

Submission of Online Application Form: **01.12.2015 – 31.12.2015**

## **Joint Entrance Examination (Main) - 2016**

INFORMATION BULLETIN



**JEE (Main) Secretariat**

**Central Board of Secondary Education**

**H-149, Sector - 63, Noida Distt. Gautam Budh Nagar 201309 (UP)**

### **DATE OF EXAMINATION**

**April 3, 2016 (Sunday) (Pen & Paper Based Examination)**

**April 09th & 10th, 2016 (Computer Based Examination)**

## IMPORTANT INSTRUCTIONS

- Candidates of JEE (Main) - 2016 have to apply online only. There is no printed application form for JEE (Main).
- Please ensure that you are filling genuine application form available online at JEE (Main) website ([www.jeemain.nic.in](http://www.jeemain.nic.in)).
- Please ensure your eligibility as per the criteria laid down for JEE (Main), JEE (Advanced) and participating State Institutions (as applicable).
- All the candidates who have submitted the online application and paid the examination fee till last date will be allowed to appear in JEE (Main) and their admit cards will be uploaded on the website as per schedule. The JEE (Main) secretariat/CBSE do neither verify the information filled by the candidates in the application form nor verify any certificate of category/educational qualification for deciding the eligibility of candidates. The certificates of educational qualification and category (if applied under reserved category) will be verified by the concerned institution. The candidates are, therefore, advised to ensure their eligibility and the category (if applying under reserved category). The CBSE will, in no way, be responsible for any wrong/incorrect information furnished by the candidate(s) in their online application form. The letter/e-mails in this regard will not be entertained by JEE (Main) secretariat /CBSE.
- The fee (in Indian Rupees) for JEE (Main)-2016 is as follows:

Paper(s) Appearing	Pen and Paper Based Examination		Computer Based Examination (Paper-1 (B. E./B. Tech.) only)	
	(General/OBC)	(SC/ST/PwD)	(General/OBC)	(SC/ST/PwD)
<b>FOR EXAMINATION CENTRE OPTED IN INDIA</b>				
JEE (Main) Paper-1 (B.E./B.Tech.) or JEE (Main) Paper-2 (B. Arch./ B. Planning) only	1000 (Boys) 500 (Girls)	500 (Boys) 500 (Girls)	500 (Boys) 250 (Girls)	250 (Boys) 250 (Girls)
Both JEE (Main) Paper-1 (B.E./B.Tech.) and JEE (Main) Paper-2 (B.Arch./ B.Planning)	1800 (Boys) 900 (Girls)	900 (Boys) 900 (Girls)	1300 (Boys) 650 (Girls)	650 (Boys) 650 (Girls)
<b>FOR EXAMINATION CENTRE OPTED IN FOREIGN COUNTRY</b>				
JEE(Main)Paper-1 (B.E./B.Tech.) or JEE(Main)Paper-2 (B.Arch./B. Planning) only	2500 (Boys) 1250 (Girls)	1250 (Boys) 1250 (Girls)	2500 (Boys) 1250 (Girls)	1250 (Boys) 1250 (Girls)
Both JEE (Main) Paper-1 (B.E./B.Tech.) and JEE (Main) Paper-2 (B.Arch./ B.Planning)	3800 (Boys) 1900 (Girls)	1900 (Boys) 1900 (Girls)	3800 (Boys) 1900 (Girls)	1900 (Boys) 1900 (Girls)

**In case the examination fee is paid through credit/debit card, the candidates will need to pay an additional processing charge as following:-**

**Credit Card:- 1.20%** of the examination fee plus the service tax as applicable.

**Debit Card:- 0.75% +taxes** for examination fee up to **Rs.2000** and **1% +taxes** for examination fee more than **Rs.2000**.

- The candidates should select the cities of examination as per their choice of Paper -1 or Paper – 2 or both Paper – 1 & Paper - 2 of JEE (Main) – 2016 according to the mode of paper(s) as following:

CHOICE OF PAPER	MODE
PAPER -1 (B.E./B.TECH.)	PEN & PAPER BASED
	COMPUTER BASED EXAMINATION
PAPER-2(B.ARCH./B .PLANNING)	PEN & PAPER BASED
<b>BOTH</b> PAPER -1 (B.E./B.TECH.) & PAPER-2(B.ARCH./B .PLANNING)	PEN & PAPER BASED for both the Papers
	COMPUTER BASED EXAMINATION for Paper – 1 and PEN & PAPER BASED for Paper – 2

**Note: In the cities Bahrain, Dubai, Muscat, Riyadh and Sharjah Paper – 1 will be conducted in both the modes, however, the candidates choosing the mode of Computer Based Examination for Paper – 1 will appear for Examination only on 10<sup>th</sup> April, 2016. The Paper – 2 in all these cities will be conducted on 03/04/2016 from 2.00–5.00 PM (IST) in Pen & Paper Based examination.**

7. Candidates are allowed to submit only one application form. More than one application i.e Multiple applications from a candidate will be rejected.
8. The name of the candidate and his/her parents name in the application form **must exactly be the same** as registered in Class 12<sup>th</sup>/ equivalent qualifying Examination. No prefix/title such as Mr/Shri/Fr/Dr/Mrs/Smt/Col etc should be used.
9. The fee may be paid either by credit/debit card or through e-challan generated during the online filling of the application form. In case of e-challan, the payment should be made in the Syndicate/Canara/ICICI/HDFC Bank in cash.

Application fee once paid will not be refunded (full or partial) under any circumstances.

10. No options can be changed at a later stage after submission of an application. However, a chance may be given to the candidates to correct/modify some of the particular(s) of the application form online only, with valid reason(s), during the month of Jan 2016. The candidates are advised to see the website and newspaper regularly to know the exact date when the correction(s)/modification(s) will be allowed online only.

**No change will be accepted through offline i.e. through fax/application including e-mail etc.**

11. The JEE (Main) 2016 application has been made completely online i.e. the candidate have to fill the particulars online and also upload their photograph, signature and thumb impression. Due to above, the provision of sending hard copy of the application i.e. confirmation page to the JEE (Main) office has been done away with. **Therefore the candidates are advised not to send hard copy of the application i.e. confirmation page to JEE (Main) Secretariat.**

**However, the candidates are advised to retain hard copy of the application i.e. confirmation page for future reference or correspondence, if any.**

12. Candidate(s) may check the status of their application on JEE (Main) website.
13. The Hon'ble High Court of Delhi alone will have the jurisdiction to settle and decide all matters and disputes related to JEE (Main) - 2016 as JEE Apex Board located at CBSE Delhi is organising the JEE (Main) - 2016 examination.
14. The offer of admission shall be 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.
15. If a candidate expects the result of Class 12<sup>th</sup>/Equivalent qualifying examination to be declared **after 15<sup>th</sup> June 2016** by the examining body, the candidate is advised not to attempt JEE (Main) - 2016. Candidates whose result of Class 12<sup>th</sup> /equivalent qualifying examination is not available by 15<sup>th</sup> June 2016 will not be considered for allotment of All India Ranking of JEE (Main) - 2016.
16. The marks of Class 12<sup>th</sup> /equivalent qualifying examination will be displayed on the website of JEE (Main) during the second week of June 2016. The candidates have to verify these marks and confirm it on the website. In case of any discrepancy, the candidates should upload the copy of the mark-sheet online only latest by 15<sup>th</sup> June 2016 on JEE (Main) website.
17. **In case of change in qualifying examination marks due to re-totalling/verification/result revision, the candidate should ensure to upload the copy of the revised mark-sheet online only latest by 15<sup>th</sup> June 2016 on JEE (Main) website. The revised mark-sheet will not be accepted after 15<sup>th</sup> June 2016 for whatsoever reason.**

18. **The candidates must have their own personal and valid email id. They are also advised to have their own mobile number.** The candidates are advised to retain the same mobile number and email-id in use which they have furnished in the application form because the important information may be given to the candidates through SMS or e-mail.
19. The decision of the JEE Apex Board regarding the eligibility of any applicant shall be final.
20. All correspondence related to JEE (Main)–2016 should be addressed to:  
**The Executive Director, (JAB),  
Central Board of Secondary Education,  
H-149, Sector - 63, Noida  
Distt. Gautam Budh Nagar 201309 (UP)**
21. For latest information related to JEE (Main) - 2016 kindly visit JEE(Main) Website: [www.jeemain.nic.in](http://www.jeemain.nic.in)
22. For latest information related to JEE (Advanced) kindly visit the website [www.jeeadv.ac.in](http://www.jeeadv.ac.in)

## ABOUT PERCENTILE AND NORMALIZATION OF MARKS OF CLASS 12<sup>TH</sup>/QUALIFYING EXAMINATION

1. The percentage of marks and percentile are totally different entities hence the candidates should not confuse with both the above terms.
2. Percentage is a number out of 100.
3. Percentile Score of a candidate in a Board or JEE (Main) will reflect how many Candidates have scored below that candidate in his/her Board or JEE (Main) Examination.

A Percentile score is the value below which a certain percent of observations fall. For example, the 40th Percentile is the value or score below which 40 Percent of the observations may be found.

The Percentile of a Candidate will be calculated as

$$\frac{100 \times \text{Number of candidates in the 'group' with aggregate marks less than the candidate}}{\text{Total number of the candidates in the 'group'}}$$

**Example:** Suppose in a particular Board:

No of Candidates Registered = 13918 and No of Candidates Appeared = 13711

- a. A Candidate who has scored 50% marks in the Board and 2218 candidates have scored below him; his Percentile score will be calculated as follows

$$\text{Percentile score for 50\% marks in the Board} = \frac{2218 \times 100}{13711} = 16.18$$

- b. A Candidate who has scored 60% marks in the Board and 6865 candidates have scored below him; his Percentile score will be calculated as follows

$$\text{Percentile score for 60\% marks in the Board} = \frac{6865 \times 100}{13711} = 50.07$$

- c. A Candidate who has scored 90% marks in the Board and 13615 candidates have scored below him; his Percentile score will be calculated as follows

$$\text{Percentile score for 90\% marks in the Board} = \frac{13615 \times 100}{13711} = 99.30$$

With these examples, it is clear that percentage of marks obtained by a candidate (50%, 60% or 90%) is different from the percentile score (16.18, 50.07 or 99.30).

4. The normalized Qualifying examination marks will be based on the position of the candidate in the Board (i.e. his/her percentile score). The percentile score a candidate gets in his/her board will mainly contribute to his/her normalized marks.
5. The candidates, willing to appear in the improvement examination to improve the qualifying examination marks, will have to appear in all the five subjects for improvement.
6. In the percentile system, the total marks (of all five subjects) obtained/shown on the mark-sheet of a particular year are required in JEE (Main) and also in JEE (Advanced). The marks from two different years (i.e. marks for 3 subjects from year 2015 and marks for other 2 subjects from 2016) mark-sheets cannot be considered for percentile calculation.

7. **For JEE (Advanced) 2016:** Please visit JEE (Advanced) website [jeeadv.iitg.ac.in](http://jeeadv.iitg.ac.in) for JEE (Advanced) 2016 criteria.
8. The weightage of normalized qualifying examination marks is only for deciding ranking of JEE (Main) which will be used for admission to all Centrally Funded Technical Institutions (CFTIs)/ NITs/IIITs but excluding IITs.
9. The candidates who are appearing in the improvement examination to improve their qualifying examination marks will get only one chance to inform JEE (Main) Unit as to which year qualifying examination marks to be considered for the purpose of declaration of final merit. The candidates are advised to regularly visit JEE (Main) website and newspapers for the notification regarding above.
10. The five subjects will be taken into account for calculation of percentile and normalization of qualifying examination marks for paper 1 (B.E./B. Tech.) and paper 2 (B. Arch./B. Planning) of JEE (Main) which are:
  - 1- Language,
  - 2- Physics,
  - 3- Mathematics,
  - 4- Any one of (Chemistry, Biology, Biotechnology, Technical Vocational Subject),
  - 5- Any other subject.

Note: If a candidate has appeared in six subjects in the qualifying examination, the subject (fifth or sixth) with better marks will be considered.

11. In order to calculate normalized qualifying examination marks following data is considered.

Marks of all the students in that Board whose subject combinations meet the eligibility criteria of JEE-Main.

Marks of all the students in JEE (Main) – 2016.

## **Normalization Adopted in JEE (Main) for Admission to NITs/IIITs/CFTIs on the Basis of Class 12<sup>th</sup> Qualifying examination marks**

The detailed formula for normalization of Qualifying examination marks is as follows:-

- i. Note down the aggregate marks (**A<sub>0</sub>**) obtained by each student in JEE- Main.
- ii. Compute the percentile (**P**) of each student on the basis of aggregate marks in his/her own board (**B<sub>0</sub>**) computed from the list of five subjects specified (each marked out of 100). The percentile is to be computed among all students of the board whose subject combinations meet the eligibility criteria of JEE-Main. **The variable B<sub>0</sub> is only a base for calculating percentile (P), which is further used to get corresponding JEE (Main) marks.**
- iii. Determine the JEE - Main aggregate marks corresponding to percentile (**P**) at the All- India level. **Regard this as B<sub>1</sub>.**
- iv. Also, determine the JEE - Main aggregate marks corresponding to percentile (**P**) among the set of aggregate scores obtained in the JEE-Main by the students of that board. **Regard this as B<sub>2</sub>.**

**The normalized board score of the candidate was computed as:**

$$B_{\text{final}} = 0.5 * (B_1 + B_2)$$

**For the purpose of admission to CFTIs where it has been decided to use the JEE Mains performance and the Normalized Board performance in the 60:40 ratio, the composite score for drawing the merit list was computed as:**

$$C = 0.6 * A_0 + 0.4 * B_{\text{final}}$$

Five subjects to be used for normalization:-

1. Physics
2. Mathematics
3. Any one of the subjects Chemistry, Biology, Biotechnology and Technical Vocational subject
4. One language
5. Any subject other than the above four subjects.

In respect of 3, 4 and 5, the best mark in a given category will be chosen.

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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 participating State Governments, and other Institutions shall include the performance in the class 12/equivalent qualifying Examination and in the Joint Entrance Examination, JEE (Main). The Paper-1 (B. E./B. Tech.) 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.

The States of Gujarat, Madhya Pradesh, Nagaland and Odisha have joined JEE (Main) system. Therefore, the candidates seeking admission to the institutions in these states, which were earlier admitting based on their State Level Examination, are also advised to fill in the JEE (Main) - 2016 application form online.

## 2. ABOUT JEE (Main) – 2016

### 2.1 Mode of Examination

The Paper-1 (B.E./B. Tech.) (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 (B. Arch./B. Planning.) 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 (B. E./B. Tech.) only.

### 2.2 Type of Examination

JEE (Main) – 2016 shall have two papers, Paper-1 (B. E./B. Tech.) and Paper-2 (B. Arch./B. Planning.). Candidates may take Paper-1 (B. E./B. Tech.), or Paper-2 (B. Arch./B. Planning.), or both as per the course(s) they are seeking admission to.

Subject combinations 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 (B.E./ B. Tech.)	Physics, Chemistry & Mathematics	Objective type with equal weightage to Physics, Chemistry & Mathematics	Pen and Paper based <b>OR</b> Computer based
Paper 2 (B.Arch./ B.Planning)	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
All other undergraduate courses (B.E. /B. Tech.)	Paper –1
B.ARCH/B. PLANNING(At Institutions other than IITs)	Paper –2

### 2.3 Schedule of Examination

A. Offline examination (Pen and Paper Based Examination) for Paper 1 (B. E. /B. Tech.) and Paper 2 (B. Arch./B. Planning.)

Date of Examination	Paper	Subjects	Timings	Duration
03.04.2016	Paper 1 (B.E./ B. Tech.)	Physics, Chemistry & Mathematics	0930-1230 Hours(IST)	3 Hours
03.04.2016	Paper 2 (B. Arch. / B. Planning.)	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 (B. E./B. Tech.) Only

Dates of Examination*	Paper	Subjects	Timings	Duration
09/04/2016 (Saturday) 10/04/2016 (Sunday)	Paper 1 (B. E./B. Tech.)	Physics, Chemistry & Mathematics	1 <sup>st</sup> shift 0930-1230 Hours (IST) 2 <sup>nd</sup> shift (**) 1400-1700 Hours (IST) **If required	3 Hours

**\*The option of date for Computer Based Examination for Paper – 1 should be exercised while filling up the application form. The allotment of slots/dates will be on first come first served basis. If a candidate does not make any selection, he/she shall be randomly assigned a slot/date as per the availability of the same.**

**The Computer Based Examination for Paper – 1 in Colombo, Kathmandu, Singapore, Bahrain, Dubai, Muscat, Riyadh and Sharjah will be held on 10<sup>th</sup> April 2016.**

**In case a candidate, by furnishing the false information, appears in more than one slots/dates of the computer based examination or appears in both the modes of examination i.e. pen & paper based and computer based examination, his candidature will be cancelled and his result will not be declared.**

## 2.4 Choice of Medium of Question Papers

1.	All Examination Centre Cities	English and Hindi Medium
2.	Examination Centre Cities in Gujarat, Daman & Diu and Dadra and Nagar Haveli	English, Hindi and Gujarati

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 Provisions for Persons with Disabilities

- The candidates with disability should fill in the type and percentages of disability correctly in the online application form for JEE (Main) 2016.
- Only the candidates, who have 40% or more disability, will be provided Scribe/ Reader on the request of the candidate.
- The candidate will have the discretion of opting his/her own scribe/reader or may submit the request to the centre superintendent for the same.
- The centre superintendent will identify the scribe/ reader. In case a request is received from the candidate, he/she would be allowed to meet the scribe a day before the examination to verify the suitability of the scribe.
- One hour compensatory (extra) time will also be allowed to the candidates with 40% or more disability irrespective of the fact that the candidate(s) is/are availing the facility of scribe/reader.

## 2.6 Cities/Towns of JEE (Main) - 2016 Examination Centres

JEE (Main) - 2016 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 in case of Pen & Paper based examination and one city in case of Computer based examination.

**However, if the number of candidates for Computer based examination is less than 50 in a city on a particular date than such candidates will be allotted last day of the computer based examination in the same city.**

Similarly, efforts will be made to allot candidate's city of Pen & Paper based examination as per their choice opted for in the application form. However, in some exceptional circumstances, a different city in nearby area may be allotted.

## 2.7 Requests for Change of Examination City/Town

Normally, the requests for change of centre will not be entertained. In this regard, the decision of the Executive Director (JAB) 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) - 2016. Materials like log table, book, notebook, etc. should **NOT** be brought into the examination hall.

## 2.9 Eligibility for appearing in JEE (Main) – 2016

### 2.9.1 Date of Birth

Only those candidates whose date of birth falls on or after October 01, 1991 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 are born on or after October 01, 1986 are eligible. Date of birth as recorded in the Secondary Education Board/University certificate will only be considered.

### 2.9.2 Year of Appearance in Qualifying Examination (QE)

Only those candidates who have passed their Class 12<sup>th</sup> Exam or any equivalent qualifying examination in 2014 or 2015; or those who are appearing in their Class 12<sup>th</sup> Exam or any equivalent qualifying examination in 2016 are eligible to appear in JEE (Main) - 2016. **Candidates who passed Class 12<sup>th</sup>/Qualifying examination in 2013 or before as well as those who will appear in such examination in 2017 or later are not eligible to appear in JEE (Main) – 2016. Candidates who appeared in class 12<sup>th</sup>/equivalent qualifying Examinations in 2013, did not pass in 2013, but passed in 2014 are also not eligible to appear in JEE (Main) 2016.**

### 2.9.3 Number of subjects in the Qualifying Examination (QE)

Candidates must have taken at least five subjects in class 12<sup>th</sup>/ qualifying examination in order to be eligible for writing JEE (Main) - 2016. The candidates who have taken four subjects are not permitted to write JEE (Main) 2016 and if such candidates appear in JEE (Main) 2016 by furnishing wrong information, their rank/result will not be declared.

### 2.9.4 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 AND VERIFY FOR THEMSELVES THE ELIGIBILITY FOR APPEARING IN JEE (ADVANCED) – 2016 AS WELL AS ELIGIBILITY FOR ADMISSION TO VARIOUS INSTITUTES. 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.**

**CANDIDATES SEEKING ADMISSION TO THE INSTITUTIONS IN THE STATES OF GUJARAT MADHYA PRADESH NAGALAND AND ODISHA, WHICH WERE EARLIER ADMITTING BASED ON THEIR STATE LEVEL EXAMINATION, ARE ALSO ADVISED TO VERIFY THEIR ELIGIBILITY AS PER CRITERIA LAID DOWN BY THESE STATE GOVERNMENTS.**

### 2.9.5 No. of Attempts and Age limit for the states of Madhya Pradesh and Odisha:

Since the states of Madhya Pradesh, Nagaland and Odisha have joined JEE (Main) system from 2014. The age limit, for admission to institutions in these states which were earlier admitting candidates based on their state level examinations, will be as per their past practice only. The number of attempts in such cases will also remain same as per their past practice. This will however be obviously not applicable for admission to IITs/NITs/IIITs/CFTIs.

## 2.10 Score and Result for JEE (Main) - 2016

- I. The score of Paper-I of JEE (Main) – 2016 for all candidates will be declared by 27<sup>th</sup> April 2016. This score shall comprise the actual marks obtained in Paper-I of JEE (Main) – 2016 along with the status of those who qualify for appearing in JEE (Advanced) – 2016 provided and subject to other conditions of eligibility being met.
- II. Separately, on the basis of score in JEE (Main)-2016 and normalised score in Class 12<sup>th</sup> or equivalent 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 30<sup>th</sup> of June 2016. JEE (Main)-2016 Rank Card indicating All India Rank, State Rank and Category Rank with total marks and marks in each paper will be available on JEE (Main) website after the declaration of result.

- III. **Only the All India Rank (AIR) is used for admissions through Central Seat Allocation Board to NITs/IIITs/CFTIs/SFIs/Others, while other ranks are for information purposes.**
- IV. **No score/rank card will be dispatched to the candidates and the candidates are advised to download their score/rank cards from the JEE (Main) website <http://jeemain.nic.in> only.**
- V. 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 equivalent 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) – 2016. Candidate obtaining higher marks will be given better rank.
- Resolution by marks obtained in Physics in the JEE (Main) – 2016. 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 (B. Arch./B. Planning.) in JEE (Main) – 2016. Candidate obtaining higher marks will be given better rank.
- Resolution by marks obtained in Drawing Test in Paper-2 (B. Arch./B. Planning.) in JEE (Main) – 2016. 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.

- VI. The answer keys and images of response sheets (OMR sheets) of Pen & Paper Based examination and Computer based examination will be displayed on the website [www.jeemain.nic.in](http://www.jeemain.nic.in) during 18-22 April 2016. The candidates, who are not satisfied with the captured response, may challenge by filling online application form and paying a sum of Rs.1000/- per question. The challenge of answer keys will also be accepted online only through the link available on the website [www.jeemain.nic.in](http://www.jeemain.nic.in) up to 5.00 PM on 22/04/2016 on payment of Rs.1000/- per question. The fee can be paid by credit/debit card or e-challan. The fee once paid is non-refundable. The JAB's/CBSE's decision on the challenges shall be final and no further communication will be entertained.
- VII. All participating institutes that do not use the centralised Seat Allocation Process will prepare their own ranking based on the performance in JEE (Main)-2016 and other criteria as decided by them.

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

#### **3.1 Eligibility for Admission to NITs, IITs and Other Institutions participating through SEAT ALLOCATION BOARD**

Admission to NITs, IITs and other institutions participating through Central Seat Allocation 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. & B. Arch. / B. Planning Courses in NITs, IITs, and other CFTIs shall be as under.

Course	Required Criteria based on Class 12 <sup>th</sup> / Equivalent qualifying Examination
B.E./B.TECH	Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry/Biotechnology/Biology/ Technical Vocational subject. Obtained at least 45% marks (40% in case of candidate belonging to reserved category) in each of the subjects.
B.ARCH./B.PLANNING	Mathematics subject alongwith 50% marks in total including five 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 Number of seats in various institutions**

**The JEE (Main) secretariat/CBSE is only an examination conducting body. After declaration of result the data is handed over to SEAT ALLOCATION BOARD or the concerned state government/institute for Seat Allocation Process and admission procedure. The JEE (Main) secretariat does not collect the information regarding total number of seats available in the institutions and reservation criteria followed by the institutions.** For all admission related procedures/queries, the candidates are advised to refer the website of JOSAA, Central Seat Allocation Board (CSAB) or the concerned state government/institute after declaration of ranks of JEE (Main) -2016. The letter/e-mails regarding admission related procedures/queries will not be entertained by JEE (Main) secretariat /CBSE.

#### **3.4 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) with 40% or more disability

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)-2016, the reservation rules of that state shall apply. The letter/e-mails regarding reservation criteria will not be entertained by JEE (Main) secretariat /CBSE.

### 3.5 Seat Allocation Process and Admission Procedure

Candidates shall be offered admission based on their choices and All India Ranks of JEE (Main)-2016 through a Seat Allocation Process 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 latest information.

The verification of documents would be done at the time of Seat Allocation Process/admission. In cases where the rank is revised due to rechecking/revaluation/re-totalling of board marks, the revised board mark sheet will also be verified at the time of seat allocation. The purpose would be to verify different records regarding identification, age, qualifying examination, state of eligibility, category and disability (if any) of the candidate. On failing to produce any of the authentic documents, the candidate 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 Seat Allocation Process 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) – 2016<sup>1</sup>

The minimum academic qualification for appearing in JEE (Advanced) - 2016 is that the candidate must have passed in final examination of Class 12<sup>th</sup> or equivalent qualifying examination (**Appendix – 3**). Those appearing in these examinations in 2016 can also appear in JEE (Advanced) - 2016 provisionally.

All the candidates aspiring to take admission in the undergraduate programmes at IITs and ISM Dhanbad for the year 2016 will have to appear in the Paper 1 (B. E./B. Tech.) of JEE (Main)-2016. Based on the performance in Paper 1 (B. E./B. Tech.) of JEE (Main)-2016, top 150000 candidates (including all categories) will be eligible to appear in JEE (Advanced)-2016.

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) – 2016 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 IIT-JEE/JEE (Advanced) in 2014 or earlier are NOT ELIGIBLE to appear in JEE (Advanced) - 2016.

The candidate who had taken admission in any institute other than IITs & ISM Dhanbad in 2015 is eligible to appear in JEE (Advanced) – 2016 provided that the candidate satisfies other eligibility criteria.

### 5. APPLICATION PROCEDURE FOR JEE (Main) AND JEE (Advanced) – 2016

In order to appear in JEE (Main) and JEE (Advanced) 2016, 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, uploading of scanned photograph, signature and thumb impression 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 keep it for reference. The Confirmation Page is **not required to be sent** to JEE (Main) Secretariat (please refer point no. 10 of Important Instructions on page 3). The application fee payment can be made:

(a) by credit/debit card, or

(b) by depositing fee in cash in the Syndicate/Canara/ICICI/HDFC bank through e-challan generated during the online filling of application form.

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

<sup>2</sup> Please also see section 5.4 for JEE (Advanced)

## 5.2 Instructions for Applying Online

Before filling up the application form the candidate should have a scanned image of his/her photograph, signature and left hand thumb impression (right hand thumb in case the candidate do not have left hand thumb or any finger if both thumbs are not there). These scanned images are to be uploaded during the submission of application form. The photograph should be colour or b/w (but clear contrast) with name of the candidate and date of taking the photograph printed on it as shown below. It should be without cap or goggles. Spectacles are allowed. **Polaroid photos are not acceptable.** Candidates with unclear photograph are liable to be rejected. Candidates may keep 6-8 identical photographs in reserve for use at the time of entrance examination, Seat Allocation Process and Admission.



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.

## 5.3 Application Format

Board Examination Details		
State of Eligibility	- Select-	As per State of Eligibility
Select the State, your School/ College/NIOS Study Centre located from where class 12 <sup>th</sup> /Qualifying Examination passed/ appearing	-Select-	Not applicable for the candidates belonging to Nepal /Bhutan/Foreign/OCI/PIO
Select State mentioned on your passport	-Select-	Applicable only if the candidate has passed class 12 <sup>th</sup> from outside India and do not belongs to Nepal/ Bhutan /Foreign/OCI/PIO
Board Name	-Select-	The candidates belonging to Nepal/Bhutan/Foreign /OCI/PIO should select other.
Year of Passing or Appearing Class 12 <sup>th</sup> / Qualifying Examination	-Select-	<p>The candidates appearing in improvement examination of class 12<sup>th</sup> in 2016:-</p> <p>a) Select the year of passing class 12<sup>th</sup> as 2015 and enter the roll number, name of the board in the first step of the application form. In the second step of application form select 'yes' in the column – appearing for improvement examination.</p> <p style="text-align: center;"><b>or</b></p> <p>b) Select the year of appearing class 12<sup>th</sup> as 2016 and fill the remaining form correctly.</p> <p>After declaration of result of improvement examination, there will be option on the website to provide the correct roll number of class 12 in which candidate's result is better.</p> <p>The candidates passed class 12<sup>th</sup> in 2014 and appeared for improvement in 2015 in five subjects should select the year in which their performance is better.</p>
Roll No. of Class 12 <sup>th</sup> /Qualifying Examination	-Select-	The candidates appearing in class 12 <sup>th</sup> Examination or improvement examination in 2016 need not to enter any roll number. At the time of downloading admit card of JEE (Main) they will have to enter the roll number of class 12 <sup>th</sup> .

**Note: The candidate should enter the above details correctly because some of the information in the application form will be taken from the data of concerned board.**



Examination Details JEE (Main) – 2016	
Applying for	JEE (Main) Paper - 1 (B.E. / B. Tech.) Only JEE (Main) Paper - 2 (B. Arch. / B. Planning) Only JEE (Main) Paper - 1 & Paper –2 Both
Mode of Examination	Pen and Paper Based Examination Computer Based Examination
Choice of Examination Centre (any four)	As per list of Examination cities <b>(Appendix 2)</b>
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 <b>(Appendix 4)</b>
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, mention the percentage of disability?	
Whether you need scribe/reader?	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
Complete Mailing Address	
Pin code of mailing address	
Unique Identification Number (UID)/ Aadhaar Number (if available)	
Academic Details	
Year of Passing Class 10 <sup>th</sup> or its Equivalent	2001-2014
Place of 12 <sup>th</sup> class schooling	Village / Town / City

Year of Passing or Appearing Class 12 <sup>th</sup> / Qualifying Examination	2014 / 2015 / 2016 Note: Candidates from Madhya Pradesh and Odisha please see section 2.9.5
School Board of Class 12 <sup>th</sup> / Qualifying Examination	As per list of Boards given in <b>Appendix 6</b>
Roll Number of Class 12 <sup>th</sup> / Qualifying Examination (if allotted)	
Name of the Qualifying Examination passed/appearing	as per <b>Appendix 3</b>
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
Appearing for Improvement of Class 12 <sup>th</sup> /Qualifying Examination in all the 4/5 subjects as per the scheme of studies of the board	Y/N
Enter Roll No. of Passing Class XII, In case of Appearing for Improvement	
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>	
Father's Qualification	Illiterate / Matriculate / Graduate / Post Graduate / Others
Father'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)
Father'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.800001and above		
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) – 2016. I shall abide by the terms and conditions thereon.		
To be uploaded during the submission of online application form			
	File Format	File Size	Dimension
Photograph of Candidate	JPEG format	4KB to 100KB	3.5cm x 4.5cm
Signature of Candidate	JPEG format	1KB to 30KB	3.5cm x 1.5cm
Thumb impression of Candidate	JPEG format	1KB to 30KB	3.5cm x 1.5cm

#### 5.4 Additional Information for Candidates for JEE (Advanced) - 2016

The candidates who are declared eligible for JEE (Advanced) – 2016 will have to again register later on at the JEE (Advanced) website <http://jeeadv.ac.in> after the declaration of the JEE (Main)-2016 score. They may note that it is compulsory to appear in both the papers of JEE (Advanced) - 2016 to be eligible for admission to IIT. For latest information related to JEE (Advanced) kindly visit the JEE (Advanced) website <http://jeeadv.ac.in>

#### 6. ADMIT CARD FOR JEE (Main) - 2016

The Admit Card can be downloaded from JEE (Main) website from 2<sup>nd</sup> week March 2016 onwards. **PRIOR TO DOWNLOADING THE ADMIT CARD, THE CANDIDATES ARE REQUIRED TO PROVIDE THEIR ROLL NO. AND BOARD DETAILS OF CLASS 12<sup>TH</sup>/ EQUIVALENT QUALIFYING EXAMINATION ON THE JEE (MAIN) WEBSITE. PREVIOUS YEARS PASS OUTS CANDIDATE SHOULD VERIFY THEIR ROLL NO. AND BOARD DETAILS OF CLASS 12<sup>TH</sup>/EQUIVALENT QUALIFYING EXAMINATION.** 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 8.00 AM to 8.00 PM for general facilitation. The phone numbers of the call centre are available on the website of JEE (Main).

#### 7. COMPUTER BASED EXAMINATION FOR PAPER-1 (B. E./B. TECH.) OF JEE (Main) – 2016

##### 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. The Admit Card is issued provisionally to the candidate subject to his/her satisfying the eligibility conditions.
3. Candidates are advised to reach the venue at least 30 minutes before the examination so as to complete the registration formalities well before the time. Registration desk will be closed 05 minutes prior to the examination.
4. 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.
5. The candidates are advised to also bring with them a copy of document (as per following applicable criteria) on the day of their JEE (Main) - 2016 and submit the same to the invigilator at the examination centre. The Candidates have to write Roll No. of JEE (Main) Examination on the copy of the document being submitted in support of class 12<sup>th</sup>/Qualifying examination.

S. No	Applicable Criteria to candidates	Copy of Document required to be brought and submitted to the invigilator at the Centre after writing JEE Main Roll No. on it.
1.	Candidates, who qualified in class 12 <sup>th</sup> / qualifying Examination in 2014 or 2015, <b>and have not opted</b> for improvement of performance in 2016.	Copy of their Final marks- sheet/ marks statement of Class 12 <sup>th</sup> /Qualifying Examination of year 2014 or 2015.
2.	Candidates, who qualified in class 12 <sup>th</sup> / qualifying Examination in 2014 or 2015, <b>and have opted</b> for improvement of performance in 2016 in <b>all subjects</b> .	Copy of their Admit card/Hall ticket for improvement of performance in Class 12 <sup>th</sup> /Qualifying Examination 2016.
3.	Candidates, who are appearing in class 12 <sup>th</sup> / qualifying examination in 2016.	Copy of their Admit card/Hall ticket for class 12 <sup>th</sup> /Qualifying Examination 2016.

This is in addition to the candidates bringing their Admit Card for JEE (Main) 2016.

6. The candidates claiming the relaxation under PwD category must carry with them the copy PwD certificate in the prescribed format (Appendix 9) issued by the Competent Authority.
7. No candidate, under any circumstances, will be allowed to enter the Examination Center after the commencement of the examination.
8. 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.
9. The candidate should ensure that the question paper available on the computer is as per his/her choice of medium. In case, the question paper is in medium other than his/her choice, the same may be brought to the notice of the Invigilator concerned.
10. No Candidate will be allowed to carry any baggage inside the Examination Center. JEE Apex Board will not be responsible for any belongings stolen or lost at the premises.
11. 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, identity proof, document as required under point no. 5 of para 7.1 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.
12. Smoking and eating is strictly prohibited in the examination room.
13. Tea, coffee, cold drinks or snacks are not allowed to be taken into the examination rooms during examination hours.

14. Approach the Center Superintendent/Invigilator in the room for any technical assistance, first aid emergency or any other information during the course of examination.
15. 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 must follow the instructions strictly as instructed by the Centre Superintendent/Invigilators.
16. For any queries or issues regarding computer based examination, the candidates may contact on toll free Call Centre No. which will be available on JEE (Main) website later on.

## **7.2 Instructions for Computer Based Examination**

The Computer Based Examination will be conducted as per the following schedule.

1. A sample/mock test will be available on JEE (Main) website in the month of December 2014 for practice purpose and to give the candidate look and feel of the Computer Based Examination (CBE).
2. 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.
3. The test will be of 3 hrs duration
4. The test paper will be consisting questions of Physics, Chemistry & Mathematics and all questions will have equal weightage.
5. There will be three parts in the question paper consisting of Physics, Chemistry and Mathematics having equal weightage.
6. Each question is allotted 4 (four) marks for the correct response.  $\frac{1}{4}$  (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.
7. There is only one correct response for each question out of four responses given.
8. All calculations/writing work are to be done only in the rough sheet provided at the centre and on completion of the test candidates must hand over the rough sheets to the invigilator on duty in the Room/Hall.
9. During the examination time, the invigilator will check Admit Card of the candidate to satisfy himself/herself about the identity of each candidate.
10. 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.
11. The candidates must sign on the Attendance Sheet at the appropriate place.

## **8. PEN AND PAPER BASED EXAMINATION FOR PAPER-1 (B. E./B. TECH.) AND PAPER-2 (B. ARCH./B. PLANNING.) OF JEE (Main) – 2016**

### **8.1 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. The Admit Card is issued provisionally to the candidate subject to his/her satisfying the eligibility conditions.
3. 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.

4. 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.
5. For Aptitude Test in Architecture, candidates are advised to bring their own geometry box set, pencils, erasers and colour pencils or crayons.
6. 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.
7. The candidates are advised to also bring with them a copy of document (as per following applicable criteria) on the day of their JEE (Main) - 2016 and submit the same to the invigilator at the examination centre. The Candidates have to write Roll No. of JEE (Main) Examination on the copy of the document being submitted in support of class 12<sup>th</sup>/Qualifying examination.

S. No	Applicable Criteria to candidates	Copy of Document required to be brought and submitted to the invigilator at the Centre after writing JEE Main Roll No. on it.
1.	Candidates, who qualified in class 12 <sup>th</sup> / qualifying Examination in 2014 or 2015, <b>and have not opted</b> for improvement of performance in 2016.	Copy of their Final marks- sheet/ marks statement of Class 12 <sup>th</sup> /Qualifying Examination of year 2014 or 2015.
2.	Candidates, who qualified in class 12 <sup>th</sup> / qualifying Examination in 2014 or 2015, <b>and have opted</b> for improvement of performance in 2016 in <b>all subjects</b> .	Copy of their Admit card/Hall ticket for improvement of performance in Class 12 <sup>th</sup> /Qualifying Examination 2016.
3.	Candidates, who are appearing in class 12 <sup>th</sup> / qualifying examination in 2016.	Copy of their Admit card/Hall ticket for class 12 <sup>th</sup> /Qualifying Examination 2016.

This is in addition to the candidates bringing their Admit Card for JEE (Main) 2016.

8. The candidates claiming the relaxation under PwD category must carry with them the copy PwD certificate in the prescribed format (Appendix 9) issued by the Competent Authority.
9. No candidate, under any circumstances, will be allowed to enter the Examination Center after the commencement of the examination.
10. 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.
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.
13. 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 must follow the instructions strictly as instructed by the Centre Superintendent/Invigilators.
14. No Candidate will be allowed to carry any baggage inside the Examination Center. JEE Apex Board will not be responsible for any belongings stolen or lost at the premises.
15. 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, identity proof, document as required under point no. 7 of para 8.1 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.

16. Smoking and eating is strictly prohibited in the examination room.
17. Tea, coffee, cold drinks or snacks are not allowed to be taken into the examination rooms during examination hours.
18. 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.

## 8.2 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. The test will be of 3 hrs duration
5. The test paper will be consisting questions of Physics, Chemistry & Mathematics and all questions will have equal weightage.
6. There will be three parts in the question paper consisting of Physics, Chemistry and Mathematics having equal weightage.
7. Each question is allotted 4 (four) marks for the correct response.  $\frac{1}{4}$  (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.
8. There is only one correct response for each question out of four responses given
9. 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.
10. Candidate shall bring his/her own Ball Point Pens of good quality. These will not be supplied by the Board.
11. 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.
12. The candidate will check that the Test-booklet contains as many numbers of pages as are written on the top of the first page of the Test Booklet. **The candidates should also verify the serial number and series of the Test Booklet with the serial number and series of OMR sheet. In case of any variation, the Test Booklet and OMR sheet should be immediately returned to the invigilator for the replacement with another set of same series available in the examination hall/centre.**
13. 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.
14. 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.

## **9. CODE OF CONDUCT FOR CANDIDATES DURING JEE (Main) - 2016**

Candidates shall maintain perfect silence and attend to their Question Paper only. Any conversation or gesture 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 (in case of Pen and Paper Based Examination) 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.



**SYLLABUS FOR JEE (Main) - 2016****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:  $S_n$ ,  $S_{n^2}$ ,  $S_{n^3}$ . 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**

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

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

$$\int \sqrt{a^2 \pm x^2} dx \quad \int \sqrt{x^2 - a^2} dx$$

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 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 at 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 nonconservative 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, Xrays, 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 callipers-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, bcc and hcp 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 - molality, molarity, mole 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, adsorption 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, ( $\text{PCl}_3$ ,  $\text{PCl}_5$ ); 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  $\text{K}_2\text{Cr}_2\text{O}_7$  and  $\text{KMnO}_4$ .

##### 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 - Craft's 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, iodoform freons 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, Haloform 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, antihistamins - 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, halogens) 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 -  $\text{Pb}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Ca}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{NH}_4^+$ .

Anions -  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_4^{2-}$ ,  $\text{NO}_3^-$ ,  $\text{NO}_2^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ . (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 2 D and 3 D union, subtraction, rotation, development of surfaces and volumes, Generation of Plan, elevations and 3 D views of objects. Creating two dimensional and three dimensional compositions using given shapes and forms.

Sketching of scenes and activities from memory of urbanscape (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

**JEE (MAIN) – 2016 will be conducted in the following cities in the mode shown against the cities:-**

City Code	State	CITY	Mode of Exam.	Mode of Exam.
1.	<b>ANDAMAN &amp; NICOBAR</b>	PORT BLAIR	PEN & PAPER BASED	COMPUTER BASED
2.	<b>ANDHRA PRADESH</b>	GUNTUR	PEN & PAPER BASED	COMPUTER BASED
3.		TIRUPATI	PEN & PAPER BASED	COMPUTER BASED
4.		VIJAYAWADA	PEN & PAPER BASED	COMPUTER BASED
5.		VISAKAPATNAM	PEN & PAPER BASED	COMPUTER BASED
6.	<b>ARUNACHAL PRADESH</b>	ITANAGAR	PEN & PAPER BASED	COMPUTER BASED
7.	<b>ASSAM</b>	GUWAHATI	PEN & PAPER BASED	COMPUTER BASED
8.		SILCHAR	PEN & PAPER BASED	COMPUTER BASED
9.	<b>BIHAR</b>	GAYA	PEN & PAPER BASED	COMPUTER BASED
10.		MUZAFFARPUR	PEN & PAPER BASED	COMPUTER BASED
11.		PATNA	PEN & PAPER BASED	COMPUTER BASED
12.	<b>CHANDIGARH</b>	CHANDIGARH/MOHALI	PEN & PAPER BASED	COMPUTER BASED
13.	<b>CHHATISGARH</b>	RAIPUR	PEN & PAPER BASED	COMPUTER BASED
14.	<b>DADRA NAGAR HAVELI</b>	DADRA NAGAR HAVELI	PEN & PAPER BASED	COMPUTER BASED
15.	<b>DAMAN &amp; DIU</b>	DAMAN & DIU	PEN & PAPER BASED	COMPUTER BASED
16.	<b>DELHI</b>	DELHI/NEW DELHI	PEN & PAPER BASED	COMPUTER BASED
17.	<b>GOA</b>	PANAJI	PEN & PAPER BASED	COMPUTER BASED
18.	<b>GUJARAT</b>	AHMEDABAD	PEN & PAPER BASED	COMPUTER BASED
19.		ANAND	PEN & PAPER BASED	COMPUTER BASED
20.		BHAVNAGAR	PEN & PAPER BASED	COMPUTER BASED
21.		GANDHINAGAR	PEN & PAPER BASED	COMPUTER BASED
22.		GODHRA	PEN & PAPER BASED	COMPUTER BASED
23.		JAMNAGAR	PEN & PAPER BASED	COMPUTER BASED
24.		PATAN	PEN & PAPER BASED	COMPUTER BASED
25.		RAJKOT	PEN & PAPER BASED	COMPUTER BASED
26.		SURAT	PEN & PAPER BASED	COMPUTER BASED
27.		VADODARA	PEN & PAPER BASED	COMPUTER BASED
28.		VALSAD	PEN & PAPER BASED	COMPUTER BASED
29.	<b>HARYANA</b>	FARIDABAD	PEN & PAPER BASED	COMPUTER BASED
30.		GURGAON	PEN & PAPER BASED	COMPUTER BASED
31.		HISAR	PEN & PAPER BASED	COMPUTER BASED
32.		KARNAL	PEN & PAPER BASED	COMPUTER BASED
33.		KURUKSHETRA	PEN & PAPER BASED	COMPUTER BASED
34.	<b>HIMACHAL PRADESH</b>	HAMIRPUR	PEN & PAPER BASED	COMPUTER BASED
35.		SHIMLA	PEN & PAPER BASED	COMPUTER BASED
36.	<b>JAMMU &amp; KASHMIR</b>	JAMMU	PEN & PAPER BASED	COMPUTER BASED
37.		SRINAGAR	PEN & PAPER BASED	COMPUTER BASED
38.	<b>JHARKHAND</b>	BOKARO	PEN & PAPER BASED	COMPUTER BASED
39.		DHANBAD	PEN & PAPER BASED	COMPUTER BASED
40.		JAMSHEDPUR	PEN & PAPER BASED	COMPUTER BASED
41.		RANCHI	PEN & PAPER BASED	COMPUTER BASED
42.	<b>KARNATAKA</b>	BENGALURU	PEN & PAPER BASED	COMPUTER BASED
43.		HUBLI	PEN & PAPER BASED	COMPUTER BASED
44.		MANGALORE	PEN & PAPER BASED	COMPUTER BASED

45.	<b>KERALA</b>	ERNAKULAM	PEN & PAPER BASED	COMPUTER BASED
46.		KOZHIKODE	PEN & PAPER BASED	COMPUTER BASED
47.		THIRUVANTHAPURAM	PEN & PAPER BASED	COMPUTER BASED
48.	<b>LAKSHADEEP</b>	KAVARRATI	PEN & PAPER BASED	COMPUTER BASED
49.	<b>MADHYA PRADESH</b>	BALAGHAT	PEN & PAPER BASED	COMPUTER BASED
50.		BARWANI	PEN & PAPER BASED	COMPUTER BASED
51.		BETUL	PEN & PAPER BASED	COMPUTER BASED
52.		BHOPAL	PEN & PAPER BASED	COMPUTER BASED
53.		CHHATARPUR	PEN & PAPER BASED	COMPUTER BASED
54.		CHHINDWADA	PEN & PAPER BASED	COMPUTER BASED
55.		GUNA	PEN & PAPER BASED	COMPUTER BASED
56.		GWALIOR	PEN & PAPER BASED	COMPUTER BASED
57.		INDORE	PEN & PAPER BASED	COMPUTER BASED
58.		JABALPUR	PEN & PAPER BASED	COMPUTER BASED
59.		KHANDWA	PEN & PAPER BASED	COMPUTER BASED
60.		KHARGON	PEN & PAPER BASED	COMPUTER BASED
61.		MANDSOUR	PEN & PAPER BASED	COMPUTER BASED
62.		RATLAM	PEN & PAPER BASED	COMPUTER BASED
63.		REWA	PEN & PAPER BASED	COMPUTER BASED
64.		SAGAR	PEN & PAPER BASED	COMPUTER BASED
65.		SATNA	PEN & PAPER BASED	COMPUTER BASED
66.		SHAHDOL	PEN & PAPER BASED	COMPUTER BASED
67.		UJJAIN	PEN & PAPER BASED	COMPUTER BASED
68.		VIDISHA	PEN & PAPER BASED	COMPUTER BASED
69.	<b>MAHARASHTRA</b>	AMRAVATI	PEN & PAPER BASED	COMPUTER BASED
70.		AURANGABAD	PEN & PAPER BASED	COMPUTER BASED
71.		MUMBAI	PEN & PAPER BASED	COMPUTER BASED
72.		NAGPUR	PEN & PAPER BASED	COMPUTER BASED
73.		NASIK	PEN & PAPER BASED	COMPUTER BASED
74.		PUNE	PEN & PAPER BASED	COMPUTER BASED
75.		THANE	PEN & PAPER BASED	COMPUTER BASED
76.	<b>MANIPUR</b>	IMPHAL	PEN & PAPER BASED	COMPUTER BASED
77.	<b>MEGHALAYA</b>	SHILLONG	PEN & PAPER BASED	COMPUTER BASED
78.	<b>MIZORAM</b>	AIZWAL	PEN & PAPER BASED	COMPUTER BASED
79.	<b>NAGALAND</b>	DIMAPUR	PEN & PAPER BASED	COMPUTER BASED
80.		KOHIMA	PEN & PAPER BASED	COMPUTER BASED
81.		MOKOKCHUNG	PEN & PAPER BASED	COMPUTER BASED
82.	<b>ODISHA</b>	ANGUL	PEN & PAPER BASED	COMPUTER BASED
83.		BALASORE	PEN & PAPER BASED	COMPUTER BASED
84.		BERHAMPUR	PEN & PAPER BASED	COMPUTER BASED
85.		BHAWANIPATNA	PEN & PAPER BASED	COMPUTER BASED
86.		BHUBANESWAR	PEN & PAPER BASED	COMPUTER BASED
87.		CUTTACK	PEN & PAPER BASED	COMPUTER BASED
88.		JEYPORE	PEN & PAPER BASED	COMPUTER BASED
89.		ROURKELA	PEN & PAPER BASED	COMPUTER BASED
90.		SAMBALPUR	PEN & PAPER BASED	COMPUTER BASED
91.	<b>PUDUCHERRY</b>	PUDUCHERRY	PEN & PAPER BASED	COMPUTER BASED

92.	<b>PUNJAB</b>	AMRITSAR	PEN & PAPER BASED	COMPUTER BASED
93.		BATHINDA	PEN & PAPER BASED	COMPUTER BASED
94.	<b>RAJASTHAN</b>	AJMER	PEN & PAPER BASED	COMPUTER BASED
95.		BIKANER	PEN & PAPER BASED	COMPUTER BASED
96.		JAIPUR	PEN & PAPER BASED	COMPUTER BASED
97.		JODHPUR	PEN & PAPER BASED	COMPUTER BASED
98.		KOTA	PEN & PAPER BASED	COMPUTER BASED
99.		UDAIPUR	PEN & PAPER BASED	COMPUTER BASED
100.	<b>SIKKIM</b>	GANGTOK	PEN & PAPER BASED	COMPUTER BASED
101.	<b>TAMILNADU</b>	CHENNAI	PEN & PAPER BASED	COMPUTER BASED
102.		COIMBATORE	PEN & PAPER BASED	COMPUTER BASED
103.		MADURAI	PEN & PAPER BASED	COMPUTER BASED
104.	<b>TELANGANA</b>	HYDERABAD	PEN & PAPER BASED	COMPUTER BASED
105.		KHAMMAM	PEN & PAPER BASED	COMPUTER BASED
106.		WARANGAL	PEN & PAPER BASED	COMPUTER BASED
107.	<b>TRIPURA</b>	AGARTALA	PEN & PAPER BASED	COMPUTER BASED
108.	<b>UTTARAKHAND</b>	DEHRADUN	PEN & PAPER BASED	COMPUTER BASED
109.		HALDWANI	PEN & PAPER BASED	COMPUTER BASED
110.		HARIDWAR	PEN & PAPER BASED	COMPUTER BASED
111.		PANT NAGAR	PEN & PAPER BASED	COMPUTER BASED
112.		ROORKEE	PEN & PAPER BASED	COMPUTER BASED
113.	<b>UTTAR PRADESH</b>	AGRA	PEN & PAPER BASED	COMPUTER BASED
114.		ALLAHABAD	PEN & PAPER BASED	COMPUTER BASED
115.		BAREILLY	PEN & PAPER BASED	COMPUTER BASED
116.		GORAKHPUR	PEN & PAPER BASED	COMPUTER BASED
117.		JHANSI	PEN & PAPER BASED	COMPUTER BASED
118.		KANPUR	PEN & PAPER BASED	COMPUTER BASED
119.		LUCKNOW	PEN & PAPER BASED	COMPUTER BASED
120.		VARANASI	PEN & PAPER BASED	COMPUTER BASED
121.	<b>WEST BENGAL</b>	DURGAPUR	PEN & PAPER BASED	COMPUTER BASED
122.		HOWRAH	PEN & PAPER BASED	COMPUTER BASED
123.		KOLKATA	PEN & PAPER BASED	COMPUTER BASED
124.		SILIGURI	PEN & PAPER BASED	COMPUTER BASED
125.	<b>OUT SIDE INDIA</b>	COLOMBO		COMPUTER BASED
126.		KATHMANDU		COMPUTER BASED
127.		SINGAPORE		COMPUTER BASED
128.		BAHRAIN	PEN & PAPER BASED	COMPUTER BASED
129.		DUBAI	PEN & PAPER BASED	COMPUTER BASED
130.		MUSCAT	PEN & PAPER BASED	COMPUTER BASED
131.		RIYADH	PEN & PAPER BASED	COMPUTER BASED
132.		Sharjah	PEN & PAPER BASED	COMPUTER BASED

**REMARKS: 1. Candidates may kindly note that Paper-2 (B. Arch./B. Planning.) will be conducted on 03/04/2016 from 2.00PM to 5.00PM(IST), only in Pen & Paper based examination cities and also in Colombo, Kathmandu, Singapore.**

**2. The Computer Based Examination for Paper – 1 in Colombo, Kathmandu, Singapore, Bahrain, Dubai, Muscat, Riyadh and Sharjah will be held on 10th April 2016.**

**3. In case of increase in number of candidates opting the city of Delhi for Computer Based Examination of JEE(Main)-2016, some candidates may be allotted examination centre in Noida/Greater Noida/Ghaziabad /Faridabad/ Gurgaon.**

## Appendix 3

### 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. Senior Secondary School Examination conducted by the National Institute of Open Schooling with a minimum of five subjects.
- V. 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).
- VI. H.S.C. vocational examination. **[Only for Admission to IITs]**
- VII. A Diploma recognized by AICTE or a state board of technical education of at least 3 year duration. **[Only for Admission to IITs]**
- 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 4

### 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> / Equivalent 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.

**Note- If a candidate has passed Class 12<sup>th</sup>/ Equivalent qualifying examination from one state but appeared for improvement from another state, his/her state code of eligibility will be from where he/she has originally passed Class 12<sup>th</sup>/ Equivalent qualifying examination and not the state from where he/she has appeared for improvement.**

**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.**

**Candidate passed/appearing class 12<sup>th</sup> from NIOS should select the State of Eligibility according to the state in which the study center is located. The State of Eligibility is not applicable for the candidates belonging to Nepal /Bhutan/Foreign/OCI/PIO.**

The following table lists all State codes of Eligibility.

NAME OF THE STATE /UT	CODE	NAME OF THE STATE /UT	CODE
Andaman & Nicobar Islands (UT)	01	Madhya Pradesh	20
Andhra Pradesh	02	Maharashtra	21
Arunachal Pradesh	03	Manipur	22
Assam	04	Meghalaya	23
Bihar	05	Mizoram	24
Chandigarh (UT)	06	Nagaland	25
Chhattisgarh	07	Odisha	26
Dadra & Nagar Haveli (UT)	08	Puducherry (UT)	27
Daman & Diu (UT)	09	Punjab	28
Delhi	10	Rajasthan	29
Goa	11	Sikkim	30
Gujarat	12	Tamil Nadu	31
Haryana	13	Tripura	32
Himachal Pradesh	14	Uttar Pradesh	33
Jammu & Kashmir	15	Uttarakhand	34
Jharkhand	16	West Bengal	35
Karnataka	17	Telangana	36
Kerala	18	Foreign/OCI/PIO	98
Lakshadweep (UT)	19	Nepal / Bhutan	99

## Appendix 5

# TENTATIVE LIST OF PARTICIPATING INSTITUTIONS IN CENTRALISED SEAT ALLOCATION PROCESS

### **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 (Kerala)
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, Hazratbal, 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, Uttarakhand
30. National Institute of Technology, Warangal
31. National Institute of Technology, Andhra Pradesh, Vatluru, Eluru - 534007

### **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.)
6. Indian Institute of Information Technology, Guwahati (Assam)
7. Indian Institute of Information Technology, Kota (Rajasthan)
8. Indian Institute of Information Technology, Sri City, Chittoor (A. P.)
9. Indian Institute of Information Technology, Vadodara (Gujarat)
10. Indian Institute of Information Technology Manipur Mantripukhri, Imphal 795001
11. Indian Institute of Information Technology Srirangam, Tiruchirappalli
12. Indian Institute of Information Technology Lucknow
13. Indian Institute of Information Technology (IIIT) Dharwad
14. Indian Institute of Information Technology (IIIT) Kurnool
15. Indian Institute of Information Technology (IIIT) Kottayam
16. Indian Institute of Information Technology (IIIT) Kalyani, West Bengal
17. Indian Institute of Information Technology (IIIT) Kilorad, Sonapat, Haryana
18. Indian Institute of Information Technology (IIIT) Una, Himachal Pradesh

#### **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 Infrastructure, Technology, Research & Management, Ahmedabad
6. Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)
7. J.K. Institute of Applied Physics & Technology, University of Allahabad, Allahabad- 211002 (U.P.)
8. Mizoram University, Aizwal-796009
9. National Institute of Foundry & Forge Technology, P.O. Hatia, Ranchi (Jharkhand).
10. School of Planning and Architecture, Bhopal (Madhya Pradesh)
11. School of Planning and Architecture, I.P. Estate, New Delhi (SPA, Delhi).
12. School of Planning and Architecture, Vijaywada (Andhra Pradesh)
13. Shri Mata Vaishno Devi University, Katra-182320 (J & K)
14. Tezpur University, NAPAAM, Tezpur (Assam)
15. Indian Institute of Engineering Science & Technology, Shibpur, Distt Howrah (Formerly Bengal Engineering & Science University Shibpur)
16. Indian Institute of Crop Processing Technology, Thanjavur, Tamilnadu
17. National Institute of Electronics and Information Technology, Aurangabad, Maharashtra
18. Sant Longowal Institute of Engineering and Technology Longowal – 148106, Distt. Sangrur (Pb.), India

**Many States/Institutes used JEE (MAIN) -2015 ranks to fill seats through their own Seat Allocation Process are listed here.**

- |            |   |                   |
|------------|---|-------------------|
| 1. Haryana | 2. Uttarakhand                            | 3. Nagaland       |
| 4. Gujarat | 5. Maharashtra                            | 6. Madhya Pradesh |
| 7. Odisha  | 8. Punjab Technical University, Jalandhar |                   |



9. Punjab Engineering College, Chandigarh
10. Indian Institute of Science, Bangalore
11. Indian Institute of Space Technology, Thiruvananthapuram
12. Indraprastha Institute of Information Technology, Delhi
13. Delhi Technological University, New Delhi.
14. Delhi Technological University for Women, New Delhi.
15. Indian Institute of Crop Processing Technology, Thanjavur
16. Netaji Subhash Institute of Technology (under Delhi University).

**Following Self Financed Deemed Universities/Universities/Other Institutions also participated in CENTRAL SEAT ALLOCATION BOARD (CSAB) through JEE (Main) 2015.**

**(Eligible only for Spot Round)**

- 1 AISECT UNIVERSITY, RAISEN, MADHYA PRADESH
- 2 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY HARYANA, GURGAON, HARYANA
- 3 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY MADHYA PRADESH, GWALIOR, MADHYA PRADESH
- 4 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY MUMBAI, MAHARASHTRA
- 5 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY RAJASTHAN, JAIPUR, RAJASTHAN
- 6 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY UTTAR PRADESH, LUCKNOW, UTTAR PRADESH
- 7 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY UTTAR PRADESH, NOIDA, UTTAR PRADESH
- 8 AMITY SCHOOL OF ENGINEERING, AMITY UNIVERSITY WEST BENGAL, KOLKATA, WEST BENGAL
- 9 AMITY SCHOOL OF ENGINEERING, GREATER NOIDA, UTTAR PRADESH
- 10 AMITY SCHOOL OF ENGINEERING, RAIPUR, CHHATTISGARH
- 11 DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT, PALWAL, DELHI –NCR
- 12 DR. K.N. MODI UNIVERSITY, TONK, RAJASTHAN
- 13 GALGOTIAS UNIVERSITY UTTAR PRADESH, GREATER NOIDA, UTTAR PRADESH
- 14 INSTITUTE OF ENGINEERING AND TECHNOLOGY (IET), JK LAKSHMIPAT UNIVERSITY (JKLU), JAIPUR,
- 15 ITM UNIVERSITY GWALIOR, MADHYA PRADESH
- 16 JAGAN NATH UNIVERSITY, BAHADURGARH, NCR, HARYANA
- 17 JAGAN NATH UNIVERSITY, TONK ROAD, JAIPUR
- 18 JAGRAN LAKECITY UNIVERSITY, SCHOOL OF ENGINEERING & TECHNOLOGY, BHOPAL
- 19 KALASALINGAM ACADEMY OF RESEARCH AND EDUCATION, ANAND NAGAR, KRISHNANKOIL, (TN)
- 20 LOVELY SCHOOL OF TECHNOLOGY, LOVELY PROFESSIONAL UNIVERSITY, KAPURTHALA, PUNJAB
- 21 MAHARISHI MARKANDESHWAR UNIVERSITY, SADOPUR-AMBALA, HARYANA
- 22 MERI-COLLEGE OF ENGINEERING AND TECHNOLOGY, ROHTAK ROAD, DELHI - NCR
- 23 PEOPLE'S UNIVERSITY, BHOPAL, MADHYA PRADESH
- 24 POORNIMA UNIVERSITY, JAIPUR, RAJASTHAN
- 25 R.P. INDERAPRATHA INSTITUTE OF TECHNOLOGY TECHNICAL CAMPUS, KARNAL, HARYANA (DELHI NCR)
- 26 SAMALKHA GROUP OF INSTITUTIONS, SAMALKHA, DELHI NCR
- 27 SHARDA UNIVERSITY, SCHOOL OF ENGINEERING, GREATER NOIDA, UTTAR PRADESH
- 28 SHRI RAM COLLEGE OF ENGINEERING & MANAGEMENT, PALWAL, DELHI NCR
- 29 TECHNO GLOBAL UNIVERSITY, SHILLONG (RESIDENTIAL), SHILLONG, MEGHALAYA
- 30 TECHNO GLOBAL UNIVERSITY, SIRONJ (RESIDENTIAL), BHOPAL, MADHYA PRADESH
- 31 TECHNO INDIA UNIVERSITY, KOLKATA, WEST BENGAL (RESIDENTIAL)
- 32 THE ICFAI UNIVERSITY, JAIPUR, RAJASTHAN
- 33 VEL TECH DR.RR & DR. SR TECHNICAL UNIVERSITY, AVADI, CHENNAI, TAMIL NADU
- 34 VIVEKANANDA GLOBAL UNIVERSITY, JAIPUR, RAJASTHAN

**Final List of Institutions admitting students (with intake in each discipline and category as per reservation) through JEE (Main)-2016 shall be available on the website of SEAT ALLOCATION BOARD in the month of May/June 2016.**

## Appendix 6

### **BOARDS/UNIVERSITIES CONDUCTING CLASS 12<sup>TH</sup>/EQUIVALENT EXAMINATION**

1. ANDHRA PRADESH BOARD OF INTERMEDIATE EDUCATION
2. ASSAM HIGHER SECONDARY EDUCATION COUNCIL
3. BIHAR INTERMEDIATE EDUCATION COUNCIL (BIHAR SCHOOL EXAMINATION BOARD)
4. CENTRAL BOARD OF SECONDARY EDUCATION
5. CHATTISGARH MADHYAMIK SHIKSHA MANDAL (CHATTISGARH BOARD OF SECONDARY EDUCATION)
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. JAMIA MILIA ISLAMIA, NEW DELHI
31. ALIGARH MUSLIM UNIVERSITY, ALIGARH
32. DAYALBAGH EDUCATIONAL INSTITUTE, AGRA
33. BANASTHALI VIDYAPEETH, RAJASTHAN
34. VISHWA BHARTI UNIVERSITY, SHANTINIKETAN, BIRBHOOM, WB
35. RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES, HYDERABAD
36. HARYANA OPEN SCHOOL, BHIWANI
37. RAJASTHAN STATE OPEN SCHOOL, JAIPUR
38. M P STATE OPEN SCHOOL, BHOPAL

39. ANDHRA PRADESH OPEN SCHOOL SOCIETY
40. BIHAR BOARD OF OPEN SCHOOLING EXAMINATION
41. CHHATTISGARH STATE OPEN SCHOOL
42. CBSE i (CBSE international)
43. TELANGANA BOARD OF INTERMEDIATE EDUCATION
44. TELANGANA PRADESH OPEN SCHOOL SOCIETY
45. WEST BENGAL COUNCIL OF RABINDRA OPEN SCHOOLING
46. ASSAM STATE OPEN SCHOOL
47. DIRECTORATE GENERAL OF MILITARY TRAINING (RIMC)
81. BHUTAN HIGHER SECONDARY EDUCATION CERTIFICATE
82. 'A' LEVEL OF GENERAL CERTIFICATE OF EDUCATION, CAMBRIDGE UNIVERSITY (IGSE)
83. INTERNATIONAL BACCALAUREATE
84. EDEXCEL, LONDON (UK)
85. HIGHER SECONDARY EDUCATION BOARD, NEPAL
98. TECHNICAL/VOCATIONAL BOARD
99. OTHER BOARD

**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. **The candidates should verify the serial number and series of the Test Booklet with the serial number and series of OMR sheet. In case of any variation, the Test Booklet and OMR sheet should be immediately returned to the invigilator for the replacement with another set of same series available in the examination hall/centre.**
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      ●      ②      ③      ④

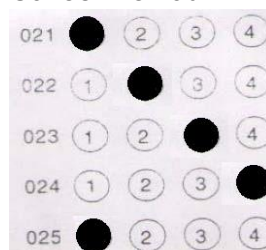
- (ii) Use Blue or Black Ball Point Pen to completely darken the appropriate circle, i.e. one circle for each entry.

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. So, the circle should be properly darkened.

- (iv) The Correct way of marking is shown below.

**Correct Method**



(v) If the candidate does not want to attempt any question he/she should not darken the circle given against that question.

(vi) Please do not fold the Answer Sheet and do not make any stray marks on it.

(vii) **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.

(viii) **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 except the 'Correct Method' shown above, it shall be treated as wrong way of marking and  $\frac{1}{4}$  (one fourth) marks i.e. one mark will be deducted for each question.

(ix) 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 Test Booklet.**

WARNING1. PERSONS REMOVING PAGES FROM THE TEST-BOOKLET DURING EXAMINATION, IMPERSONATING OR TRYING TO APPEAR IN THE SEAT ALLOCATION PROCESS 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 8

**TIME SCHEDULE FOR JEE (Main) - 2016**

**(A) TIME SCHEDULE FOR Pen and Paper based examination**

	<b>Paper-1(B.E./B.Tech.)</b>	<b>Paper-2(B.Arch./B. Planning.)</b>
DATES OF EXAMINATION	<b>03.04.2016 (Sunday)</b>	<b>03.04.2016 (Sunday)</b>
a) Entry in the Examination Hall	0900 HRS. (IST)	1330 HRS. (IST)
b) Distribution of Test Booklet	0920 HRS. (IST)	1350 HRS. (IST)
c) Seal of the Test Booklet to be broken/opened to take out the Answer Sheet	0925 HRS. (IST)	1355 HRS. (IST)
d) Last entry in the Examination Hall	0930 HRS. (IST)	1400 HRS. (IST)
e) Test commences	0930 HRS. (IST)	1400 HRS. (IST)
f) Test concludes	1230 HRS. (IST)	1700 HRS. (IST)

**(B) TIME SCHEDULE FOR COMPUTER BASED EXAMINATION**

DATES OF EXAMINATION FOR PAPER-1 (B. E./B. TECH.): <b>09<sup>th</sup> &amp; 10<sup>th</sup> April 2016</b>		
	Morning Session	Afternoon session*
a) Entry in the Examination Hall	0900 HRS. (IST)	1330 HRS. (IST)
b) Last entry in the Examination Hall	0930 HRS. (IST)	1400 HRS. (IST)
c) Test commences	0930 HRS. (IST)	1400 HRS. (IST)
d) Test concludes	1230 HRS. (IST)	1700 HRS. (IST)

\* If required.

**"Form-I  
APPLICATION FOR OBTAINING DISABILITY CERTIFICATE BY PERSONS  
WITH DISABILITIES  
(See rule 3)**

1. Name: (Surname) \_\_\_\_\_ (First name) \_\_\_\_\_ (Middle name) \_\_\_\_\_

2. Father's name: \_\_\_\_\_ Mother's name: \_\_\_\_\_

3. Date of Birth: (date) \_\_\_\_\_ / (month) \_\_\_\_\_ / (year) \_\_\_\_\_

4. Age at the time of application: \_\_\_\_\_ years

5. Sex: \_\_\_\_\_ Male/Female

6. Address:

(a) Permanent address

\_\_\_\_\_  
\_\_\_\_\_

(b) Current Address (i.e. for communication)

\_\_\_\_\_  
\_\_\_\_\_

(c) Period since when residing at current address

\_\_\_\_\_

7. Educational Status (Pl. tick as applicable)

- I. Post Graduate
- II. Graduate
- III. Diploma
- IV. Higher Secondary
- V. High School
- VI. Middle
- VII. Primary
- VIII. Illiterate

8. Occupation \_\_\_\_\_

9. Identification marks (i) \_\_\_\_\_ (ii) \_\_\_\_\_

10. Nature of disability: locomotor/hearing/visual/mental/others

11. Period since when disabled: From Birth/Since year \_\_\_\_\_

12. (i) Did you ever apply for issue of a disability certificate in the past \_\_\_\_\_ YES/NO

(ii) If yes, details:

a. Authority to whom and district in which applied \_\_\_\_\_

b. Result of application \_\_\_\_\_

13. Have you ever been issued a disability certificate in the past? If yes, please enclose a true copy.

Declaration: I hereby declare that all particulars stated above are true to the best of my knowledge and belief, and no material information has been concealed or misstated. I further, state that if any inaccuracy is detected in the application, I shall be liable to forfeiture of any benefits derived and other action as per law.

\_\_\_\_\_  
(Signature or left thumb impression of person with disability, or of his/her legal guardian in case of persons with mental retardation, autism, cerebral palsy and multiple disabilities)

Date:

Place:

Encl:

1. Proof of residence (Please tick as applicable)
  - a. ration card,
  - b. voter identity card,
  - c. driving license,
  - d. bank passbook
  - e. PAN card,
  - f. passport,
  - g. telephone, electricity, water and any other utility bill indicating the address of the applicant,
  - h. a certificate of residence issued by a Panchayat, municipality, cantonment board, any gazetted officer, or the concerned Patwari or Head Master of a Govt. school,
  - i. in case of an inmate of a residential institution for persons with disabilities, destitute, mentally ill, etc., a certificate of residence from the head of such institution.
2. Two recent passport size photographs

(For office use only)

Date:

Place:

Signature of issuing authority  
Stamp



**Disability Certificate**  
**(In cases of amputation or complete permanent paralysis of limbs**  
**and in cases of blindness)**  
**(See rule 4)**

**(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING THE**  
**CERTIFICATE)**

Recent PP size  
attested  
photograph  
(showing face  
only) of the  
person with  
disability

Certificate No. \_\_\_\_\_

Date: \_\_\_\_\_

This is to certify that I have carefully examined  
Shri/Smt./Kum. \_\_\_\_\_ son/wife/daughter of  
Shri \_\_\_\_\_ Date of Birth (DD / MM / YY) \_\_\_\_ \_\_\_\_ \_\_\_\_ Age \_\_\_\_ years,  
male/female Registration No. \_\_\_\_\_ permanent resident of House No. \_\_\_\_\_ Ward/Village/  
Street \_\_\_\_\_ Post Office \_\_\_\_\_ District  
\_\_\_\_\_ State \_\_\_\_\_, whose photograph is affixed above, and am satisfied that:

(A) he/she is a case of:

- locomotor disability
- blindness

(Please tick as applicable)

(B) the diagnosis in his/her case is \_\_\_\_\_

(A) He/ She has \_\_\_\_\_ %(in figure) \_\_\_\_\_ percent (in words) permanent physical  
impairment/blindness in relation to his/her \_\_\_\_\_ (part of body) as per guidelines (to be specified).

2. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate

(Signature and Seal of Authorised Signatory of  
notified Medical Authority)

Signature/thumb  
impression of the  
person in whose  
favour disability  
certificate is  
issued.

**Form-III**

**Disability Certificate  
(In case of multiple disabilities)  
(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING THE  
CERTIFICATE)  
(See rule 4)**

Recent PP size  
attested  
photograph  
(showing face  
only) of the  
person with  
disability

Certificate No. \_\_\_\_\_

Date: \_\_\_\_\_

This is to certify that we have carefully examined  
Shri/Smt./Kum. \_\_\_\_\_/son/wife/ daughter  
of Shri \_\_\_\_\_ Date of Birth (DD / MM / YY) \_\_\_\_ \_\_\_\_  
\_\_\_\_\_ Age \_\_\_\_\_ years, male/female \_\_\_\_\_ Registration No.  
\_\_\_\_\_ Permanent \_\_\_\_\_ house  
No. \_\_\_\_\_ Ward/Village/Street \_\_\_\_\_ Post  
Office \_\_\_\_\_ District \_\_\_\_\_ State \_\_\_\_\_, whose  
photograph is affixed above, and are satisfied that:

(A) He/she is a Case of **Multiple Disability**. His/her extent of permanent physical impairment/disability has been evaluated as per guidelines (to be specified) for the disabilities ticked below, and shown against the relevant disability in the table below:

<b>S. No.</b>	<b>Disability</b>	<b>Affected Part of Body</b>	<b>Diagnosis</b>	<b>Permanent physical impairment/mental disability (in %)</b>
1	Locomotor disability	@		
2	Low vision	#		
3	Blindness	<b>Both Eyes</b>		
4	Hearing impairment	£		
5	Mental retardation	X		

6	Mental-illness	X		
---	----------------	---	--	--

(B) In the light of the above, his /her over all permanent physical impairment as per guidelines(to be specified), is as follows:-

In figures: - \_\_\_\_\_percent

In words:- \_\_\_\_\_percent

2. This condition is progressive/ non-progressive/ likely to improve/ not likely to improve.

3. Reassessment of disability is:

(i) not necessary,

**Or**

(ii) is recommended/ after \_\_\_\_\_years\_\_\_\_\_months, and therefore this certificate shall be valid till (DD / MM / YY) \_\_\_\_\_

**@ - e.g. Left/Right/both arms/legs**

**# - e.g. Single eye/both eyes**

**£ - e.g. Left/Right/both ears**

4. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate

5. Signature and seal of the Medical Authority.

Name and seal of Member	Name and seal of Member	Name and seal of the Chairperson

Signature/thumb impression of the person in whose favour disability certificate is issued.

**Form-IV**

**Disability Certificate  
(In cases other than those mentioned in Forms II and III)**

**(NAME AND ADDRESS OF THE MEDICAL AUTHORITY ISSUING THE  
CERTIFICATE)  
(See rule 4)**

Recent PP size  
attested  
photograph  
(showing face  
only) of the  
person with  
disability

Certificate No. \_\_\_\_\_

Date: \_\_\_\_\_

This is to certify that I have carefully examined  
Shri/Smt./Kum. \_\_\_\_\_ son/ wife/daughter of  
Shri \_\_\_\_\_ Date of Birth (DD / MM / YY) \_\_\_\_ \_\_\_\_  
\_\_\_\_ Age \_\_\_\_\_ years, male/female \_\_\_\_\_ Registration No.  
\_\_\_\_\_ permanent resident of House No. \_\_\_\_\_ Ward/Village / Street  
\_\_\_\_\_ Post \_\_\_\_\_ Office \_\_\_\_\_ District  
\_\_\_\_\_ State \_\_\_\_\_, whose photograph is affixed above and am satisfied that he/she is a case  
of \_\_\_\_\_ disability. His/her extent of percentage physical impairment/disability has been  
evaluated as per guidelines (to be specified) and is shown against the relevant disability in the table below:-

S. No.	Disability	Affected Part of Body	Diagnosis	Permanent physical impairment/mental disability (in %)
1	Locomotor disability	@		
2	Low vision	#		
3	Blindness	<b>Both Eyes</b>		
4	Hearing impairment	£		
5	Mental retardation	<b>X</b>		
6	Mental-illness	<b>X</b>		

(Please strike out the disabilities which are not applicable.)

2. The above condition is progressive/ non-progressive/ likely to improve/ not likely to improve.

3. Reassessment of disability is :

(i) not necessary,

**Or**

(ii) is recommended/ after \_\_\_\_\_ years \_\_\_\_\_ months, and therefore this certificate shall be valid till (DD / MM / YY) \_\_\_\_\_

December 12, 2015

**@ - e.g. Left/Right/both arms/legs**

**# - e.g. Single eye/both eyes**

**£ - e.g. Left/Right/both ears**

4. The applicant has submitted the following document as proof of residence:-

Nature of Document	Date of Issue	Details of authority issuing certificate

(Authorised Signatory of notified Medical Authority)  
(Name and Seal)

Countersigned

{Countersignature and seal of the  
CMO/Medical Superintendent/Head of  
Government Hospital, in case the  
certificate is issued by a medical  
authority who is not a government  
servant (with seal)}

Signature/thumb  
impression of the  
person in whose  
favour disability  
certificate is  
issued.

Note: In case this certificate is issued by a medical authority who is not a government servant, it shall be valid only if countersigned by the Chief Medical Officer of the District."

Note: The principal rules were published in the Gazette of India vide notification number S.O. 908(E), dated the 31st December, 1996.

**Form-V**

**Intimation of Rejection of Application for Disability Certificate (See rule 4)**

No. \_\_\_\_\_

Dated:

To,

(Name and address of applicant for Disability Certificate)

Sub.: Rejection of Application for Disability Certificate

Sir / Madam,

Please refer to your application dated \_\_\_\_\_

for issue of a Disability Certificate for the following disability: \_\_\_\_\_

2. Pursuant to the above application, you have been examined by the undersigned/ Medical Board on \_\_\_\_\_, and I regret to inform that, for the reasons mentioned below, it is not possible to issue a disability certificate in your favour:

(i)

(ii)

(iii)

3. In case you are aggrieved by the rejection of your application, you may represent to \_\_\_\_\_, requesting for review of this decision.

Yours faithfully,

(Authorised Signatory of the notified Medical Authority)  
(Name and Seal)

### IMPORTANT INFORMATION AT A GLANCE

1	a. Dates of JEE (Main) for Pen and Paper Based examination <b>03.04.2016 (Sunday)</b>	PAPER – 1 (B.E./ B.Tech.) PAPER – 2 (B.Arch./B. Planning)	0930-1230 hrs (IST) 1400-1700 hrs (IST)
	b. Date of JEE (Main) (Computer Based Examination)		<b>09/04/2016 (Saturday)</b> <b>10/04/2016 (Sunday)</b>
	c. Online submission of application on website <a href="http://www.jeemain.nic.in">www.jeemain.nic.in</a>		01.12.2015 – 31.12.2015
2	<b>Last date for</b> Online submission of applications		31.12.2015
3	Date of Availability of Admit Card for JEE (Main) on Website		2 <sup>nd</sup> week of March 2016 onwards
4	Centre of Examination	<b>As indicated on the Admit Card</b>	
5.	Display of Answer key and image of response (OMR) sheet	<b>18 – 22 April 2016</b>	
5	Declaration of JEE (Main) Paper-1 Score and top 150000 candidates eligible for appearing in JEE (Advanced)	<b>27.04.2016</b>	
6	Declaration of All India Rank JEE (Main) Paper – 1 & Paper – 2.	<b>On or before 30.06.2016</b>	
7	Availability of Score/Rank Cards on website	After declaration of All India Rank (AIR) of JEE (Main)-2016	
8	Materials to be brought on the day of examination	Admit Card, document as required under point no. 4 of para 7.1 and Ball Point Pen of good quality. However, the candidates who have also opted for Paper-2 (B. Arch./B. Planning.) of JEE (Main), 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	