
12. The application no. printed on the computer generated Confirmation Page must be mentioned in all such correspondences. It is therefore essential to note down the application number printed on the Confirmation Page.
13. Candidates may check the status of their application on JEE (Main) - 2013 website by giving the application number and date of birth.
14. Application fee once paid is non-refundable.
15. The Honb'le High Court of Delhi at New Delhi alone will have the jurisdiction to settle and decide all matters and disputes related to JEE (Main) - 2013 as Joint Apex Board located at CBSE Delhi is organising the JEE (Main) - 2013 examination.
16. The offer of admission is subject to verification of original certificates/ documents at the time of admission. If any candidate is found ineligible

at a later date even after admission to an Institute, his/her admission will be cancelled.

17. If a candidate expects the result of Class 12<sup>th</sup>/Other qualifying examination to be declared after 30<sup>th</sup> June 2013 by the examining body, the candidate is advised not to attempt JEE (Main) - 2013. Candidates whose result of Class 12<sup>th</sup> /Other qualifying examination is not available by 30<sup>th</sup> June 2013 will not be considered for All India Ranking of JEE (Main) - 2013.
18. The decision of the Joint Apex Board of JEE (Main) - 2013 regarding the eligibility of any applicant shall be final.
19. For any query or latest information related to JEE (Main) - 2013 kindly visit JEE(Main) Website: [www.jeemain.nic.in](http://www.jeemain.nic.in)
20. For any query related to JEE(Advanced) kindly visit any of the following JEE(Advanced) Websites.
  - a. <http://jeeadv.iitb.ac.in>
  - b. <http://jeeadv.iitd.ac.in>
  - c. <http://jeeadv.iitg.ac.in>
  - d. <http://jeeadv.iitk.ac.in>
  - e. <http://jeeadv.iitkgp.ac.in>
  - f. <http://jeeadv.iitm.ac.in>
  - g. <http://jeeadv.iitr.ac.in>

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## 1. INTRODUCTION AND SCHEME OF EXAMINATION

Admission criteria to Undergraduate Engineering Programs at NITs, IITs, Other centrally funded Technical Institutions, Institutions funded by several participating State Governments, and several other Institutions shall include the performance in the class 12/other Qualifying Examination and in the Joint Entrance Examination, JEE (Main). The Paper-1 of JEE (Main) will also be an eligibility test for the JEE (Advanced), which the candidate has to take if he/she is aspiring for admission to the undergraduate programmes offered by the IITs.

## 2. ABOUT JEE (Main) – 2013

### 2.1. Mode of Examination

The Paper-1 (described below) of JEE (Main) will be conducted in two separate modes i.e. Offline (Pen and Paper Based Examination) mode and Online (Computer Based Examination) mode. The Paper-2 of JEE (Main) will be conducted only in Pen and Paper based examination mode. A candidate will opt for either Pen and Paper Based or Computer Based examination modes for Paper-1 only.

### 2.2. Type of Examination

JEE (Main) – 2013 shall have two papers, Paper-1 and Paper-2. Candidates may take Paper-1, or Paper-2, or both as per the course(s) they are seeking admission to.

Subject combination for each paper, type of questions in each paper and mode of examination available is given in the table below.

	SUBJECTS	TYPE OF QUESTIONS	MODE OF EXAM
Paper 1	Physics, Chemistry & Mathematics	Objective type with equal weightage to Physics, Chemistry & Mathematics	Pen and Paper based OR Computer based
Paper 2	Mathematics – Part I Aptitude Test – Part II & Drawing Test – Part III	Objective type Objective type Questions to test drawing aptitude	Only Pen and Paper based

Requirement of papers for different courses is given in the table below.

COURSE	PAPERS
B.ARCH/B. PLANNING(At Institutions other than IITs)	Paper -2
All other undergraduate courses	Paper -1

### 2.3. Schedule of Examination

A. Offline examination (Pen and Paper Based Examination) for Paper 1 and Paper 2

Date of Examination	Paper	Subjects	Timings	Duration
07.04.2013	Paper 1	Physics, Chemistry & Mathematics	0930-1230 Hours(IST)	3 Hours
07.04.2013	Paper 2	Mathematics - Part I Aptitude Test - Part II & Drawing Test - Part III	1400-1700 Hours(IST)	3 Hours

B. Online examination (Computer Based Examination) for Paper 1 Only

Dates of Examination*	Paper	Subjects	Timings	Duration
During 08.04.2013 and 25.04.2013	Paper 1	Physics, Chemistry & Mathematics	1 <sup>st</sup> shift 0900-1200 Hours (IST) 2 <sup>nd</sup> shift (*) 1400-1700 Hours (IST) *If required	3 Hours

*\*The exact slots/dates for computer based examination shall be displayed on the website by 1<sup>st</sup> February 2013. The candidates will be required to make their slot/date selection through online mode during 1<sup>st</sup> February 2013 - 15<sup>th</sup> February 2013. A candidate who opts for computer based examination and does not make this selection, for whatever reasons, shall be randomly assigned a slot based on the availability.*

### 2.4. Choice of Language of Question Papers

A candidate can opt for question papers either in English or in Hindi. Those candidates who have opted for centres in the state of Gujarat can also opt for question paper in Gujarati medium. The option of question paper



language should be exercised while filling up the Application Form and it cannot be changed at a later stage.

## 2.5. Rules for Amanuenses and Appointment of Amanuenses

Provision has been made to provide amanuenses to the blind candidates. Candidates in need of amanuenses must place such requirements in their application form at appropriate place and must contact Executive Director, JEE (Main) in writing at the postal address given in the brochure at least one month before the examination along with medical certificate issued by a competent authority. Amanuenses will be provided only when approved by the Executive Director, JEE (Main) in writing. Candidates will not be permitted to bring their own amanuenses. Only in approved cases, amanuenses will be provided by the Centre Superintendent who will appoint unrelated and unknown class XI students of Commerce/Humanities without Mathematics as amanuenses. One hour extra time will also be allowed to such candidates.

## 2.6. Cities/Towns of JEE(Main) - 2013 Examination Centres

JEE (Main) - 2013 will be conducted in major cities and towns of India as well as abroad. The lists of cities are given in Appendix-2. While applying, candidates must select four centre cities if opting for Pen and Paper based examination and only one centre city if opting for Computer Based Examination.

Efforts will be made to allot candidates' city of choices opted for in the application. However, in some exceptional circumstances, a different city of nearby area may be allotted.

## 2.7. Request for Change of Examination City/Town

Requests for a change of centre will not be entertained. In this regard, the decision of the Executive Director of JEE (Main) will be final.

## 2.8. Use of Calculator and Communication Aids

Use of electronic devices like mobile phone, calculator etc. is NOT PERMITTED in JEE (Main) - 2013. Materials like log table, book, notebook, etc. should NOT be brought into the examination hall.

## 2.9. Eligibility for appearing in JEE (Main) – 2013

### 2.9.1 Date of Birth

Only those candidates whose date of birth falls on or after October 01, 1988 are eligible. However, in the case of Scheduled Caste (SC), Scheduled Tribe (ST) and Persons with Disabilities (PwD) candidates, upper age limit is relaxed by 5 years, i.e. SC, ST and PwD candidates who were born on or after October 01, 1983 are eligible. Date of birth as recorded in the Secondary Education Board/University certificate will only be considered.

### 2.9.2 Year of Passing Qualifying Examination (QE)

Only those candidates who have passed their Class 12<sup>th</sup> Exam or any other qualifying examination in 2011 or 2012; or those who are appearing in their Class 12<sup>th</sup> Exam or any other qualifying examination in 2013 are eligible to appear in JEE (Main) - 2013. Candidates who passed Class 12<sup>th</sup>/Qualifying examination in 2010 or before as well as those who will appear in such examination in 2014 or later are not eligible to appear in JEE (Main)-2013. Candidates who appeared in class 12<sup>th</sup>/other Qualifying Examinations in 2010, did not pass in 2010, but passed in 2011 are also not eligible to appear in JEE (Main) 2013.

Candidates must have taken at least five subjects in class 12<sup>th</sup>/any other Qualifying examination in order to be eligible for writing JEE (Main). In the year 2013 however, the candidates who have taken four subjects are also permitted to write JEE 2013 as an exception.

### 2.9.3 Number of Attempts

The number of attempts which a candidate can avail at JEE (Main) shall be limited to 03 (three).

CANDIDATES ARE ALSO ADVISED TO NOTE THE ELIGIBILITY FOR APPEARING IN JEE (ADVANCED) – 2013 AS WELL AS ELIGIBILITY FOR ADMISSION TO VARIOUS INSTITUTES. BY BEING ELIGIBLE TO WRITE JEE (Main) AND BY OBTAINING AN ALL INDIA RANK IN JEE (Main), A CANDIDATE DOES NOT AUTOMATICALLY BECOME ELIGIBLE FOR ADMISSION.

## 2.10. Score and Result for JEE (Main) - 2013

- I. The score of JEE (Main) – 2013 for all candidates will be declared by 7<sup>th</sup> May 2013. This score shall comprise of the actual marks obtained in JEE (Main) – 2013 along with the status of those who qualify for appearing in JEE (Advanced) – 2013 provided other conditions of eligibility are met.

- II. Separately, on the basis of score in JEE (Main) and normalised score in Class 12<sup>th</sup> or other qualifying exam (60% & 40% weightage respectively), separate rank lists will be prepared for admission to B.E./B.Tech. and B.Arch/ B.Planning (in institutions other than IITs). This will be declared on or before 07.07.2013. JEE (Main) Rank Card indicating All India Rank, State Rank and Category Rank with total marks and marks in each paper will be available on website from 08.07.2013 onwards.
- III. The rank cards will be dispatched to the candidates from 12.07.2013 onwards by ordinary post. The JEE Apex Board or JEE (Main) Secretariat will not be responsible for any consequences that may arise due to the loss of rank card in transit. In case of non-receipt of the rank card within the stipulated period, candidate may apply for duplicate rank card along with the payment of Rs. 50/- (plus postal charges of Rs. 30/- for outstation candidates) through Demand Draft in favour of Secretary, CBSE, payable at Delhi/New Delhi between 01.08.2013 to 31.08.2013. No request for issue of duplicate rank card will be entertained thereafter.
- IV. In case of a tie, i.e. when two or more candidates obtain equal marks (by giving 60% weightage to performance in JEE (Main) and 40% weightage to normalised marks in Class 12<sup>th</sup> or other qualifying examination), inter-se merit of such candidates shall be decided in the following order:

Rank list for admission to B.E/B.Tech(in institutions other than IITs)

Resolution by marks obtained in Mathematics in JEE (Main) – 2013. Candidate obtaining higher marks will be given better rank.

Resolution by marks obtained in Physics in the JEE (Main) – 2013. Candidate obtaining higher marks will be given better rank.

Resolution by total normalised qualifying exam marks. Candidate obtaining higher normalised marks will be given better rank.

Resolution by finding the ratio of positive marks and negative marks. Candidate having higher absolute value of the ratio will be given better rank.

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

Rank list for admission to B.Arch/B.Planning(in institutions other than IITs)

Resolution by marks obtained in Aptitude Test in Paper-2 in JEE (Main) – 2013. Candidate obtaining higher marks will be given better rank.

Resolution by marks obtained in Drawing Test in Paper-2 in JEE (Main) – 2013. Candidate obtaining higher marks will be given better rank.

Resolution by total normalised qualifying exam marks. Candidates obtaining higher normalised marks will be given better rank.

Resolution by finding the ratio of positive marks and negative marks. Candidate having higher absolute value of the ratio will be given better rank.

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

- V. The OMR answer sheets of all the candidates along with the responses captured will be put on JEE (Main) website for verification by the candidates.
- VI. All participating institutes that do not use the centralised counselling procedures will prepare their own ranking based on the performance in JEE(Main) and other criteria as decided by them.

### 3. ADMISSION TO NITs, IIITs, CFTIs, SFIs, STATE ENGINEERING COLLEGES FOR PARTICIPATING STATES AND OTHER PARTICIPATING INSTITUTIONS

#### 3.1. Eligibility for Admission to NITs, IIITs and Other Institutions participating through Central Counselling Board

Admission to NITs, IIITs and other institutions participating through Central Counselling Board will be based on All India Rank as explained above in section 2.10 along with the criteria of subject combinations mentioned in the table below.

Subject combinations required in the qualifying examination for admission to B.E./B.Tech. and B. Arch./B. Planning Courses in NITs, IIITs, and other CFTIs shall be as under.

Course	Required Criteria based on Class 12 <sup>th</sup> / Other Qualifying Examination
B.E./B.TECH	Subjects in Qualifying Examination: Physics, Mathematics and one of the subjects from (Chemistry, Bio-technology, Computer Science, Biology) along with 50% marks in total including all subjects
B.ARCH/B. PLANNING	Mathematics subject along with 50% Marks in total including all subjects

### 3.2. Eligibility for Admission to Other Institutions

The above mentioned policy could also be adopted by other Centrally Funded Technical Institutions (CFTIs) and participating Institutions. In case a State opts to admit students in the engineering Colleges affiliated to state Universities, the State may prepare separate rank list based on criteria decided by them.

### 3.3. Reservation of seats

As per Government of India rules candidates belonging to certain categories are admitted to seats reserved for them based on relaxed criteria. These categories are:

- I. Other Backward Classes (OBC) if they belong to Non Creamy Layer (NCL)
- II. Scheduled Castes (SC)
- III. Scheduled Tribes (ST)
- IV. Persons with Disability (PwD)

Benefit of reservation for admission to NITs/IITs and CFTIs shall be given only to those classes/castes/tribes which are in the respective central list published by the Govt of India. For admission to State Engineering colleges who have opted for admission through JEE (Main)-2013, the reservation rules of that state shall apply.

### 3.4. Counselling and Admission Procedure

Candidates shall be offered admission based on their choices and All India Ranks of JEE (Main) through a counselling procedure to be announced later. The candidates will be able to make their choices online for branches/programmes and institutes at appropriate time.

Candidates are advised to regularly visit the JEE (Main) website <http://jeemain.nic.in> for further details

The verification of documents would be done at the time of counselling/admission. The purpose would be to verify different records regarding identification, age, qualifying examination, state of eligibility and category of the candidate. On failing to produce any of the authentic documents, the candidates will not be considered for admission.

SC, ST, OBC and PwD candidates will be required to produce original certificate issued by the competent authority at the time of counselling as well as at the time of admission, failing which they will not be considered for admission.

## 4. ELIGIBILITY CRITERIA FOR APPEARING IN JEE (Advanced) – 2013<sup>1</sup>

The minimum academic qualification for appearing in JEE (Advanced) - 2013 is that the candidate must have passed in final examination of Class 12<sup>th</sup> or other qualifying examination (Appendix – 4). Those appearing in these examinations in 2013 can also appear in JEE (Advanced) - 2013 provisionally.

All the candidates aspiring to take admission in the undergraduate programmes at IITs and ISM Dhanbad for the year 2013 will have to appear in the JEE (Main)-2013 (Paper 1). About 150000 top candidates based on the performance of JEE (Main)-2013 (Paper 1) (including all categories) will be eligible to appear in JEE (Advanced)-2013.

Admissions to IITs/ISM Dhanbad will be based only on category-wise All India Rank (AIR) in JEE (Advanced), subject to conditions as defined in JEE (Advanced) – 2013 website.

A candidate can attempt JEE (Advanced) a maximum of two times in consecutive years irrespective of whether or not he/she passed the Qualifying Examination. Those who have attempted JEE in 2011 or earlier are NOT ELIGIBLE to appear in JEE (Advanced) - 2013.

## 5. APPLICATION PROCEDURE FOR JEE (Main) AND JEE (Advanced) – 2013

In order to appear in JEE (Main) and/or JEE (Advanced) 2013, the candidates are required to apply only online as per procedure detailed below<sup>2</sup>.

### 5.1. Applying Online and Submission of Application

The online submission of particulars may be made at JEE (Main) website. The candidates should supply all the required details while filling up the online form. On submission of details, a Confirmation Page with Application No. shall be generated.

Candidates are required to take printout of Confirmation Page and paste photograph, put left hand thumb impression, sign and write down the Residential Address at appropriate places provided for these purposes. The Confirmation Page then must be signed by a parent/guardian and by a gazetted officer/principal of the last institution attended. Duly completed Confirmation Page is to be sent by Registered/Speed Post to The Executive Director, JEE (Main) Secretariat, Central Board of Secondary Education, PS-1-2, Institutional Area, I.P.Extn. Patparganj, Delhi-110 092 on or before the last date as mentioned earlier. The application fee payment can be made:

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<sup>1</sup> Please refer to JEE (Advanced) website for the latest information and section 2.10(II) of the brochure.

<sup>2</sup> Please also see section 5.3 for JEE (Advanced)

- (a) by credit/debit card, or
- (b) by demand draft issued by a scheduled commercial bank in favour of Secretary, CBSE, payable at Delhi.

## 5.2. Online Application Format and Instructions for Applying Online

The information given in the first column of the following table will be asked in the Online Application form. The instructions to fill up the form have been given in the second column.

JEE(Main) Part	
Examination Details JEE (Main) - 2013	
Applying for	JEE (Main) Paper - 1 Only JEE (Main) Paper - 2 Only JEE (Main) Paper - 1 & Paper -2 Both
Mode of Examination	Pen and Paper Based Examination Computer Based Examination
Choice of Examination Centre (Only one) (For Computer Based Examination)	As per list of Computer Based Examination cities (Appendix 2)
Choices of Examination Centre (Four) (For Pen and Paper Based Examination)	As per list of Pen and Paper Based examination cities (Appendix 2)
Question Paper Medium	English / Hindi / Gujarati/
Personal Details	
Candidate's Name	Maximum 46 Character
Mother's Name	Maximum 46 Character
Father's Name	Maximum 46 Character
State of Eligibility	State from where the candidate has passed/appearing in qualifying examination (Appendix 5)
Category	General/ SC/ ST/ OBC - NCL(Central List) State list OBC Candidates who are not in OBC - NCL central list must choose General. State admission boards shall verify State OBC list separately.
Person With Disability (PWD)	Yes/ No
If PwD, are you a Blind Candidate?	Yes/ No
If Blind, need for amanuenses	Yes/No

Date of Birth (DD/MM/YYYY)	
Gender	Male / Female
In case of girl candidate, Are you the only child of your parents?	Yes / No
Nationality	Indian / OCI/PIO/ Foreign - Other than OCI,PIO (Foreign candidates are not eligible for admission to NITs, IIITs, CFTIs through JEE (Main) Channel)
Place of Residence	Rural / Urban
Pin code of mailing address	
<b>Academic Details</b>	
Year of Passing Class 10 <sup>th</sup> or its Equivalent	2005-2011
Place of 12 <sup>th</sup> class schooling	Village / Town / City
Year of Passing or Appearing Class 12 <sup>th</sup> / Qualifying Examination	2011 / 2012 / 2013
School Board of Class 12 <sup>th</sup> / Qualifying Examination	As per list of Boards given in Appendix 7
Name of the Qualifying Examination passed/appearing	as per Appendix 4
Type of Institution of Class 12 <sup>th</sup> / Qualifying Examination	Government / Private
Percentage of Marks obtained in Class 12 <sup>th</sup> / Qualifying Examination (if passed)	As per Marks Statement
Roll Number of Class 12 <sup>th</sup> / Qualifying Examination (if allotted)	
Appearing for Improvement of Class 12 <sup>th</sup> /Qualifying Examination	Y/N
Mode of Preparation	Self Study / Individual Tuition / Coaching/ Correspondence Courses/Others
Name & Address of the School / College from where passed / appearing	
<b>Contact Details</b>	
Email Address	
Mobile No.	
Land line no. with STD code or any other contact no.	
<b>Guardian Details</b>	



Fa ther's Qualification	Illiterate / Matriculate / Graduate / Post Graduate / Others
Fa ther's Occupation	Agriculture/ / Business/ Medical/ Engineering /Law Practice/ Government Service/ Public Sector Service/ Private Service/ Teaching or Research/ Architecture/ Pharmacy/ Self Employment/ Others (including House wife)
Fa ther's Annual Income	Up to 100000 /Rs. 100001 -200000 / Rs. 200001 – 300000 /Rs. 300001 -400000 / Rs. 400001 -500000 /Rs. 500001-600000 / Rs. 600001-700000 /Rs. 700001-800000 / Rs. 800001 and above
Mother's Qualification	Illiterate / Matriculate / Graduate / Post Graduate / Others
Mother's Occupation	Agriculture/ / Business/ Medical/ Engineering /Law Practice/ Government Service/ Public Sector Service/ Private Service/ Teaching or Research/ Architecture/ Pharmacy/ Self Employment/ Others (including House wife)
Mother's Annual Income	Up to 100000 /Rs. 100001 -200000 / Rs. 200001 – 300000 /Rs. 300001 -400000 / Rs. 400001 -500000 /Rs. 500001-600000 / Rs. 600001-700000 /Rs. 700001-800000 / Rs. 800001 and above
Only on the Confirmation Page	
C andida te's Photo graph	To be pasted on Confirmation Page generated after filling of online form (Details about photograph is given below)
Signature	To be put on Confirmation Page generated after filling of online form
Thumb Impression	To be put on Confirmation Page generated after filling of online form
Complete Mailing address	To be written on Confirmation Page generated after filling of online form
Signature by Parent	To be put on Confirmation Page generated after filling of online form
Certificate by Gazetted Officer/Principal of the last institution attended	To be put on Confirmation Page generated after filling of online form
Declaration by the candidate	I hereby declare that all the particulars stated in this application form are true to the best of my knowledge and belief. I have read and

	understood the JEE procedures for both JEE (Main) and JEE(Advanced) - 2013. I shall abide by the terms and conditions thereon.
Interested in JEE(Advanced) Yes/No	
Choice of Examination Cities (candidates can choose examination cities for JEE (Advanced) only from a single Zone as given in Appendix-3)	Choice 1 As per list given in Appendix-3 Choice 2 Choice 3
JEE (Advanced) is only Pen and Paper based examination	

Photograph: Firmly affix two recent (taken on or after 1.10.2012) high-contrast front-faced passport-size (3x4 cm) photographs of the candidate with gum/other adhesives in the space provided for it in the Confirmation Page. The photographs must not be pinned or stapled. The photograph must be duly attested by the head of the institution where the candidate is studying/passed class XII or the Gazetted officer in such a way that part of the signature is on the photograph and remaining part of the signature is on the Confirmation Page. Attestation should be done on the bottom part of the photograph so that the photograph is not defaced. The face must cover at least 50% of the total vertical space of the photograph. The photograph must indicate clearly the name of the candidate along with the date of taking the photograph (as shown). The candidate should not use any cap or goggles while taking the photographs. Clear spectacles are allowed. Polaroid photos, photos from mobile phones, laptops etc are not acceptable. Applications of candidates not complying with these instructions or with unclear photographs are liable to be rejected. Candidates may keep 6-8 identical photographs in reserve for use at the time of entrance examination, Counselling and Admission.



KIRAN BALA  
15.11.2012

Note - Request for change or correction of any information, once given in the Confirmation Page, shall not be entertained under any circumstances. The Board will not be responsible for any consequences arising out of non-acceptance of any correction/addition/deletion in any particular once submitted in the application form whatsoever the reasons may be.

### 5.3. Additional Information for Candidates for JEE (Advanced) - 2013

Candidates who wish to appear for JEE (Advanced) - 2013 must also give their choices of JEE (Advanced) examination cities.

The candidates who are found eligible for JEE (Advanced) - 2013 will have to again register later on at the JEE (Advanced) website <http://jeeadv.iitd.ac.in> after the declaration of the JEE (Main) score on or before 13<sup>th</sup> May 2013.

### 5.4. Check-List of Items to be Sent to JEE (Main) Secretariat

The duly filled Confirmation Page is to be sent by Registered/Speed Post to JEE (Main) office along with demand draft from any scheduled commercial bank if payment is made by demand draft. Those who have made payment by debit/credit card may have to send only Confirmation Page that carries the details of their online fee transactions.

### 5.5. Where and How to Send the Confirmation Page

The Confirmation Page is to be printed on A-4 size paper and kept in an A-4 size envelope/proper size envelope.

The completed Confirmation Page must be sent only by registered/speed post to the Executive Director JEE (Main) - 2013 at the address given below.

Executive Director  
JEE (Main) Secretariat  
Central Board of Secondary Education,  
PS-1-2, Institutional Area,  
I.P.Extn. Patparganj,  
Delhi-110 092.

Confirmation page sent by the courier/hand delivered will be rejected without any further correspondence.

### 5.6. Last Date for Receipt of the Confirmation Page

The computer generated Confirmation Page with photographs pasted, address written, signed by the candidate, signed by the parent and counter signed by the Principal/Gazetted Officer must reach the JEE (Main) Secretariat on or before 26<sup>th</sup> December 2012.

### 5.7. Proof of Having Sent the Confirmation Page

The candidates are advised to retain the following.

A photocopy of Confirmation Page carrying the Application No.

Copy of receipt/confirmation as per the mode of remittance of Examination fee.

Original receipt of Speed / Registered post.

## 6. ADMIT CARD FOR JEE (Main) - 2013

The Admit Card can be downloaded from JEE (Main) website from 1<sup>st</sup> March 2013 onwards. PRIOR TO DOWNLOADING THE ADMIT CARD, THOSE CANDIDATES WHO DID NOT PROVIDE THE ROLL NUMBER OF THEIR CLASS 12<sup>th</sup>/OTHER QUALIFYING EXAMINATIONS WILL BE REQUIRED TO PROVIDE SO. The candidates are advised to download their admit cards from JEE (Main) website only. The Candidates are also advised to regularly see JEE (Main) website for updates. A call center will also be functional on all working days from 1<sup>st</sup> February 2013 onwards for general facilitation.

## 7. COMPUTER BASED EXAMINATION FOR PAPER-1 OF JEE (Main) - 2013

### 7.1. Guidelines to Candidates

1. Please check the Admit Card carefully for your Name, Paper, Date of Birth, Gender, Test Center Name, City, State Code of Eligibility and Category. In case of any discrepancy, communicate to JEE (Main) Secretariat immediately for necessary action.
2. Candidates are advised to reach the venue at least 1.5 hrs before the examination so as to complete the registration formalities well before the time. Registration desk will be closed 30 minutes prior to the examination. No candidate, under any circumstances, will be allowed to enter the Examination Center after the commencement of the examination.
3. No candidate without Admit Card shall be allowed to sit in the Examination by the Center Superintendent.
4. Candidate will not be allowed to leave the Examination Hall before the conclusion of the test.
5. Candidates must follow the instructions strictly as instructed by the Centre Superintendent/Invigilators.
6. The Admit Card is issued provisionally to the candidate subject to his/her satisfying the eligibility conditions.
7. Candidates are requested to carry a photo identity proof (School/College ID Card, Passport, Voter ID card, Driving License) to the Examination Center.

8. No Candidate will be allowed to carry any baggage inside the Examination Center. Joint Apex Board will not be responsible for any belongings stolen or lost at the premises.
9. Smoking and eating is strictly prohibited in the examination room.
10. Approach the Center Superintendent/Invigilator in the room for any technical assistance, first aid emergency or any other information during the course of examination.
11. For any queries or issues the candidates may contact on toll free Call Centre No. which will be put on JEE (Main) website later on.

## 7.2. Instructions for Computer Based Examination

1. The Computer Based Examination will be conducted as per the following schedule.
  - a. A sample/mock test will be available on JEE (Main) website in the month of Feb/Mar 2013 for practice purpose and to give the candidate look and feel of the Computer Based Examination (CBE).
  - b. Facilitation center will be operational in the month of March for the hands on practice by the candidates in each and every city where online examination will be conducted.
  - c. The details of facilitation centers will be made available on JEE (Main) website in March 2013.
2. The test will be of 3 hrs duration
3. The test paper will consist questions of Physics, Chemistry & Mathematics and all question will have equal weightage.
4. There will be three parts in the question paper consisting of Physics, Chemistry and Mathematics having equal weightages. Each question is allotted 4 (four) marks for each correct response.
5.  $\frac{1}{4}$  (one fourth) marks i.e. one mark will be deducted for indicating incorrect response of each question. No deduction from the total score will be made if no response is indicated for a question.
6. There is only one correct response for each question out of four responses given.
7. No candidate is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc., except the Admit Card, identity proof and pen inside the examination hall/room. Violation of this will lead to cancellation of candidature.

8. All calculations/writing work are to be done in the rough sheet provided only and on completion of the test candidates must hand over the rough sheets to the invigilator on duty in the Room/Hall
9. Each candidate must show on demand his/her Admit Card to the Invigilator
10. No candidate, without special permission of the Superintendent or Invigilator, should leave his/her seat
11. The candidates are governed by all Rules and Regulations of the Board with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per rules.

## 8. PEN AND PAPER BASED EXAMINATION FOR PAPER-1 AND PAPER-2 OF JEE (Main) – 2013

### 8.1. Guidelines to Candidates

1. The examination rooms/hall will be opened 30 minutes before the commencement of the test. Candidates should take their seats immediately after opening of the examination hall. If the candidates do not report in time, they are likely to miss some of the general instructions to be announced in the Examination Hall.
2. The candidate must show, on demand, the Admit Card for admission in the examination room/hall. A candidate who does not possess the Admit Card issued by the Board shall not be permitted for the examination under any circumstances by the Centre Superintendent.
3. A seat indicating roll number will be allocated to each candidate. Candidate should find out and occupy their allotted seat only. Any candidate found to have changed room or the seat on his/her own other than allotted, his/her candidature shall be cancelled and no plea would be accepted for it.
4. A candidate who comes after the commencement of the examination shall not be permitted to sit in the examination.
5. Candidates are not allowed to carry any textual material, Calculators, Docu Pen, Slide Rules, 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 inside the Examination Room/Hall. If any candidate is in possession of any of the above items, his/her candidature will be treated as unfair means and his/her current examination will be cancelled & he/she will also be debarred for future examination(s) & the equipment will be seized.
6. For Aptitude Test in Architecture, candidates are advised to bring their own geometry box set, pencils, erasers and colour pencils or crayons.

7. No candidate, without the special permission of the Centre Superintendent or the Invigilator concerned, will leave his/her seat or Examination Room until the full duration of the paper. Candidates should not leave the room/hall without handing over their Answer Sheets to the Invigilators on duty.
8. Candidates are advised to bring with them a cardboard or a clip board on which nothing should be written, so that they have no difficulty in filling responses in the Answer Sheet even if the tables provided in the examination room/hall do have smooth surface. They should also bring with them their own Ball Point Pens (Black/Blue) of good quality.
9. Smoking in the Examination Hall/Room is strictly prohibited.
10. Tea, coffee, cold drinks or snacks are not allowed to be taken into the examination rooms during examination hours.
11. Ten minutes before the commencement of the paper, each candidate will be given sealed Test Booklet with an Answer Sheet placed inside it.
12. Immediately on receipt of the Test Booklet the candidate will fill in the required particulars on the cover page of the Test Booklet with Ball Point Pen only. He/She will not open the Test Booklet until asked to do so by the Invigilator. Do not open/break the seal before the announcement.

## 8.2. Instructions for Pen and Paper Based Examination

1. Five minutes before the commencement of the paper the candidate will be asked to break/open the seal of the Test Booklet. He/She will take out the Answer Sheet carefully. The candidate should check carefully that the Test Booklet Code printed on Side-2 of the Answer Sheet is the same as printed on the Test Booklet. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Test Booklet and the Answer Sheet.
2. Candidate will then write particulars with Blue/Black ball point pen only on both the sides of the Answer Sheet. Use of pencil is strictly prohibited. If one uses the pencil, his/her answer sheet will be rejected and no correspondence will be entertained in this regard. After completing this step, the candidates will wait for the instruction by the invigilator.
3. 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.
4. During the examination time, the invigilator will check Admit Card of the candidate to satisfy himself/herself about the identity of each candidate. The

invigilator will also put his/her signatures in the place provided in the Answer Sheet on Side-1.

5. Candidate shall bring his/her own Ball Point Pens of good quality. These will not be supplied by the Board.
6. 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 responses.
7. The candidate will check that the Test-booklet contains as many number of pages as are written on the top of the first page of the Test Booklet.
8. The candidates must sign twice on the Attendance Sheet at the appropriate place. Firstly, immediately after commencement of the Examination and for the second time while handing over the Answer Sheet to the Invigilator. The candidates are also required to put their left hand thumb impression in the space provided in the Attendance Sheet.

## 9. CODE OF CONDUCT FOR CANDIDATES DURING JEE (Main) - 2013

Candidates shall maintain perfect silence and attend to their Question Paper only. Any conversation or gesticulation or disturbance in the Examination Room/Hall shall be deemed as misbehaviour. If a candidate is found using unfair means or impersonating, his/her candidature shall be cancelled and he/she will be liable to be debarred for taking examination either permanently or for a specified period according to the nature of offence.

Candidates are not allowed to carry any textual material, Calculators, Docu Pen, Slide Rules, 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 inside the Examination Room/Hall. If any candidate is in possession of any of the above item, his/her candidature will be treated as unfair means and his/her current examination will be cancelled & he/she will also be debarred for future examination(s) & the equipment will be seized.

The candidate shall not remove any page(s) from the Test-Booklet and if he/she is found to have removed any page(s) from his/her Test Booklet, he/she will be presumed to have used unfair means and shall be liable for criminal action.



## Appendix 1

### SYLLABUS FOR JEE (Main) - 2013

#### MATHEMATICS

##### UNIT 1: SETS, RELATIONS AND FUNCTIONS:

Sets and their representation; Union, intersection and complement of sets and their algebraic properties; Power set; Relation; Types of relations, equivalence relations, functions; one-one, into and onto functions, composition of functions.

##### UNIT 2: COMPLEX NUMBERS AND QUADRATIC EQUATIONS:

Complex numbers as ordered pairs of reals; Representation of complex numbers in the form  $a+ib$  and their representation in a plane, Argand diagram, algebra of complex numbers, modulus and argument (or amplitude) of a complex number, square root of a complex number, triangle inequality, Quadratic equations in real and complex number system and their solutions; Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots.

##### UNIT 3: MATRICES AND DETERMINANTS:

Matrices, algebra of matrices, types of matrices, determinants and matrices of order two and three, Properties of determinants, evaluation of determinants, area of triangles using determinants. Adjoint and evaluation of inverse of a square matrix using determinants and elementary transformations, Test of consistency and solution of simultaneous linear equations in two or three variables using determinants and matrices.

##### UNIT 4: PERMUTATIONS AND COMBINATIONS:

Fundamental principle of counting, permutation as an arrangement and combination as selection. Meaning of  $P(n,r)$  and  $C(n,r)$ , simple applications.

##### UNIT 5: MATHEMATICAL INDUCTION:

Principle of Mathematical Induction and its simple applications.

##### UNIT 6: BINOMIAL THEOREM AND ITS SIMPLE APPLICATIONS:

Binomial theorem for a positive integral index, general term and middle term, properties of Binomial coefficients and simple applications.

##### UNIT 7: SEQUENCES AND SERIES:

Arithmetic and Geometric progressions, insertion of arithmetic, geometric means between two given numbers. Relation between A.M. and G.M. Sum upto  $n$  terms of special series:  $S_n$ ,  $S_{2n}$ ,  $S_{3n}$ . Arithmetic-Geometric progression.

##### UNIT 8: LIMIT, CONTINUITY AND DIFFERENTIABILITY:

Real-valued functions, algebra of functions, polynomials, rational, trigonometric, logarithmic and exponential functions, inverse functions. Graphs of simple functions. Limits, continuity and differentiability. Differentiation of the sum, difference, product and quotient of two functions. Differentiation of trigonometric, inverse trigonometric, logarithmic, exponential, composite and implicit functions; derivatives of order upto two. Rolle's and Lagrange's Mean Value Theorems. Applications of derivatives: Rate of change of quantities, monotonic-increasing and decreasing functions, Maxima and minima of functions of one variable, tangents and normals.

##### UNIT 9: INTEGRAL CALCULUS:

Integral as an anti-derivative. Fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions. Integration by substitution, by parts and by partial fractions. Integration using trigonometric identities.

##### Evaluation of simple integrals of the type

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

Integral as limit of a sum. Fundamental Theorem of Calculus. Properties of definite integrals. Evaluation of definite integrals, determining areas of the regions bounded by simple curves in standard form.

##### UNIT 10: DIFFERENTIAL EQUATIONS:

Ordinary differential equations, their order and degree. Formation of differential equations. Solution of differential equations by the method of separation of variables, solution of homogeneous and linear differential equations of the type:

$$\frac{dy}{dx} + p(x)y = q(x)$$

##### UNIT 11: CO-ORDINATE GEOMETRY:

Cartesian system of rectangular co-ordinates (0) in a plane; distance formula, section formula, locus and its equation, translation of axes, slope of a line, parallel and perpendicular lines, intercepts of a line on the coordinate axes.

### **Straight lines**

Various forms of equations of a line, intersection of lines, angles between two lines, conditions for concurrence of three lines, distance of a point from a line, equations of internal and external bisectors of angles between two lines, coordinates of centroid, orthocentre and circumcentre of a triangle, equation of family of lines passing through the point of intersection of two lines.

### **Circles, conic sections**

Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle when the end points of a diameter are given, points of intersection of a line and a circle with the centre of the origin and condition for a line to be tangent to a circle, equation of the tangent. Sections of cones, equations of conic sections (parabola, ellipse and hyperbola) in standard forms, condition for  $y = mx + c$  to be a tangent and point (s) of tangency.

### **UNIT 12: THREE DIMENSIONAL GEOMETRY:**

Coordinates of a point in space, distance between two points, section formula, direction ratios and direction cosines, angle between two intersecting lines, Skew lines, the shortest distance between them and its equation. Equations of a line and a plane in different forms, intersection of a line and a plane, coplanar lines.

### **UNIT 13: VECTOR ALGEBRA:**

Vectors and scalars, addition of vectors, components of a vector in two dimensions and three dimensional space, scalar and vector products, scalar and vector triple product.

### **UNIT 14: STATISTICS AND PROBABILITY:**

Measures of Dispersion: Calculation of mean, median, mode of grouped and ungrouped data calculation of standard deviation, variance and mean deviation for grouped and ungrouped data.

Probability: Probability of an event, addition and multiplication theorems of probability, Baye's theorem, probability distribution of a random variate, Bernoulli trials and Binomial distribution.

### **UNIT 15: TRIGONOMETRY:**

Trigonometrical identities and equations, Trigonometrical functions, Inverse trigonometrical functions and their properties, Heights and Distances.

### **UNIT 16: MATHEMATICAL REASONING:**

Statements, logical operations and, or, implies, implied by, if and only if. Understanding of tautology, contradiction, converse and contrapositive.

## **PHYSICS**

The syllabus contains two Sections - A and B. Section - A pertains to the Theory Part having 80% weightage, while Section - B contains Practical Component (Experimental Skills) having 20% weightage.

### **SECTION -A**

#### **UNIT 1: PHYSICS AND MEASUREMENT**

Physics, technology and society, S I units, Fundamental and derived units. Least count, accuracy and precision of measuring instruments, Errors in measurement, Dimensions of Physical quantities, dimensional analysis and its applications.

#### **UNIT 2: KINEMATICS**

Frame of reference, Motion in a straight line: Position-time graph, speed and velocity, Uniform and non-uniform motion, average speed and instantaneous velocity Uniformly accelerated motion, velocity time, position-time graphs, relations for uniformly accelerated motion. Scalars and Vectors, Vector addition and Subtraction, Zero Vector, Scalar and Vector products, Unit Vector, Resolution of a Vector, Relative Velocity, Motion in a plane, Projectile Motion, Uniform Circular Motion.

#### **UNIT 3: LAWS OF MOTION**

Force and Inertia, Newton's First Law of motion; Momentum, Newton's Second Law of motion; Impulse; Newton's Third Law of motion. Law of conservation of linear momentum and its applications, Equilibrium of concurrent forces.

Static and Kinetic friction, laws of friction, rolling friction.

Dynamics of uniform circular motion: Centripetal force and its applications.

#### **UNIT 4: WORK, ENERGY AND POWER**

Work done by a constant force and a variable force; kinetic and potential energies, work-energy theorem, power.

Potential energy of a spring, conservation of mechanical energy, conservative and non-conservative forces; Elastic and inelastic collisions in one and two dimensions.

#### **UNIT 5: ROTATIONAL MOTION**

Centre of mass of a two-particle system, Centre of mass of a rigid body; Basic concepts of rotational motion; moment of a force, torque, angular momentum, conservation of angular momentum and its applications; moment of inertia, radius of gyration, Values of moments of inertia for simple geometrical

objects, parallel and perpendicular axes theorems and their applications. Rigid body rotation, equations of rotational motion.

#### UNIT 6: GRAVITATION

The universal law of gravitation, Acceleration due to gravity and its variation with altitude and depth, Kepler's laws of planetary motion, Gravitational potential energy; gravitational potential, Escape velocity, Orbital velocity of a satellite, Geo-stationary satellites.

#### UNIT 7: PROPERTIES OF SOLIDS AND LIQUIDS

Elastic behaviour, Stress-strain relationship, Hooke's Law, Young's modulus, bulk modulus, modulus of rigidity, Pressure due to a fluid column; Pascal's law and its applications, Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, Reynolds number, Bernoulli's principle and its applications, Surface energy and surface tension, angle of contact, application of surface tension - drops, bubbles and capillary rise, Heat, temperature, thermal expansion; specific heat capacity, calorimetry; change of state, latent heat, Heat transfer-conduction, convection and radiation, Newton's law of cooling.

#### UNIT 8: THERMODYNAMICS

Thermal equilibrium, zeroth law of thermodynamics, concept of temperature, Heat, work and internal energy, First law of thermodynamics, Second law of thermodynamics: reversible and irreversible processes, Carnot engine and its efficiency.

#### UNIT 9: KINETIC THEORY OF GASES

Equation of state of a perfect gas, work done on compressing a gas, Kinetic theory of gases - assumptions, concept of pressure, Kinetic energy and temperature: rms speed of gas molecules; Degrees of freedom, Law of equipartition of energy, applications to specific heat capacities of gases; Mean free path, Avogadro's number.

#### UNIT 10: OSCILLATIONS AND WAVES

Periodic motion - period, frequency, displacement as a function of time, Periodic functions, Simple harmonic motion (S.H.M.) and its equation; phase; oscillations of a spring - restoring force and force constant; energy in S.H.M. - kinetic and potential energies; Simple pendulum - derivation of expression for its time period; Free, forced and damped oscillations, resonance.

Wave motion, Longitudinal and transverse waves, speed of a wave, Displacement relation for a progressive wave, Principle of superposition of waves, reflection of waves, Standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect in sound

#### UNIT 11: ELECTROSTATICS

Electric charges; Conservation of charge, Coulomb's law - forces between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.

Electric field: Electric field due to a point charge, Electric field lines, Electric dipole, Electric field due to a dipole, Torque on a dipole in a uniform electric field.

Electric flux, Gauss's law and its applications to find field due to infinitely long uniformly charged straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell. Electric potential and its calculation for a point charge, electric dipole and system of charges; Equipotential surfaces, Electrical potential energy of a system of two point charges in an electrostatic field.

Conductors and insulators, Dielectrics and electric polarization, capacitor, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, Energy stored in a capacitor.

#### UNIT 12: CURRENT ELECTRICITY

Electric current, Drift velocity, Ohm's law, Electrical resistance, Resistances of different materials, V-I characteristics of Ohmic and nonohmic conductors, Electrical energy and power, Electrical resistivity, Colour code for resistors; Series and parallel combinations of resistors; Temperature dependence of resistance.

Electric Cell and its Internal resistance, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and their applications, Wheatstone bridge, Metre bridge, Potentiometer - principle and its applications.

#### UNIT 13: MAGNETIC EFFECTS OF CURRENT AND MAGNETISM

Biot - Savart law and its application to current carrying circular loop, Ampere's law and its applications to infinitely long current carrying straight wire and solenoid, Force on a moving charge in uniform magnetic and electric fields, Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field, Force between two parallel current-carrying conductors - definition of ampere, Torque experienced by a current loop in uniform magnetic field; Moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment, Bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements, Para-, dia- and ferro- magnetic substances.

Magnetic susceptibility and permeability, Hysteresis, Electromagnets and permanent magnets.

#### UNIT 14: ELECTROMAGNETIC INDUCTION AND ALTERNATING CURRENTS

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

#### UNIT 15: ELECTROMAGNETIC WAVES

Electromagnetic waves and their characteristics, Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays), Applications of e.m. waves.

#### UNIT 16: OPTICS

Reflection and refraction of light at plane and spherical surfaces, mirror formula, Total internal reflection and its applications, Deviation and Dispersion of light by a prism, Lens Formula, Magnification, Power of a Lens, Combination of thin lenses in contact, Microscope and Astronomical Telescope (reflecting and refracting) and their magnifying powers.

Wave optics: wavefront and Huygens' principle, Laws of reflection and refraction using Huygen's principle, Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light, Diffraction due to a single slit, width of central maximum, Resolving power of microscopes and astronomical telescopes, Polarisation, plane polarized light; Brewster's law, uses of plane polarized light and Polaroids.

#### UNIT 17: DUAL NATURE OF MATTER AND RADIATION

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation; particle nature of light, Matter waves-wave nature of particle, de Broglie relation, Davisson-Germer experiment.

#### UNIT 18: ATOMS AND NUCLEI

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum, Composition and size of nucleus, atomic masses, isotopes, isobars; isotones, Radioactivity- alpha, beta and gamma particles/ rays and their properties; radioactive decay law, Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission and fusion.

#### UNIT 19: ELECTRONIC DEVICES

Semiconductors; semiconductor diode: I-V characteristics in forward and reverse bias; diode as a rectifier; I-V characteristics of LED, photodiode, solar cell and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR), Transistor as a switch.

#### UNIT 20: COMMUNICATION SYSTEMS

Propagation of electromagnetic waves in the atmosphere; Sky and space wave propagation, Need for modulation, Amplitude and Frequency Modulation, Bandwidth of signals, Bandwidth of Transmission medium, Basic Elements of a Communication System (Block Diagram only).

#### SECTION-B

#### UNIT 21: EXPERIMENTAL SKILLS

Familiarity with the basic approach and observations of the experiments and activities:

1. Vernier calipers-its use to measure internal and external diameter and depth of a vessel.
2. Screw gauge-its use to determine thickness/diameter of thin sheet/wire.
3. Simple Pendulum-dissipation of energy by plotting a graph between square of amplitude and time.
4. Metre Scale - mass of a given object by principle of moments.
5. Young's modulus of elasticity of the material of a metallic wire.
6. Surface tension of water by capillary rise and effect of detergents.
7. Co-efficient of Viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
8. Plotting a cooling curve for the relationship between the temperature of a hot body and time.
9. Speed of sound in air at room temperature using a resonance tube.
10. Specific heat capacity of a given (i) solid and (ii) liquid by method of mixtures.
11. Resistivity of the material of a given wire using metre bridge.
12. Resistance of a given wire using Ohm's law.
13. Potentiometer -
  - (i) Comparison of emf of two primary cells.
  - (ii) Determination of internal resistance of a cell.

14. Resistance and figure of merit of a galvanometer by half deflection method.
15. Focal length of:
  - (i) Convex mirror
  - (ii) Concave mirror, and
  - (iii) Convex lens
 using parallax method.
16. Plot of angle of deviation vs angle of incidence for a triangular prism.
17. Refractive index of a glass slab using a travelling microscope.
18. Characteristic curves of a p-n junction diode in forward and reverse bias.
19. Characteristic curves of a Zener diode and finding reverse break down voltage.
20. Characteristic curves of a transistor and finding current gain and voltage gain.
21. Identification of Diode, LED, Transistor, IC, Resistor, Capacitor from mixed collection of such items.
22. Using multimeter to:
  - (i) Identify base of a transistor
  - (ii) Distinguish between npn and pnp type transistor
  - (iii) See the unidirectional flow of current in case of a diode and an LED.
  - (iv) Check the correctness or otherwise of a given electronic component (diode, transistor or IC).

## **CHEMISTRY**

### **SECTION: A**

#### **PHYSICAL CHEMISTRY**

#### **UNIT 1: SOME BASIC CONCEPTS IN CHEMISTRY**

Matter and its nature, Dalton's atomic theory; Concept of atom, molecule, element and compound; Physical quantities and their measurements in Chemistry, precision and accuracy, significant figures, S.I. Units, dimensional analysis; Laws of chemical combination; Atomic and molecular masses, mole concept, molar mass, percentage composition, empirical and molecular formulae; Chemical equations and stoichiometry.

#### **UNIT 2: STATES OF MATTER**

Classification of matter into solid, liquid and gaseous states

##### **Gaseous State:**

Measurable properties of gases; Gas laws - Boyle's law, Charles's law, Graham's law of diffusion, Avogadro's law, Dalton's law of partial pressure, Concept of

Absolute scale of temperature; Ideal gas equation; Kinetic theory of gases (only postulates); Concept of average, root mean square and most probable velocities; Real gases, deviation from ideal behaviour, compressibility factor and van der Waals equation.

##### **Liquid State:**

Properties of liquids - vapour pressure, viscosity and surface tension and effect of temperature on them (qualitative treatment only).

##### **Solid State:**

Classification of solids: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea); Bragg's Law and its applications; Unit cell and lattices, packing in solids (fcc, hcp and bcc lattices), voids, calculations involving unit cell parameters, imperfection in solids; Electrical and magnetic properties.

#### **UNIT 3: ATOMIC STRUCTURE**

Thomson and Rutherford atomic models and their limitations; Nature of electromagnetic radiation, photoelectric effect; Spectrum of hydrogen atom, Bohr model of hydrogen atom - its postulates, derivation of the relations for energy of the electron and radii of the different orbits, limitations of Bohr's model; Dual nature of matter, de-Broglie's relationship, Heisenberg uncertainty principle. Elementary ideas of quantum mechanics, quantum mechanical model of atom, its important features. Concept of atomic orbitals as one electron wave functions; Variation of  $\psi$  and  $\psi^2$  with  $r$  for 1s and 2s orbitals; various quantum numbers (principal, angular momentum and magnetic quantum numbers) and their significance; shapes of s, p and d - orbitals, electron spin and spin quantum number; Rules for filling electrons in orbitals - aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of elements, extra stability of half-filled and completely filled orbitals.

#### **UNIT 4: CHEMICAL BONDING AND MOLECULAR STRUCTURE**

Kossel - Lewis approach to chemical bond formation, concept of ionic and covalent bonds.

**Ionic Bonding:** Formation of ionic bonds, factors affecting the formation of ionic bonds; calculation of lattice enthalpy.

**Covalent Bonding:** Concept of electronegativity, Fajan's rule, dipole moment; Valence Shell Electron Pair Repulsion (VSEPR) theory and shapes of simple molecules.

**Quantum mechanical approach to covalent bonding:** Valence bond theory - Its important features, concept

of hybridization involving s, p and d orbitals; Resonance.

**Molecular Orbital Theory** - Its important features, LCAOs, types of molecular orbitals (bonding, antibonding), sigma and pi-bonds, molecular orbital electronic configurations of homonuclear diatomic molecules, concept of bond order, bond length and bond energy

Elementary idea of metallic bonding, Hydrogen bonding and its applications.

#### UNIT 5: CHEMICAL THERMODYNAMICS

Fundamentals of thermodynamics: System and surroundings, extensive and intensive properties, state functions, types of processes.

**First law of thermodynamics** - Concept of work, heat, internal energy and enthalpy, heat capacity, molar heat capacity; Hess's law of constant heat summation; Enthalpies of bond dissociation, combustion, formation, atomization, sublimation, phase transition, hydration, ionization and solution.

**Second law of thermodynamics**; Spontaneity of processes,  $\Delta S$  of the universe and  $\Delta G$  of the system as criteria for spontaneity,  $\Delta G^\circ$  (Standard Gibbs energy change) and equilibrium constant.

#### UNIT 6: SOLUTIONS

Different methods for expressing concentration of solution - molarity, molar fraction, percentage (by volume and mass both), vapour pressure of solutions and Raoult's Law - Ideal and non-ideal solutions, vapour pressure - composition, plots for ideal and non-ideal solutions; Colligative properties of dilute solutions - relative lowering of vapour pressure, depression of freezing point, elevation of boiling point and osmotic pressure; Determination of molecular mass using colligative properties; Abnormal value of molar mass, van't Hoff factor and its significance.

#### UNIT 7: EQUILIBRIUM

Meaning of equilibrium, concept of dynamic equilibrium.

**Equilibria involving physical processes**: Solid-liquid, liquid-gas and solid-gas equilibria, Henry's law, general characteristics of equilibrium involving physical processes.

**Equilibria involving chemical processes**: Law of chemical equilibrium, equilibrium constants ( $K_p$  and  $K_c$ ) and their significance, significance of  $\Delta G$  and  $\Delta G^\circ$  in chemical equilibria, factors affecting equilibrium concentration, pressure, temperature, effect of catalyst; Le Chatelier's principle.

**Ionic equilibrium**: Weak and strong electrolytes, ionization of electrolytes, various concepts of acids and bases (Arrhenius, Brønsted-Lowry and Lewis) and their ionization, acid-base equilibria (including multistage ionization) and ionization constants, ionization of water, pH scale, common ion effect, hydrolysis of salts and pH of their solutions, solubility of sparingly soluble salts and solubility products, buffer solutions.

#### UNIT 8: REDOX REACTIONS AND ELECTROCHEMISTRY

Electronic concepts of oxidation and reduction, redox reactions, oxidation number, rules for assigning oxidation number, balancing of redox reactions.

Electrolytic and metallic conduction, conductance in electrolytic solutions, molar conductivities and their variation with concentration; Kohlrausch's law and its applications.

**Electrochemical cells** - Electrolytic and Galvanic cells, different types of electrodes, electrode potentials including standard electrode potential, half-cell and cell reactions, emf of a Galvanic cell and its measurement; Nernst equation and its applications; Relationship between cell potential and Gibbs' energy change; Dry cell and lead accumulator; Fuel cells.

#### UNIT 9: CHEMICAL KINETICS

Rate of a chemical reaction, factors affecting the rate of reactions: concentration, temperature, pressure and catalyst; elementary and complex reactions, order and molecularity of reactions, rate law, rate constant and its units, differential and integral forms of zero and first order reactions, their characteristics and half-lives, effect of temperature on rate of reactions - Arrhenius theory, activation energy and its calculation, collision theory of bimolecular gaseous reactions (no derivation).

#### UNIT-10: SURFACE CHEMISTRY

**Adsorption** - Physisorption and chemisorption and their characteristics, factors affecting adsorption of gases on solids - Freundlich and Langmuir adsorption isotherms, desorption from solutions.

**Catalysis** - Homogeneous and heterogeneous, activity and selectivity of solid catalysts, enzyme catalysis and its mechanism.

**Colloidal state** - distinction among true solutions, colloids and suspensions, classification of colloids - lyophilic, lyophobic; multimolecular, macromolecular and associated colloids (micelles); preparation and properties of colloids - Tyndall effect, Brownian movement, electrophoresis, dialysis, coagulation and flocculation; Emulsions and their characteristics.

## SECTION - B

### INORGANIC CHEMISTRY

#### UNIT 11: CLASSIFICATION OF ELEMENTS AND PERIODICITY IN PROPERTIES

Modern periodic law and present form of the periodic table, s, p, d and f block elements, periodic trends in properties of elements atomic and ionic radii, ionization enthalpy, electron gain enthalpy, valence, oxidation states and chemical reactivity.

#### UNIT 12: GENERAL PRINCIPLES AND PROCESSES OF ISOLATION OF METALS

Modes of occurrence of elements in nature, minerals, ores; Steps involved in the extraction of metals - concentration, reduction (chemical and electrolytic methods) and refining with special reference to the extraction of Al, Cu, Zn and Fe; Thermodynamic and electrochemical principles involved in the extraction of metals.

#### UNIT 13: HYDROGEN

Position of hydrogen in periodic table, isotopes, preparation, properties and uses of hydrogen; Physical and chemical properties of water and heavy water; Structure, preparation, reactions and uses of hydrogen peroxide; Classification of hydrides - ionic, covalent and interstitial; Hydrogen as a fuel.

#### UNIT 14: S - BLOCK ELEMENTS (ALKALI AND ALKALINE EARTH METALS)

##### Group - 1 and 2 Elements

General introduction, electronic configuration and general trends in physical and chemical properties of elements, anomalous properties of the first element of each group, diagonal relationships.

Preparation and properties of some important compounds - sodium carbonate and sodium hydroxide and sodium hydrogen carbonate; Industrial uses of lime, limestone, Plaster of Paris and cement; Biological significance of Na, K, Mg and Ca.

#### UNIT 15: P - BLOCK ELEMENTS

##### Group - 13 to Group 18 Elements

**General Introduction:** Electronic configuration and general trends in physical and chemical properties of elements across the periods and down the groups; unique behaviour of the first element in each group.

##### Groupwise study of the p - block elements

##### Group - 13

Preparation, properties and uses of boron and aluminium; Structure, properties and uses of borax, boric acid, diborane, boron trifluoride, aluminium chloride and alums.

##### Group - 14

Tendency for catenation; Structure, properties and uses of Allotropes and oxides of carbon, silicon tetrachloride, silicates, zeolites and silicones.

##### Group - 15

Properties and uses of nitrogen and phosphorus; Allotropic forms of phosphorus; Preparation, properties, structure and uses of ammonia, nitric acid, phosphine and phosphorus halides, (PCl<sub>3</sub>, PCl<sub>5</sub>); Structures of oxides and oxoacids of nitrogen and phosphorus.

##### Group - 16

Preparation, properties, structures and uses of ozone; Allotropic forms of sulphur; Preparation, properties, structures and uses of sulphuric acid (including its industrial preparation); Structures of oxoacids of sulphur.

##### Group - 17

Preparation, properties and uses of hydrochloric acid; Trends in the acidic nature of hydrogen halides; Structures of interhalogen compounds and oxides and oxoacids of halogens.

##### Group - 18

Occurrence and uses of noble gases; Structures of fluorides and oxides of xenon.

#### UNIT 16: d- and f- BLOCK ELEMENTS

##### Transition Elements

General introduction, electronic configuration, occurrence and characteristics, general trends in properties of the first row transition elements - physical properties, ionization enthalpy, oxidation states, atomic radii, colour, catalytic behaviour, magnetic properties, complex formation, interstitial compounds, alloy formation; Preparation, properties and uses of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> and KMnO<sub>4</sub>.

##### Inner Transition Elements

**Lanthanoids** - Electronic configuration, oxidation states and lanthanoid contraction.

**Actinoids** - Electronic configuration and oxidation states.

#### UNIT 17: CO-ORDINATION COMPOUNDS

Introduction to co-ordination compounds, Werner's theory; ligands, co-ordination number, denticity, chelation; IUPAC nomenclature of mononuclear co-ordination compounds, isomerism; Bonding-Valence bond approach and basic ideas of Crystal field theory, colour and magnetic properties; Importance of co-ordination compounds (in qualitative analysis, extraction of metals and in biological systems).

## UNIT 18: ENVIRONMENTAL CHEMISTRY

**Environmental pollution** - Atmospheric, water and soil.

**Atmospheric pollution** - Tropospheric and Stratospheric

**Tropospheric pollutants - Gaseous pollutants:** Oxides of carbon, nitrogen and sulphur, hydrocarbons; their sources, harmful effects and prevention. Green house effect and Global warming; Acid rain;

**Particulate pollutants:** Smoke, dust, smog, fumes, mist; their sources, harmful effects and prevention.

**Stratospheric pollution:** Formation and breakdown of ozone, depletion of ozone layer - its mechanism and effects.

**Water Pollution** - Major pollutants such as, pathogens, organic wastes and chemical pollutants; their harmful effects and prevention.

**Soil pollution** - Major pollutants such as: Pesticides (insecticides, herbicides and fungicides), their harmful effects and prevention.

Strategies to control environmental pollution.

### SECTION-C

#### ORGANIC CHEMISTRY

## UNIT 19: PURIFICATION AND CHARACTERISATION OF ORGANIC COMPOUNDS

**Purification** - Crystallization, sublimation, distillation, differential extraction and chromatography - principles and their applications.

**Qualitative analysis** - Detection of nitrogen, sulphur, phosphorus and halogens.

**Quantitative analysis (basic principles only)** - Estimation of carbon, hydrogen, nitrogen, halogens, sulphur, phosphorus.

Calculations of empirical formulae and molecular formulae; Numerical problems in organic quantitative analysis.

## UNIT 20: SOME BASIC PRINCIPLES OF ORGANIC CHEMISTRY

Tetravalency of carbon; Shapes of simple molecules - hybridization (s and p); Classification of organic compounds based on functional groups; and those containing halogens, oxygen, nitrogen and sulphur; Homologous series; Isomerism - structural and stereoisomerism.

### Nomenclature (Trivial and IUPAC)

Covalent bond fission - Homolytic and heterolytic; free radicals, carbocations and carbanions; stability of carbocations and free radicals, electrophiles and nucleophiles.

### Electronic displacement in a covalent bond

- Inductive effect, electromeric effect, resonance and hyperconjugation.

**Common types of organic reactions-** Substitution, addition, elimination and rearrangement.

## UNIT 21: HYDROCARBONS

Classification, isomerism, IUPAC nomenclature, general methods of preparation, properties and reactions.

**Alkanes** - Conformations: Sawhorse and Newman projections (of ethane); Mechanism of halogenation of alkanes.

**Alkenes** - Geometrical isomerism; Mechanism of electrophilic addition: addition of hydrogen, halogens, water; hydrogen halides (Markownikoff's and peroxide effect); Ozonolysis and polymerization.

**Alkynes** - Acidic character; Addition of hydrogen, halogens, water and hydrogen halides; Polymerization.

**Aromatic hydrocarbons** - Nomenclature, benzene - structure and aromaticity; Mechanism of electrophilic substitution: halogenation, nitration, Friedel - Crafts alkylation and acylation, directive influence of functional group in mono-substituted benzene.

## UNIT 22: ORGANIC COMPOUNDS CONTAINING HALOGENS

General methods of preparation, properties and reactions; Nature of C-X bond; Mechanisms of substitution reactions.

Uses; Environmental effects of chloroform, carbon tetrachloride and DDT.

## UNIT 23: ORGANIC COMPOUNDS CONTAINING OXYGEN

General methods of preparation, properties, reactions and uses.

### ALCOHOLS, PHENOLS AND ETHERS

**Alcohols:** Identification of primary, secondary and tertiary alcohols; mechanism of dehydration.

**Phenols:** Acidic nature, electrophilic substitution reactions: halogenation, nitration and sulphonation, Reimer - Tiemann reaction.

**Ethers:** Structure.

**Aldehyde and Ketones:** Nature of carbonyl group; Nucleophilic addition to  $>C=O$  group, relative reactivities of aldehydes and ketones; Important reactions such as - Nucleophilic addition reactions (addition of HCN,  $NH_3$  and its derivatives), Grignard reagent; oxidation; reduction (Wolff-Kishner and Clemmensen), acidity of  $\alpha$ -hydrogen, aldol condensation, Cannizzaro reaction, Halohydrin reaction;



Chemical tests to distinguish between aldehydes and Ketones.

#### CARBOXYLIC ACIDS

Acidic strength and factors affecting it

#### UNIT 24: ORGANIC COMPOUNDS CONTAINING NITROGEN

General methods of preparation, properties, reactions and uses.

**Amines:** Nomenclature, classification, structure, basic character and identification of primary, secondary and tertiary amines and their basic character.

**Diazonium Salts:** Importance in synthetic organic chemistry.

#### UNIT 25: POLYMERS

General introduction and classification of polymers, general methods of polymerization-addition and condensation, copolymerization;

Natural and synthetic rubber and vulcanization; some important polymers with emphasis on their monomers and uses - polythene, nylon, polyester and bakelite.

#### UNIT 26: BIOMOLECULES

General introduction and importance of biomolecules.

**CARBOHYDRATES** - Classification: aldoses and ketoses; monosaccharides (glucose and fructose) and constituent monosaccharides of oligosaccharides (sucrose, lactose and maltose).

**PROTEINS** - Elementary Idea of  $\alpha$ -amino acids, peptide bond, polypeptides; Proteins: primary, secondary, tertiary and quaternary structure (qualitative idea only), denaturation of proteins, enzymes.

**VITAMINS** - Classification and functions.

**NUCLEIC ACIDS** - Chemical constitution of DNA and RNA.

Biological functions of nucleic acids.

#### UNIT 27: CHEMISTRY IN EVERYDAY LIFE

**Chemicals in medicines** - Analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines - their meaning and common examples.

**Chemicals in food** - Preservatives, artificial sweetening agents - common examples.

**Cleansing agents** - Soaps and detergents, cleansing action.

#### UNIT 28: PRINCIPLES RELATED TO PRACTICAL CHEMISTRY

• Detection of extra elements (N,S, halogen) in organic compounds; Detection of the following

functional groups: hydroxyl (alcoholic and phenolic), carbonyl (aldehyde and ketone), carboxyl and amino groups in organic compounds.

• Chemistry involved in the preparation of the following:

Inorganic compounds: Mohr's salt, potash alum.

Organic compounds: Acetanilide, p-nitroacetanilide, aniline yellow, iodoform.

• Chemistry involved in the titrimetric exercises - Acids bases and the use of indicators, oxalic-acid vs  $\text{KMnO}_4$ , Mohr's salt vs  $\text{KMnO}_4$ .

• Chemical principles involved in the qualitative salt analysis:

Cations -  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{A}^{2+}$ ,  $\text{Fe}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$

Anions-  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_2^-$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ . (Insoluble salts excluded).

• Chemical principles involved in the following experiments:

1. Enthalpy of solution of  $\text{CuSO}_4$
2. Enthalpy of neutralization of strong acid and strong base.
3. Preparation of lyophilic and lyophobic sols.
4. Kinetic study of reaction of iodide ion with hydrogen peroxide at room temperature.

#### SYLLABUS FOR APTITUDE TEST B.ARCH./B.PLANNING

Part - I Awareness of persons, places, Buildings, Materials.) Objects, Texture related to Architecture and build-environment. Visualising three dimensional objects from two dimensional drawings. Visualising, different sides of three dimensional objects. Analytical Reasoning Mental Ability (Visual, Numerical and Verbal).

Part - II Three dimensional - perception: Understanding and appreciation of scale and proportion of objects, building forms and elements, colour texture, harmony and contrast. Design and drawing of geometrical or abstract shapes and patterns in pencil. Transformation of forms both 2D and 3D union, subtraction, rotation, development of surfaces and volumes, Generation of Plan, elevations and 3D views of objects. Creating two dimensional and three dimensional compositions using given shapes and forms.

Sketching of scenes and activities from memory of urban/scene (public space, market, festivals, street scenes, monuments, recreational spaces etc.), landscape (river fronts, jungles, gardens, trees, plants etc.) and rural life.

Note: Candidates are advised to bring pencils, own geometry box set, erasers and colour pencils and crayons for the Aptitude Test.

Appendix 2

LIST OF EXAMINATION CITIES FOR JEE (Main) – 2013

a) Pen and Paper Based Examination

Joint Entrance Examination (Main) – 2013 will be conducted in Pen and Paper based examination mode for the B.E./B.Tech. and B.Arch/B.Planning courses on 07.04.2013 in the following cities.

CITY	CODE	CITY	CODE	CITY	CODE
ANDAMAN & NICOBAR		KARNAL	828	ODISHA	
PORT BLAIR	801	KURUKSHETRA	829	ROURKELA	854
ANDHRA PRADESH		HIMACHAL PRADESH		PUDUCHERRY	
GUNTUR	802	HAMIRPUR	830	PUDUCHERRY	855
KHAMMAM	803	SHIMLA	831	PUNJAB	
TIRUPATI	804	JAMMU & KASHMIR		AMRITSAR	856
WARRANGAL	805	JAMMU	832	BHATINDA	857
ARUNACHAL PRADESH		SRINAGAR	833	RAJASTHAN	
ITANAGAR	806	JHARKHAND		AJMER	858
ASSAM		BOKARO	834	BIKANER	859
GUWAHATI	807	DHANBAD	835	JODHPUR	860
SILCHAR	808	JAMSHEDPUR	836	UDAIPUR	861
BIHAR		RANCHI	837	SIKKIM	
GAYA	809	KARNATAKA		GANGTOK	862
MUZZAFARPUR	810	HUBLI	838	TAMILNADU	
PATNA	811	MANGALORE	839	COIMBATORE	863
CHHATTISGARH		KERALA		MADURAI	864
RAIPUR	812	KOZHIKODE	840	TRIPURA	
DADAR & NAGAR HAVELI		LAKSHYADEEP		AGARTALA	865
DADAR & NAGAR HAVELI	813	KAVARATI	841	UTTARAKHAND	
DAMAN & DIU		MADHYA PRADESH		HALDWANI	866
DAMAN & DIU	814	GWALIOR	842	HARIDWAR	867
GOA		JABALPUR	843	PANTNAGAR	868
PANAJI	815	INDORE	844	ROORKEE	869
GUJARAT		MAHARASHTRA		UTTAR PRADESH	
ANAND	816	AMRAVATI	845	AGRA	870
BHUJ	817	AURANGABAD	846	BAREILLY	871
GANDHI NAGAR	818	NASHIK	847	GORAKHPUR	872
GODHRA	819	PUNE	848	KANPUR	873
HIMMAT NAGAR	820	THANE	849	VARANASI	874
JAM NAGAR	821	MANIPUR		WEST BENGAL	
NAVSARI	822	IMPHAL	850	DURGAPUR	875
VALSAD	823	MEGHALAYA		SILIGURI	876
VEJALPUR	824	SHILLONG	851	HOWRAH	877
(AHMEDABAD-RURAL)		MIZORAM		CITIES OUTSIDE INDIA	
HARYANA		AIZWAL	852	BEHRAIN	878
FARIDABAD	825	NAGALAND		DUBAI	879
GURGAON	826	KOHIMA	853	RIYAD	880
HISSAR	827			MUSCAT	881

## b) Computer Based Examination

Joint Entrance Examination (Main) – 2013 will be conducted in Computer based examination mode during 8<sup>th</sup> April 2013 to 25<sup>th</sup> April 2013 in the following cities.

CITY	CITY CODE	CITY	CITY CODE
HYDERABAD	901	MUMBAI	916
VIJAYAWADA	902	NAGPUR	917
VISAKHAPATNAM	903	BHUBANESWAR	918
CHANDIGARH	904	JALANDHAR	919
DELHI-NCR (EXCEPT FARIDABAD & GURGAON)	905	JAIPUR	920
AHMEDABAD	906	KOTA	921
BHAVNAGAR	907	CHENNAI	922
JUNAGARH	908	DEHRADUN	923
RAJKOT	909	ALLAHABAD	924
SURAT	910	LUCKNOW	925
VADODARA	911	KOLKATA	926
BENGALURU	912	CITIES OUTSIDE INDIA	
ERNAKULAM	913	COLOMBO	927
THIRUVANANTHAPURAM	914	KATHMANDU	928
BHOPAL	915	SINGAPORE	929

### REMARKS:

*Candidates who wish to appear in Paper-1 and Paper-2 both may kindly note that Paper-2 will be conducted only in Pen and Paper based examination mode. If they opt for Paper-1 in computer based examination mode, the Paper-1 will be held between 08-04-2013 and 25-04-2013 while the Paper-2 will be held on 07.04.2012 in the cities mentioned in this table during 02:00-05:00 PM.*

## Appendix 3

## EXAMINATION CITIES FOR JEE (Advanced) – 2013

State/City/Town	Code	State/City/Town	Code	State/City/Town	Code
<b>IIT BOMBAY ZONE</b>		Katihar	306	Kolkata (North)	516
GOA		Muzaffarpur	307	Kolkata (Salt Lake)	517
Panaji	101	Patna	308	Kolkata (South)	518
<b>IIT DELHI ZONE</b>				Malda	519
DELHI		<b>MANIPUR</b>		<b>IIT MADRAS ZONE</b>	
Delhi (East)	201	Imphal	309	<b>ANDHRA PRADESH</b>	
Delhi (West)	202			Hyderabad	601
Delhi (North)	203	<b>MEGHALAYA</b>		Nellore	602
Delhi (South)	204	Shillong	310	Vijayawada	603
Delhi (Central)	205			Warangal	604
HARYANA		<b>WEST BENGAL</b>		<b>KARNATAKA</b>	
Faridabad	206	Siliguri	311	Bengaluru	605
Gurgaon	207	<b>IIT KANPUR ZONE</b>		Mangalore	606
JAMMU & KASHMIR		Bhopal	401	<b>KERALA</b>	
Jammu	208	Gwalior	402	Kochi	607
MADHYA PRADESH		Jabalpur	403	Kozhikode	608
Indore	209			Thiruvananthapuram	609
RAJASTHAN		<b>UTTARAKHAND</b>		<b>PUDUCHERRY</b>	
Sikar	210	Pantnagar	404	Puducherry	610
Udaipur	211			<b>TAMIL NADU</b>	
UTTAR PRADESH		<b>UTTAR PRADESH</b>		Chennai	611
Aligarh	212	Agra	405	Madurai	612
Mathura	213	Allahabad	406	<b>IIT ROORKEE ZONE</b>	
UAE		Gorakhpur	407	Chandigarh	701
Dubai	214	Jhansi	408	<b>HARYANA</b>	
<b>IIT GUWAHATI ZONE</b>		Kanpur	409	Kurukshetra	702
ARUNACHAL PRADESH		Lucknow	410	Panipat	703
Itanagar	301	<b>IIT KHARAGPUR ZONE</b>		Rohtak	704
ASSAM		<b>ANDAMAN AND NICOBAR ISLANDS</b>		<b>HIMACHAL PRADESH</b>	
Guwahati	302	Port Blair	501	Palampur	705
Jorhat	303			Shimla	706
Silchar	304	<b>ANDHRA PRADESH</b>		<b>PUNJAB</b>	
BIHAR		Visakhapatnam	502	Amritsar	707
Gaya	305			Bathinda	708
		<b>CHATTISGARH</b>		Jalandhar	709
		Bhilai	503	Ludhiana	710
		Bilaspur	504	Patiala	711
		Raipur	505	<b>UTTARAKHAND</b>	
		<b>JHARKHAND</b>		Dehradun	712
		Bokaro	506	Roorkee	713
		Dhanbad	507	<b>UTTAR PRADESH</b>	
		Jamshedpur	508	Bareilly	714
		Ranchi	509	Gautam Budh Nagar (Noida)	715
		<b>ODISHA</b>		Ghaziabad	716
		Bhubaneswar	510	Meerut	717
		Rourkela	511	Moradabad	718
		<b>SIKKIM</b>		Varanasi	719
		Gangtok	512		
		<b>TRIPURA</b>			
		Agartala	513		
		<b>WEST BENGAL</b>			
		Durgapur	514		
		Kharagpur	515		

## Appendix 4

### LIST OF QUALIFYING EXAMINATIONS

- I. The final examination of the 10+2 system, conducted by any recognized central/ state Board, such as Central Board of Secondary Education, New Delhi; Council for the Indian School Certificate Examinations, New Delhi; etc.
- II. Intermediate or two-year Pre-University examination conducted by a recognized Board/ University.
- III. Final examination of the two-year course of the Joint Services Wing of the National Defence Academy.
- IV. H.S.C. vocational examination.
- V. Senior Secondary School Examination conducted by the National Institute of Open Schooling with a minimum of five subjects.
- VI. A Diploma recognized by AICTE or a state board of technical education of at least 3 year duration.
- VII. Any Public School/ Board/ University examination in India or in any foreign country recognized as equivalent to the 10+2 system by the Association of Indian Universities (AIU).
- VIII. General Certificate Education (GCE) examination (London / Cambridge / Sri Lanka) at the Advanced (A) level. [Only for Admission to IITs]
- IX. High School Certificate Examination of the Cambridge University or International Baccalaureate Diploma of the International Baccalaureate Office, Geneva. [Only for Admission to IITs]

In case the relevant QE is not a public examination, the candidate must have passed at least one public (Board or Pre-University) examination at an earlier level. [Only for Admission to IITs]

## Appendix 5

### STATE CODE OF ELIGIBILITY

State Code of eligibility means the Code of the State from where the candidate has passed Class 12<sup>th</sup> / Other qualifying examination by virtue of which he/she becomes eligible to appear in the JEE (Main) for admission to B.E/B.Tech and B.Arch/B. Planning Courses of the institutions/ Colleges of the States/UT.

Indian nationals passing the equivalent qualifying examination from an institution abroad, the State of Eligibility will be determined on the basis of permanent address in India as given in the Passport of the candidate.

The following table lists all State codes of Eligibility.

NAME OF THE STATE /UT	CODE
Andaman & Nicobar Islands (UT)	01
Andhra Pradesh	02
Arunachal Pradesh	03
Assam	04
Bihar	05
Chandigarh (UT)	06
Chhattisgarh	07
Dadra & Nagar Haveli (UT)	08
Daman & Diu (UT)	09
Delhi (NCT)	10
Goa	11
Gujarat	12
Haryana	13
Himachal Pradesh	14
Jammu & Kashmir	15
Jharkhand	16
Karnataka	17
Kerala	18
Lakshadweep (UT)	19
Madhya Pradesh	20
Maharashtra	21
Manipur	22

Meghalaya	23
Mizoram	24
Nagaland	25
Odisha	26
Puducherry (UT)	27
Punjab	28
Rajasthan	29
Sikkim	30
Tamil Nadu	31
Tripura	32
Uttar Pradesh	33
Uttarakhand	34
West Bengal	35

*Appendix 6*

TENTATIVE LIST OF PARTICIPATING INSTITUTIONS IN CCB COUNSELLING

National Institutes of Technology (NITs)

1. National Institute of Technology , Agartala (Tripura)
2. Motilal Nehru National Institute of Technology, Allahabad (U.P.)
3. National Institute of Technology, Arunachal Pradesh.
4. Maulana Azad National Institute of Technology, Bhopal (MP)
5. National Institute of Technology, Calicut (Kerela)
6. National Institute of Technology, Delhi
7. National Institute of Technology, Durgapur (West Bengal)
8. National Institute of Technology, Goa
9. National Institute of Technology, Hamirpur (Himachal Pradesh)
10. Malviya National Institute of Technology, Jaipur (Rajasthan)
11. Dr. B R Ambedkar National Institute of Technology, Jalandhar (Punjab)
12. National Institute of Technology, Jamshedpur (Jharkhand)
13. National Institute of Technology, Kurukshetra (Haryana)
14. National Institute of Technology, Manipur
15. National Institute of Technology, Meghalaya
16. National Institute of Technology, Mizoram
17. National Institute of Technology, Nagaland
18. Visvesvaraya National Institute of Technology, Nagpur (Maharashtra)
19. National Institute of Technology, Patna (Bihar)
20. National Institute of Technology, Puducherry
21. National Institute of Technology, Raipur (Chhattisgarh)
22. National Institute of Technology, Rourkela (Odisha)
23. National Institute of Technology, Sikkim
24. National Institute of Technology, Silchar (Assam)
25. National Institute of Technology, Hazartbal, Srinagar (J & K)
26. Sardar Vallabhbhai National Institute of Technology, Surat (Gujarat)
27. National Institute of Technology, Surathkal, Mangalore (Karnataka)
28. National Institute of Technology, Tiruchirapalli (Tamil Nadu)
29. National Institute of Technology, Uttrakhand



30. National Institute of Technology, Warangal (Andhra Pradesh)

Indian Institutes of Information Technology (IIITs, IIITM & IIITDM)

1. Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior (M.P.)
2. Indian Institute of Information Technology, Design & Manufacturing, Kanchipuram, Chennai (Tamil Nadu)
3. Indian Institute of Information Technology, Amethi, Allahabad (U.P.)
4. Indian Institute of Information Technology, Jhalwa, Allahabad (UP)
5. Pandit Dwarka Prasad Mishra Indian Institute of Information Technology, Design & Manufacturing, Jabalpur (M.P.)

Other Central Government/State Government Funded Institutions

1. Assam University, Silchar (Assam)
2. Birla Institute of Technology, Mesra, Ranchi (Jharkhand)
3. Gurukul Kangri Vishwavidyalaya, Haridwar (Uttarakhand)
4. Indian Institute of Carpet Technology, Bhadohi (U.P.)
5. Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)
6. J.K. Institute of Applied Physics & Technology, University of Allahabad, Allahabad- 211002 (U.P.)
7. Mizoram University, Aizwal-796009
8. National Institute of Foundry & Forge Technology, P.O. Hatia, Ranchi (Jharkhand).
9. School of Planning and Architecture, Bhopal (Madhya Pradesh)
10. School of Planning and Architecture, I.P. Estate, New Delhi (SPA, Delhi).
11. School of Planning and Architecture, Vijaywada (Andhra Pradesh)
12. Shri Mata Vaishno Devi University, Katra-182320 (J & K)
13. Tezpur University, NAPAAM, Tezpur (Assam)

Following Self Financed Deemed Universities/Universities/Other Institutions also participated in CCB Counselling through AIEEE 2012

1. ACME college of Engineering, Ghaziabad (UP)
2. Amity School of Engineering, Amity University, Gwalior (MP)
3. Amity School of Engineering, Amity University, Lucknow (UP)
4. Amity School of Engineering, Amity University, Jaipur Rajasthan
5. Amity School of Engineering, Amity University, Gurgaon, Haryana
6. Amity School of Engineering, Amity University, Noida, UP

7. Bhagwant University, Ajmer (Rajasthan)
8. Dr. KN Modi University, Newai, Rajasthan
9. IAMR College of Engineering, Meerut (Uttar Pradesh)
10. Institute of Technology, Management, Meerut, UP
11. Invertis University, Bareilly, UP
12. ITM University, Gwalior, MP
13. Jagannath University, Jaipur (Rajasthan)
14. Jayoti Vidyapeeth Women's University, Jaipur (Rajasthan)
15. Jodhpur National University, Jodhpur (Rajasthan)
16. Lovely Professional University, Phagwara, Distt. Kapurthala (Punjab)
17. M M Engineering College, Ambala, Haryana
18. M M Group of Institute, Sodopur, Haryana
19. Maharishi Markendeshwar University, Solan, HP
20. Mahatma Jyoti Rao Phule University, Jaipur, Rajasthan
21. Mewar University, Chittorgarh-312901 (Rajasthan)
22. Shobhit University, Meerut (U.P.)
23. Swami Vivekanand Subharti University, Meerut, UP

Many States/Institutes used AIEEE-2012 ranks to fill seats through their own counselling, some of them are listed here.

1. Haryana
2. Himachal Pradesh
3. Punjab
4. Uttarakhand
5. Army Institute of Technology, Pune, Maharashtra
6. Delhi Technological University, Delhi.
7. Netaji Subhash Institute of Technology under Delhi University.

Final List of Institutions admitting students (with intake in each discipline and category as per reservation) through JEE (Main)-2013 shall be available on the CCB website ([www.ccb.nic.in](http://www.ccb.nic.in)) in the month of May/June 2013.

## Appendix 7

### BOARDS OF SCHOOL EDUCATION

1. ANDHRA PRADESH BOARD OF INTERMEDIATE EDUCATION
2. ASSAM HIGHER SECONDARY EDUCATION COUNCIL
3. BIHAR INTERMEDIATE EDUCATION COUNCIL
4. CENTRAL BOARD OF SECONDARY EDUCATION
5. CHATTISGARH MADHYAMIK SHIKSHA MANDAL
6. COUNCIL FOR THE INDIAN SCHOOL CERTIFICATE EXAMINATIONS
7. GOA BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION
8. GUJARAT SECONDARY EDUCATION BOARD
9. HARYANA BOARD OF EDUCATION
10. H P BOARD OF SCHOOL EDUCATION
11. J AND K STATE BOARD OF SCHOOL EDUCATION
12. JHARKHAND ACADEMIC COUNCIL
13. KARNATAKA BOARD OF PRE UNIVERSITY EDUCATION
14. KERALA BOARD OF PUBLIC EXAMINATIONS
15. MADHYA PRADESH BOARD OF SECONDARY EDUCATION
16. MAHARASTRA STATE BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION
17. MANIPUR COUNCIL OF HIGHER SECONDARY EDUCATION
18. MEGHALAYA BOARD OF SECONDARY EDUCATION
19. MIZORAM BOARD OF SCHOOL EDUCATION
20. NAGALAND BOARD OF SCHOOL EDUCATION
21. ODISHA COUNCIL OF HIGHER SECONDARY EDUCATION
22. PUNJAB SCHOOL EDUCATION BOARD
23. RAJASTHAN BOARD OF SECONDARY EDUCATION
24. TAMIL NADU BOARD OF HIGHER SECONDARY EDUCATION
25. TRIPURA BOARD OF SECONDARY EDUCATION
26. U P BOARD OF HIGH SCHOOL AND INTERMEDIATE EDUCATION
27. UTTARANCHAL SHIKSHA EVAM PARIKSHA PARISHAD
28. WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION
29. NATIONAL INSTITUTE OF OPEN SCHOOLING
30. OTHERS

Appendix 8

LIST OF FACILITATION CENTRES FOR FILLING ONLINE FORM

To facilitate the candidates to submit the application online, help centers as per list given below will be available for submission of online examination. Candidates may utilize the facility after visiting there.

ANDAMAN & NICOBAR

1.	PORT BLAIR	INSTITUTION	GOVT. MODEL SR. SEC. SHOOL, ABERDEEN BAZAAR, PO PORT BLAIR, A & N ISLANDS -744101
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ANDHRA PRADESH

2.	HYDERABAD	INSTITUTION	BHARTIYA VIDYA BHAVAN, JUBILEE HILLS, HYDERABAD
3.	HYDERABAD	INSTITUTION	HOWARD PUBLIC SCHOOL, HIMAYAT NAGAR, HYDERABAD
4.	SECUNDRABAD	INSTITUTION	ARMY PUBLIC SCHOOL, R.K. PURAM, SECUNDERABAD
5.	VIJAYAWADA	INSTITUTION	V.P. SIDDHARTHA PUBLIC SCHOOL, MOGALRAJAPURAM, VIJAYWADA
6.	VIJAYAWADA	INSTITUTION	N. ST. MATHEWS PUBLIC SCHOOL, PATAMATA, VIJAYWADA
7.	GUNTUR	INSTITUTION	SRI VENKATESWARA BALA KUTEER, 3RD LINE, SHYAMALA NAGAR, GUNTUR
8.	TIRUPATI	INSTITUTION	KENDRIYA VIDYALAYA NO. 1, RAM NAGAR AREA, TIRUPATI - 517507
9.	TIRUPATI	INSTITUTION	BHARTIYA VIDHYA BHAWAN, SHRI VENKTESHWARA VIDHYALAYA, BHAWANS CAMPUS, ALIPIRI, TIPURATI-517507
10.	ANANTPUR	INSTITUTION	SRI SATHYA SAI HR. SEC. SCHOOL, PRASANTHI NILAYAM, ANANTPUR
11.	WARANGAL	INSTITUTION	WARANGAL PUBLIC SCHOOL, HUNTER ROAD, HANAMKONDA, WARANGAL
12.	VISAKHAPATNAM	INSTITUTION	VIKAS VIDYA NIKETAN, D. NO. 1-1-1-/1 SHEELA NAGAR, NH-5,VISAKHAPATNAM
13.	VISAKHAPATNAM	INSTITUTION	RAMANATH SECONDARY SCHOOL, NSTL COMPLEX, VIGYAN NAGAR, VISAKHAPATNAM

14.	VISAKHAPATNAM	INSTITUTION	DELHI PUBLIC SCHOOL, VISAKHAPATNAM STEEL PLANT, SEC- 08, UKKUNAGARAM, VISAKHAPATNAM-530032
15.	KHAMMAM	INSTITUTION	HARVEST PUBLIC SCHOOL 5-7-200/11 NEAR MAMATA HOSPITAL, PAKABANDA BAZAR, KHAMMAM, A.P- 507002

ARUNACHAL PRADESH

16.	ITANAGAR	INSTITUTION	GYAN GANGA VIDYAPEETH, CHANDER NAGAR, ITANAGAR- 791111, ARUNACHAL PRADESH
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ASSAM

17.	GUWAHATI	INSTITUTION	MAHARISHI VIDYA MANDIR PUBLIC SHOOL, SILPUKHURI, GUWAHATI, ASSAM-781003
18.	JORHAT	INSTITUTION	KENDRIYA VIDYALAYA, AFS, ROWRIAH JORHAT, ASSAM-785005
19.	SILCHAR	INSTITUTION	NATIONAL INSTITUTE OF TECHNOLOGY, SILCHAR, ASSAM

BIHAR

20.	PATNA	INSTITUTION	D.A.V. PUBLIC SCHOOL, BSEB COLONY, NEW PANAI CHAK, PATNA- 800023
21.	PATNA	INSTITUTION	KENDRIYA VIDHYALA, LOHIA NAGAR, KANKAR BAGH, PATNA-800020
22.	PATNA	INSTITUTION	LOYALA HIGH SCHOOL, KURJEE, P.O. SADAKAT ASHRAM, PATNA-800010
23.	PATNA	INSTITUTION	ST. MICHAEL'S HIGH SCHOOL, DIGHA GHAT PO, PATNA 800011
24.	PATNA	INSTITUTION	ST. DOMINIC SAVIO'S HIGH SCHOOL, SHIKSA KENDRA, NASRI GANJ, DHIGHA, PATNA-800012
25.	PATNA	INSTITUTION	BALDWIN ACADEMY BORING CANAL ROAD, PATNA-800001
26.	MUZAFFARPUR	INSTITUTION	DAV PUBLIC SCHOOL, DARBHANGA ROAD, BAKHRI CHOWK, (VIA BOCHAHAN) PO - MIRZAPUR, DISTT- MUZAFFARPUR-843103

27.	BHAGALPUR	INSTITUTION	SKP VIDYA VIHAR, MANDROZA, BHAGALPUR-812002
28.	BHAGALPUR	INSTITUTION	NAVYUG VIDYALAYA, RADHARANI SINHA ROAD, BHAGALPUR-812001
29.	GAYA	INSTITUTION	DAV PUBLIC SCHOOL CIRCUIT HOUSE AREA CANTONMENT AREA GAYA, BIHAR-823001
30.	GAYA	INSTITUTION	CREANE MOMORIAL SCHOOL, KATARI HILL ROAD, GAYA, BIHAR-823001

CHANDIGARH

31.	PANCHKULA	INSTITUTION	SATLUJ PUBLIC SCHOOL, SEC-IV, PANCHKULA-134112
32.	CHANDIGARH	INSTITUTION	KB DAV CENT. PUBLIC SCHOOL, SEC-7 B, CHANDIGARH-160019
33.	CHANDIGARH	INSTITUTION	DELHI PUBLIC SCHOOL, SEC-40 C, CHANDIGARH

CHHATISGARH

34.	RAIPUR	INSTITUTION	GYAN GANGA EDUCATIONAL ACADEMY BALODA BAZAAR, NARADAHA, PO-GSI, VIA-MANDHER, RAIPUR, CG-493111
35.	BILASPUR	INSTITUTION	DAV PUBLIC SCHOOL, VASANT VIHAR, SECL SEEPAT ROAD, BILASPUR, CHHATISGARH-495006
36.	JAGDALPUR	INSTITUTION	VIDYA JYOTI SCHOOL, GEEDAM ROAD, RAJENDRA NAGAR WAR, DANTESWARI WAR, BEHIND STAR PETROL PUMP, JAGDALPUR, DIST. BASTAR, CHHATTISGARH-494001

DADAR & NAGAR HAVELI

37.	DADAR & NAGAR HAVELI	INSTITUTION	KENDRIYA VIDYALAYA, GOVT. HIGHER SEC SCHOOL CAMPUS, TOKARKHADA, SILVASSA UT OF DADAR & NAGAR HAVELI-396230
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DAMAN & DIU

38.	DAMAN & DIU	INSTITUTION	COAST GUARD PUBLIC SCHOOL, AIRPORT ROAD, DAMAN 396210
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DELHI/NEW DELHI

39.	JANAK PURI	INSTITUTION	HAPPY MODEL SCHOOL
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			B 2 JANAK PURI, NEW DELHI - 110058
40.	MAYUR VIHAR	INSTITUTION	BAL BHAVAN PUBLIC SCHOOL POCKET B, MAYUR VIHAR, PHASE II, DELHI - 110091
41.	KALKAJI	INSTITUTION	GURU HARKRISHAN PUBLIC SCHOOL B BLOCK, ADJOINING GURDWARA, KALKAJI, NR. DESHBANDHU COLLEGE, NEW DELHI - 110019
42.	DARYA GANJ	INSTITUTION	HAPPY SCHOOL PADAM CHAND MARG, DARYAGANJ NEW DELHI - 110002
43.	PUNJABI BAGH	INSTITUTION	GURU HARKRISHAN PUBLIC SCHOOL ROAD NO. 73, PUNJABI BAGH, NEW DELHI - 110026
44.	VIKASPURI	INSTITUTION	VEDA VYASA DAV PUBLIC SCHOOL D BLOCK, VIKAS PURI, NEW DELHI- 110018
45.	ROHINI	INSTITUTION	JAIN BHARTI MODEL SCHOOL E BLOCK, SECTOR - 16, ROHINI, DELHI - 110089
46.	I.P. EXTN., PATPARGANJ	INSTITUTION	NATIONAL VICTOR PUBLIC SCHOOL IP EXTENSION, DELHI-92
47.	R.K. PURAM	INSTITUTION	RAMJAS SCHOOL SECTOR IV, R K PURAM, NEW DELHI - 110022
48.	DILSHAD GARDEN	INSTITUTION	NUTUN VIDYA MANDIR SR. SEC. SCHOOL GTB ENCLAVE, DILSHAD GARDEN DELHI - 110093

GOA

49.	PANAJI	INSTITUTION	KENDRIYA VIDYALAYA NO. 1 MANGOR HILLS VASCO-DA-GAMA- GOA-403802
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GUJARAT

50.	AHMEDABAD	INSTITUTION	RACHNA SCHOOL, OPPOSITE RITA PARK, TARLA NIKETAN COMPLEX
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			SHAHIBAG AHMEDABAD, GUJRAT-380004
51.	AHMEDABAD	INSTITUTION	PRAKASH HIGHER SECONDARY SCHOOL, NEAR SANDESH PRESS, BADADEV, AHMEDABAD-380054
52.	RAJKOT	INSTITUTION	RAJ KUMAR COLLEGE, OPPOSITE SHASTRI MAIDAN, RAJKOT, GUJRAT-360001
53.	SURAT	INSTITUTION	DPS , OPP. SILENT ZONE AIRPORT ROAD, SURAT DUMAS ROAD, SURAT - 395007
54.	SURAT	INSTITUTION	JH AMBANI SARASWATI VIDYA MANDIR VESU CHAR RASTA, S G UNIVERSITY UDHNA-MAGDALLA ROAD, SURAT, GUJRAT-395007
55.	SURAT	INSTITUTION	ESSAR INTERNATIONAL SCHOOL, ESSAR TOWNSHIP, HAZIRA, SURAT-394270
56.	VADODARA	INSTITUTION	NEW ERA SR. SEC. SCHOOL, NEAR ARPAN COMPLEX, NIZAM PURA, VADODARA-390002
57.	ANAND	INSTITUTION	ANANADALAYA N.D.D. BOARD CAMPUS, ANAND KHEDA, GUJARAT-388001
58.	BHUJ	INSTITUTION	KENDRIYA VIDYALAYA NO.1 AIR FORCE BHUJ, GUJARAT-370001
59.	GANDHI NAGAR	INSTITUTION	SHREE SWAMINARAYAN PUBLIC SCHOOL SECTOR-23, NEAR GH 5, GANDHI NAGAR, GUJARAT-382023
60.	GODHRA	INSTITUTION	KENDRIYA VIDYALAYA, CIVIL LINE ROAD (DALU-NI-WADI), OPP. SARDAR NAGAR, KHAND, GODHRA, (PANCHMAHAL), GUJARAT-389001
61.	HIMMAT NAGAR	INSTITUTION	KENDRIYA VIDYALAYA VIJAYPUR ROAD, MEHTAPURA,



			HIMMAT NAGAR, GUJARAT-383001
62.	NAVASARI	INSTITUTION	SRI SATHYA SAI VIDYA NIKETAN NEAR TATA SSL N H NO. 8, GANESHWAD SISODRA DISTT & THE. NAVASARI, GUJARAT- 396450
63.	JAM NAGAR	INSTITUTION	KENDRIYA VIDYALAYA NO. 1 AFS JAMNAGAR, DISTT-JAMNAGAR, GUJARAT-361003
64.	VALSAD	INSTITUTION	SARASWATI INTERNATIONAL SCHOOL DHARAMPUR ROAD, ABRAMA, DISTT VALSAD, GUJARAT-396001
65.	JUNAGARH	INSTITUTION	KENDRIYA VIDYALAYA, BILKHA ROAD, BEHIND ADARSH NIVASI SHALA, JUNAGARH, GUJARAT-362001
66.	BHAVNAGAR	INSTITUTION	SILVER BELLS PUBLIC SCHOOL, SHANTI NAGAR, KALVIBID, BHAVNAGAR, GUJARAT-364001

HARYANA

67.	AMBALA	INSTITUTION	DAV SR. SEC. PUBLIC SCHOOL, NEAR JAGADARI GATE, AMBALA CITY, AMBALA
68.	HISSAR	INSTITUTION	VIDYA DEVI JINDAL SCHOOL, DELHI ROAD, HISAR-125003
69.	FARIDABAD	INSTITUTION	DAV PUBLIC SCHOOL, SEC-14, FARIDABAD-121007
70.	KARNAL	INSTITUTION	TAGORE BAL NIKETAN, SR. SEC. SCHOOL, SEC-6, URBAN ESTATE, KARNAL-132001
71.	KURUKSHETRA	INSTITUTION	GITA NIKETAN AWASIYA VIDYALAYA, SALARPUR, ROAD, KURUKSHETRA- 136119
72.	ROHTAK	INSTITUTION	DAV CENTENARY PUBLIC SCHOOL, NEAR ASTHALL BOHAR, DELHI ROAD, ROHTAK
73.	GURGAON	INSTITUTION	DPS, MARUTI KUNJ, BHONDSI,

			GURGAON-122102
74.	PANIPAT	INSTITUTION	DPS, 77- MILE STONE, GT ROAD, VILLAGE, KARHANS, PANIPAT-132101
75.	SIRSA	INSTITUTION	DAV CENTENARY PUBLIC SCHOOL, BARNALA ROAD, HOUSING BOARD COLONY, SIRSA-125055

HIMACHAL PRADESH

76.	SHIMLA	INSTITUTION	DAYANAND PUBLIC SCHOOL, THE MALL, SHIMLA-171003
77.	DHARAMSHALA	INSTITUTION	BHAGIRATHI DAS, D.A.V. PUBLIC SCHOOL, DHARAMSHALA-176215
78.	MANDI	INSTITUTION	D.A.V. CENTENARY PUBLIC SCHOOL, JAWAHAR NAGAR, MANDI-175001
79.	SOLAN	INSTITUTION	MRA D.A.V. SR. SEC. SCHOOL, BYPASS, SOLAN-173212
80.	HAMIRPUR	INSTITUTION	NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR-177005 (HP)

JAMMU & KASHMIR

81.	JAMMU	INSTITUTION	KC INTERNATIONAL SCHOOL, PALOURA, JAMMU-180002
82.	JAMMU	INSTITUTION	BSF SR. SEC. SCHOOL, PALORA CAMPUS, JAMMU-181124
83.	SRINAGAR	INSTITUTION	DELHI PUBLIC SCHOOL, ATHWAJAN, BYE PASS CHOWK, SRINAGAR(J&K) - 190004

JHARKHAND

84.	BOKARO	INSTITUTION	DPS, SEC-IV, BOKORO STEEL CITY, JHARKHAND
85.	BOKARO	INSTITUTION	CHINMAYA VIDYALAYA, SEC-05, BOKORO STEEL CITY, BOKARO-827006
86.	DHANBAD	INSTITUTION	DPS, KARMIK BHAWAN, DHANBAD, JHARKHAND
87.	DHANBAD	INSTITUTION	D.A.V. PUBLIC SCHOOL, KOYLA NAGAR, DHANBAD-826005
88.	RANCHI	INSTITUTION	JAWAHAR VIDYA MANDIR, SHYAMALI, RANCHI-834002

89.	RANCHI	INSTITUTION	DPS, SAIL TOWNSHIP, PO-DHURWA, RANCHI-834004
90.	JAMSHEDPUR	INSTITUTION	VIDYA BHARTI CHINMAYA VIDYALAYA, JAMSHEDPUR, EAST SINGHBHUM, JHARKHAND
91.	DEOGHAR	INSTITUTION	GEETA DEVI DAV PUBLIC SCHOOL, BHANDARKOLA, SATAR ROAD, DEOGARH-814112, JHARKHAND

KARNATAKA

92.	BENGALURU	INSTITUTION	KENDRIYA VIDYALAYA, 18 CROSS MALLESWARAM BENGALURU, KARNATAKA-560056
93.	BENGALURU	INSTITUTION	KENDRIYA VIDYALAYA, MEG & CENTER ST. JOHNS CHURCH ROAD, NEAR KAMARAJ ROAD, BENGALURU-560042
94.	BENGALURU	INSTITUTION	KENDRIYA VIDYALAYA, ASC CENTER(S), VICTORIA ROAD, OPP. FOOTBALL STADIUM, BENGALURU-560047
95.	MANGALORE	INSTITUTION	SHARDA VIDYALAYA, SKDB CAMPUS, KODIALBAIL, MANGALORE-575003

KERALA

96.	THIRUVANTHA PURAM	INSTITUTION	SARASWATHI VIDYALAYA, ARAPPURA JUNCTION VATTIYOORKAVU PO, , KERALA-695013
97.	ERNAKULAM	INSTITUTION	CHINMAYA VIDYALAYA, VADUTHALA, ERNAKULAM, COCHIN, KERALA-682023
98.	KOZHIKODE/CALICUT	INSTITUTION	SILVER HILLS PUBLIC SCHOOL, PO MARIKUNNU, KOZHIKODE, DIST. CALICUT, KERALA-673012
99.	KOTTAYAM	INSTITUTION	ST. KURIAKOSE PUBLIC SCHOOL, NEEZHOR, KADUTHURUTHY, PO THIRUVAMPADY, KOTTAYAM DIST. KERALA-686612
100.	THIRISSUR	INSTITUTION	BHARATIYA VIDYA BHAVANS VIDYA MANDIR, POOCHATY JUNCTION, ERAVIMANGALAM POST THRISSUR-680751

## LAKSHADWEEP

101.	KAVARATTI	INSTITUTION	KENDRIYA VIDAYALA, KAVARATTI
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## MADHYA PRADESH

102.	INDORE	INSTITUTION	CHOITHRAM SCHOOL, MANIC BAGH ROAD, INDORE, MP-452014
103.	INDORE	INSTITUTION	VIDYA SAGAR SCHOOL, BICHOLI MARDANA INDORE-452016
104.	BHOPAL	INSTITUTION	CAMPION SCHOOL, E 7 AREARA COLONY, P B NO. 2, BHOPAL
105.	BHOPAL	INSTITUTION	DELHI PUBLIC SCHOOL, NEAR NEEL BAD CROSSING, BHADBHADA ROAD, BHOPAL-46244
106.	GWALIOR	INSTITUTION	GWALIOR GLORY HIGH SCHOOL, NEEMCHANDOHA SHIVPURI, LINK ROAD, GWALIOR, MP-474002
107.	GWALIOR	INSTITUTION	ARMY PUBLIC SCHOOL, MORAR CANTT. GWALIOR-474006
108.	JABALPUR	INSTITUTION	CHRIST CHURCH BOY'S SR SEC SCHOOL, SLEEMAN ROAD NORTH CIVIL LINES JABALPUR MADHYA PRADESH-482001
109.	JABALPUR	INSTITUTION	ST. ALOYSIUS SR. SEC. SCHOOL, AHILYABAI MARG, SADAR, JABALPUR-482001

## MAHARASHTRA

110.	MUMBAI	INSTITUTION	RAIGAD MILITARY SCHOOL, NEW LINK ROAD, BEHRAM BAUG, OSHIWARA JOGESHWARI (W) MUMBAI, MAHARASHTRA-400102
111.	MUMBAI	INSTITUTION	R N PODAR HIGH SCHOOL, JAIN DERASAR ROAD, SANTACRUZ (WEST) MUMBAI, MAHARASHTRA-400054
112.	MUMBAI	INSTITUTION	DAV PUBLIC SCHOOL, PLOT NO. 11, SEC-10, AIROLI, NAVI MUMBAI, MAHARASHTRA-400708
113.	MUMBAI	INSTITUTION	ARMY SCHOOL, OPPOSITE INHS, ASWANI, DR. NANA BHOY, MOOS ROAD, COLOBA, MUMBAI-400005

114.	MUMBAI	INSTITUTION	APPEJAY SCHOOL, SEC-21, KHAR GHAR, NAVI MUMBAI-410210
115.	MUMBAI	INSTITUTION	KENDRIYA VIDYALAYA, IIT CAMPUS, POWAI, MUMBAI-400076
116.	AURANGABAD	INSTITUTION	NATH VALLEY SCHOOL, PAITHAN ROAD, PB NO. 567, CANTONMENT POST OFFICE, AURANGABAD, MAHARASHTRA-431002
117.	NAGPUR	INSTITUTION	CENTRE POINT SCHOOL, BHANDARA ROAD, WARDHAMAN NAGAR, OLD PARDI, PO BHANDEWADI NAGPUR, MAHARASHTRA-440008
118.	NAGPUR	INSTITUTION	BHAWAN BHAGWAN DASS PUROHIT VIDYA MANDIR, LALA LAJPAT MARG, CIVIL LINES, NAGPUR-440001
119.	NAGPUR	INSTITUTION	KENDRIYA VIDYALAYA, AJNI, RE BUILDING, MEDICAL COLLEGE ROAD, NAGPUR-440003
120.	NAGPUR	INSTITUTION	MODERN SCHOOL, OPPOSITE SUNDER BISCUIT FACTORY, VIDYA NAGAR, KORADI ROAD, NAGPUR -441111
121.	PUNE	INSTITUTION	D.P.S. NYATI C OUNTY, MOHAMMADVADI KONDHAWA VILLAGE, PUNE, MAHARASHTRA-411028
122.	PUNE	INSTITUTION	KENDRIYA VIDYALAYA NO. 1 DEHU ROAD, PUNE-412101
123.	PUNE	INSTITUTION	DAV PUBLIC SCHOOL, PLOT NO. 31, S. NO. 157, DP ROAD, AUNDH, PUNE-411007
124.	SHOLAPUR	INSTITUTION	SUYASH CENTRAL SCHOOL, VIJAPUR ROAD, NEAR SRP CAMP SHOLAPUR, MAHARASHTRA-413006
125.	AMRAVATI	INSTITUTION	SCHOOL OF SCHOLARS, MOUZANIMBORA (KHURD), NEAR SIPNA ENGG. COLLEGE, BADNERA ROA TALI & DISTT. AMRAVATI, MAHARASHTRA-444602
126.	NASIK	INSTITUTION	NASIK CAMBRIDGE SCHOOL, WADALA PATHARDI ROAD, OP ST GEORGE CHURCH INDRA NAGAR,

			NASHIK MAHARASHTRA-422009
127.	NASIK	INSTITUTION	KENDRIYA VIDYALAYA, ISP, NEHRU NAGAR, NASIK ROAD, NASIK-422101
128.	NASIK	INSTITUTION	ARMY SCHOOL, DEVLALI, HAMPDON LINES, DEVLALI-422401
129.	THANE	INSTITUTION	ARUNODAYA PUBLIC SCHOOL, VIJAY PARK, KASARWADAVLI, GHOD BUNDER ROAD, THANE WEST, MAHARASHTRA-400601
130.	THANE	INSTITUTION	DAV PUBLIC SCHOOL, PLOT NO. 11, SEC-10, AIROLI, NAVI MUMBAI-400708
131.	THANE	INSTITUTION	Kendriya vidyalaya, air force station, kolshet road, thane-400607

MANIPUR

132.	IMPHAL	INSTITUTION	KANNAN DEVI MEMORIAL SCHOOLM PANGEI, IMPHAL EAST, MANIPUR-795114
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MEGHALAYA

133.	SHILLONG	INSTITUTION	B K BAJORIA SCHOOL, BOYCE ROAD, SHILLING-793001
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MIZORAM

134.	AIZWAL	INSTITUTION	MIZORAM INSTITUTE OF COMPREHENSIVE EDUCATION, P B NO. 147, AIZWAL, MIZORAM-796001
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NAGALAND

135.	KOHIMA	INSTITUTION	KENDRIYA VIDYALAYA, CRPF CAMP, LARIE HILLS, KOHIMA-797001
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ODISHA

136.	BHUBANESWAR	INSTITUTION	DAV PUBLIC SCHOOL, UNIT 8, NAYAPALI, BHUBANESWAR, KHURDA, ODISHA-751012
137.	BHUBANESWAR	INSTITUTION	DAV PUBLIC SCHOOL, CHANDRA SHEKHAR PUR, PO SAILA SHREE VIHAR, BHUBANESWAR-751021
138.	BHUBANESWAR	INSTITUTION	KENDRIYA VIDYALAYA NO.-01, UNIT-IX, PO BHDI NAGAR, BHUBANESWAR-751022
139.	BHUBANESWAR	INSTITUTION	MOTHER'S PUBLIC SCHOOL, DISTT.

			KHURDA, NEAR IN-DOOR-HALL UNIT-I, BHUBANESWAR-751009
140.	CUTTACK	INSTITUTION	KENDRIYA VIDYALAYA, CUTTACK, SEC-1, CDA, BIDANASI, CUTTACK, ODISHA-753014
141.	ROURKELA	INSTITUTION	DPS SEC-14, ROURKELA, SUNDARGARH, ODISHA-769009

PUNJAB

142.	PATIALA	INSTITUTION	BUDHA DAL PUBLIC SCHOOL, PATRAN ROAD SAMANA, PATIALA-147101
143.	JALANDHAR	INSTITUTION	MGN PUBLIC SCHOOL, URBAN ESTATE, PHASE-II, JALANDHAR CITY-144022
144.	LUDHIANA	INSTITUTION	BAHADUR CHAND MUNJAL ARYA MODEL, SHASTRI NAGAR, LUDHIANA- 141002
145.	BHATINDA	INSTITUTION	RBDAV SR. SEC. PUBLIC SCHOOL, DAYANAND NAGAR, BHATINDA- 150001
146.	AMRITSAR	INSTITUTION	SHRI GURU HARKISHAN SR. SEC. PUBLIC SCHOOL (CHIEF KHALSA DIWAN), G.T.ROAD, AMRITSAR, PUNJAB-143001

RAJASTHAN

147.	JAIPUR	INSTITUTION	BHARTIYA VIDYA BHAVAN'S VIDYASHRAM OPP. OTS KM MUNSHI MARG, JAIPUR, RAJASTHAN-302015
148.	JAIPUR	INSTITUTION	INDIA INTERNATIONAL SCHOOL, KSHIPRA PATH, OPP. VT ROAD, MANSAROVER, JAIPUR-302020
149.	UDAIPUR	INSTITUTION	ST. GREGORIOS SR SEC SCHOOL, P B NO. 172, KHARAKUAN, KUSHAL BAGH, UDAIPUR, RAJASTHAN-313001
150.	KOTA	INSTITUTION	LAWRENCE & MAYO PUBLIC SCHOOL, A-491 SRINATHPURAM, KOTA, RAJASTHAN -324010
151.	KOTA	INSTITUTION	SIR PADAMPAT SINGHANIA SCHOOL, NAYA NOHRA BARAN ROAD, OPP. SAMOOR GLASS FACTORY, KOTA-

			324001
152.	JODHPUR	INSTITUTION	B R BIRLA PUBLIC SHOOOL, GREEN PARK, BEYOND 18 SECTOR, CHOPASANI HOUSING BOARD, JODHPUR, RAJASTHAN-342008
153.	BIKANER	INSTITUTION	SETH TOLA RAM BAFNA ACADEMY NOKHA ROAD, GANGASHAHAR, BIKANER, RAJ.-334401

SIKKIM

154.	GANGTOK	INSTITUTION	GREENDALE SR SEC SCHOOL, NEAR ICAR COMPLEX, PO TADONG GANGTOK-737102
155.	GANGTOK	INSTITUTION	GOVT. SR. SEC. SCHOOL, DEORALI, GANGTOK-737102

TAMIL NADU

156.	CHENNAI	INSTITUTION	MAHARISHI VIDYA MANDIR, 28, DR GURUSWAMY ROAD, CHTPET, CHENNAI-600031
157.	CHENNAI	INSTITUTION	THE HINDU SR. SEC SCHOOL, PLOT NO. 1, SECOND MAIN ROAD, INDRA NAGAR, ADYAR, CHENNAI, TAMIL NADU-600020
158.	CHENNAI	INSTITUTION	SBOA SCHOOL & JR COLLEGE, 18, SCHOOL ROAD, ANNA NAGAR WESTERN EXTN. CHENNAI-600101
159.	COIMBATORE	INSTITUTION	ANGAPPA EDU. TRUST SR SEC SCHOOL, RAJA ANNAMALAI ROAD, COIMBATORE, TAMIL NADU-641011
160.	MADURAI	INSTITUTION	KENDRIYA VIDYALAYA, PT RAJAN ROAD, NARIMEDU, MADURAI, TAMIL NADU-625002
161.	VELLORE	INSTITUTION	SHRISHTI VIDYASHRAM, BRAMMAPURAM VILLAGE, KATPADI-RANIPET ROAD, VELLORE, TAMIL NADU-632014
162.	TIRUNELVELI	INSTITUTION	KENDRIYA VIDYALAYA, VIJAYANARAYANAM, NAVAL BASE PO INS, KATTABOMMAN, TIRUNELVELI, TAMIL NADU-627119
163.	TIRUCHIRAPALLI	INSTITUTION	SRI AKILANDESHWARI VIDYALAYA, 84, VIDYALAY SALAI, GANAPATHI



			NAGAR, TIRUVANA KOIL, TIRUCHIRAPALLI, TAMIL NADU-620005
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TRIPURA

164.	AGARTALA	INSTITUTION	HINDI HR. SEC. SCHOOL, ABHAY NAGAR, KUNJABAN ROAD, AGARTALA-799005
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UTTAR PRADESH

165.	LUCKNOW	INSTITUTION	THE LUCKNOW PUBLIC COLLEGIATE, RUCHI KHAND FIRST SHARDA NAGAR, KILA CHOWRAHA, LUCKNOW-226002
166.	LUCKNOW	INSTITUTION	RANI LAXMI BAI MEMORIAL SR. SEC. SCHOOL, SEC-14, INDRA NAGAR, LUCKNOW-226016
167.	LUCKNOW	INSTITUTION	BAL VIDYA MANDIR SR. SEC. SCHOOL, STATION ROAD, CHARBAGH, LUCKNOW-226001
168.	LUCKNOW	INSTITUTION	KENDRIYA VIDYALAYA, SEC-J, ALIGANJ, LUCKNOW-226024
169.	VARANASI	INSTITUTION	ST. ATULANAND RES. ACADEMY, HOLA PUR, PARMANAND PUR, SHIVPUR, VARANASI-221002
170.	VARANASI	INSTITUTION	SUNBEAM SCHOOL, ANNA PURANA, LAHARTARA, VARANASI-221002
171.	BAREILLY	INSTITUTION	WOOD ROW SR. SEC. SEC. SCHOOL, M-5/35, RAMPUR GARDEN, BAREILLY- 243001
172.	AGRA	INSTITUTION	DPS PLOT NO. E-1-2 PHASE-F, SHASTRIPURAM, AGRA-282007
173.	GORAKHPUR	INSTITUTION	CENTRAL ACADEMY SR. SEC. SCHOOL. OPP. LIC BUILDING, TARA MANDAL ROAD, GORAKHPUR-273016
174.	ALLAHABAD	INSTITUTION	TAGORE PUBLIC SCHOOL, 179-A, ATTARSUIYA, ALLAHABAD-211003
175.	KANPUR	INSTITUTION	SIR PADAMPAT SINGHANIA EDUCATION CENTRE, KAMLA NAGAR, KANPUR-208005
176.	MEERUT	INSTITUTION	GODWIN PUBLIC SCHOOL, ROHTA ROAD, PO FAZALPUR, MEERUT-250001
177.	NOIDA	INSTITUTION	APEEJAY SCHOOL, SEC-16-A, NOIDA,

			G B NAGAR-201301
178.	ALIGARH	INSTITUTION	DPS, TIRTH DHAM MANGALYATAN, AGRA ROAD, ALIGARH-202001
179.	GHAZIABAD	INSTITUTION	DPS, SITE NO. 3, MEERUT ROAD, GHAZIABAD-201003
180.	BULANDSHAHR	INSTITUTION	DPS, YAMUNAPURAM, BULANDSHAHR-203001

UTTARAKHAND

181.	DEHRADUN	INSTITUTION	DOON GLOBAL SCHOOL, JHAJRA, 14 MILES STONE, CHAKARTA ROAD, DEHRADUN-248007
182.	DEHRADUN	INSTITUTION	SCHOOLARS HOME SR. SEC. SCHOOL, 153, RAJPUR ROAD, JAKHAN, DEHRADUN-248009
183.	HARDWAR	INSTITUTION	SHIVEDALE SCHOOL, JAGJEETPUR, PO KANKHAL, HARIDWAR-249404
184.	HALDWANI	INSTITUTION	DAV CENTENARY PUBLIC SCHOOL, PO BOX-25, HALDWANI-263139
185.	ROORKEE	INSTITUTION	GREENWAY MODERN SCHOOL, NEW HARIDWAR ROAD, ADARSH NAGAR, ROORKEE
186.	NAINITAL	INSTITUTION	BIRLA VIDYA MANDIR, NAINITAL-263001
187.	ALMORA	INSTITUTION	ARMY SCHOOL, ALEXANDER LINES, ALMORA-263601
188.	PANT NAGAR	INSTITUTION	GOVIND BALLABH UNIVERSITY OF AGRICULTURE & TECHNOLOGY, PANT NAGAR, DISTT. U. S. NAGAR-263145
189.	PAURI GARHWAL	INSTITUTION	DAV PUBLIC SCHOOL, KOTDWARA DISTT., PAURI GARHWAL-246149

PUDUCHERRY

190.	PUDUCHERRY	INSTITUTION	K V NO. 1, ZIPMER CAMPUS, PUDUCHERRY-605006
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WEST BENGAL

191.	KOLKATA	INSTITUTION	KENDRIYA VIDYALAYA NO. 2, SALT LAKE CITY, IC BLOCK, (OPP NICCO PARK), KOLKATA, WEST BENGAL-
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			700106
192.	KOLKATA	INSTITUTION	LAXMIPAT SINGHANIA ACADEMY, 12 B, ALIPURE ROAD, KOLKATA-700027
193.	KOLKATA	INSTITUTION	BHAWANS GANGABUX, KANORIA, VIDYA MANDIR, F A/III, SALT LAKE, KOLKATA-700097
194.	DURGAPUR	INSTITUTION	DAV MODEL SCHOOL, J M SEN GUPTA ROAD, DURAGA PUR-713205
195.	ASANSOL	INSTITUTION	DAV PUBLIC SCHOOL, KANYA PUR, ASANSOL, BARDDHAMAN, WEST BENGAL-713304
196.	KHARAGPUR	INSTITUTION	DAV MODEL SCHOOL, IIT KHARAGPUR-7213202
197.	SILIGURI	INSTITUTION	DPS PRADHAN NAGAR, SILIGURI, DARJEELING, WEST BENGAL-734003
198.	HOWRAH	INSTITUTION	KENDRIYA VIDYALAYA BAMANGACHI, P.O. SALKIA, HOWRAH, WEST BENGAL-711106

ABROAD

199.	DUBAI	INSTITUTION	THE INDIAN HIGH SCHOOL, P.O. BOX NO. 106, DUBAI, U.A.E.
200.	RIYAD	INSTITUTION	INTERNATIONAL INDIA SCHOOL, P.O. NO. 89788, RIYAD, KINGDOM OF SAUDI ARABIA
201.	BAHRAIN	INSTITUTION	INDIAN SCHOOL, PO BOX 558, ISA TOWN, KINGDOM OF BAHRAIN
202.	MUSCAT	INSTITUTION	INDIAN SCHOOL MUSCAT, PO BOX 2470, POSTAL CODE 112, MUSCAT, SULTANATE OF OMAN

## Appendix 9

### INSTRUCTIONS FOR USE OF TEST BOOKLET AND ANSWER SHEET (PEN AND PAPER MODE)

1. The candidates will find the Answer Sheet placed inside the sealed Test Booklet. The seal will be broken/ opened by the candidates on the announcement by the invigilator and the Answer Sheet shall be taken out. Do not open/break the seal before the announcement.
2. Side -2 of each Answer Sheet will have a pre-printed Test Booklet Code like A, B, C or D. The candidates are required to check that the Test Booklet Code pre-printed on Side-2 of the Answer Sheet is the same as printed on the Test Booklet.
3. The Answer Sheet used will be of special type which will be scanned on Optical Scanner. There will be two sides of the Answer Sheet.

Side 1 This side of the Answer Sheet contains the following columns which are to be filled in neatly and accurately by the candidate with Blue/Black ball point pen only. Use of pencil is strictly prohibited.

- I. Roll Number
- II. Name of the candidate
- III. Father's Name
- IV. Centre Number
- V. Name of the Examination Centre
- VI. Signature of the candidate

Side 2 This side of the Answer Sheet contains the following columns which are also to be filled in by the candidate with Blue/Black Ball Point Pen only. Use of pencil is strictly prohibited.

- I. Roll Number
- II. Centre Number
- III. Test Booklet Number

WRITING OF PARTICULARS AND RESPONSES ON SIDE -2 WITH BLUE/BLACK BALL POINT PEN ONLY WILL BE FILLED UP AS FOLLOWS:

IMPORTANT INSTRUCTIONS FOR MARKING THE RESPONSES IN PEN AND PAPER BASED EXAMINATION

- (i) Out of four alternatives for each question, only one circle for the correct answer is to be darkened completely with blue/black Ball Point Pen only. For example Question No. 008 in the Test Booklet reads as follows:

Qutub Minar is situated in

- (1) Delhi
- (2) Mumbai
- (3) Agra
- (4) Bengaluru

The correct response to this question is (1) Delhi. The candidate will locate Question No. 008 in the Answer Sheet and darken the circle (1) as shown below:

008

- (ii) Use Blue or Black Ball Point Pen to completely darken the appropriate circle, i.e. one circle for each entry.

The answer once marked is not liable to be changed. Use of pencil is strictly prohibited. If any candidate uses the pencil for darkening the answer sheet, his/her answer sheet will be rejected.

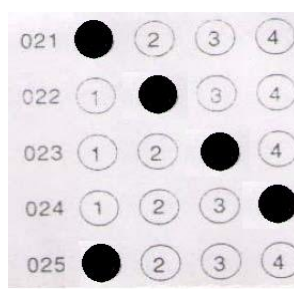
- (iii) A light or faintly darkened circle is a wrong method of marking and liable to be rejected by the Optical Scanner.

Wrong/Correct way of marking

Wrong Method



Correct Method



- (iv) If the candidate does not want to attempt any question he/she should not darken the circle given against that question.
- (v) Please do not fold the Answer Sheet and do not make any stray marks on it.

#### 4. ROUGH WORK

The candidate will not do any rough work on the Answer Sheet. All rough work is to be done in the Test Booklet itself.

#### 5. CHANGING AN ANSWER IS NOT ALLOWED

The candidates must fully satisfy themselves about the accuracy of the answer before darkening the appropriate circle as no change in answer once marked is allowed. Use of eraser or white/correction fluid on the Answer Sheet is not permissible as the Answer Sheets are machine gradable and it may lead to wrong evaluation.

If more than one circle is darkened or if the response is marked in any other manner or as shown in 'Wrong Method' above, it shall be treated as wrong way of marking.

6. Prior to handing over the Answer Sheet soon after the examination is over, the candidate must sign the attendance sheet as a proof thereof. The examinee is permitted to carry the Text Booklet.

**WARNING**

1. PERSONS REMOVING PAGES FROM THE TEST-BOOKLET DURING EXAMINATION, IMPERSONATING OR TRYING TO APPEAR IN THE COUNSELLING THROUGH FORGED MEANS WILL BE DEALT WITH AS PER LAW.

2. CANVASSING DIRECTLY OR INDIRECTLY FOR THE ALLOTMENT OF SEATS OR INFLUENCING STAFF BY UNFAIR MEANS WOULD LEAD TO SERIOUS CONSEQUENCES INCLUDING DISQUALIFICATION OF THE CANDIDATES.

Appendix 10

TIME SCHEDULE FOR JEE (Main) - 2013

(A) TIME SCHEDULE FOR Pen and Paper based examination

	Paper-1	Paper-2
DATES OF EXAMINATION	07.04.2013	07.04.2013
a) Entry in the Examination Hall	0900 HRS.	1330 HRS.
b) Distribution of Test Booklet	0920 HRS.	1350 HRS.
c) Seal of the Test Booklet to be broken/opened to take out the Answer Sheet	0925 HRS.	1355 HRS.
d) Last entry in the Examination Hall	0930 HRS.	1400 HRS.
e) Test commences	0930 HRS.	1400 HRS.
f) Test concludes	1230 HRS.	1700 HRS.

(B) TIME SCHEDULE FOR COMPUTER BASED EXAMINATION

DATES OF EXAMINATION FOR PAPER-1: 08.04.2013 to 25.04.2013		
	Morning Session	Afternoon session
a) Entry in the Examination Hall	7.30 am	12.30 pm
b) Last entry in the Examination Hall	8.30 am	1.30 pm
c) Test commences	9.00 am	2.00 pm
d) Test concludes	12.00 noon	5.00 pm

## IMPORTANT INFORMATION AT A GLANCE

1	a. Dates of JEE (Main) for Pen and Paper Based examination	PAPER – 1 07.04.2013 PAPER – 2 07.04.2013	0930-1230 hrs (IST)  1400-1700 hrs (IST)
	b. Date of JEE (Main) (Computer Based Examination)		08.04.2013–25.04.2013
	c. Online submission of application on website <a href="http://www.jeemain.nic.in">www.jeemain.nic.in</a>		08.11.2012-15.12.2012
2	Last date for a. Online submission of applications b. Receipt of complete Confirmation Page, by Registered/Speed Post only at JEE (Main) Unit, PS 1-2, Institutional Area, IP Extension, Patparganj, Delhi – 110092		15.12.2012 26.12.2012
3	Date of Availability of Admit Card for JEE (Main) on Website		01.03.2013 onwards
4	Centre of Examination	As indicated on the Admit Card	
5	Declaration of JEE (Main) Score and top 150000 candidates eligible for appearing in JEE (Advanced)	07.05.2013	
6	Declaration of All India Rank	On or before 07.07.2013	
7	Availability of Rank Cards on website	08.07.2013 onwards	
8	Materials to be brought on the day of examination	Admit Card and Ball Point Pen of good quality. For Paper-2 of JEE (Main), the candidates are advised to bring their own clip board, geometry box set, pencils, erasers and colour pencils or crayons.	
9	Rough Work (Pen and Paper Based Examination)  Rough Work (Computer Based Examination)	All rough work is to be done in the Test Booklet only. The candidate should NOT do any rough work or put stray mark on the Answer Sheet.  Paper for Rough work will be provided at the examination centre	