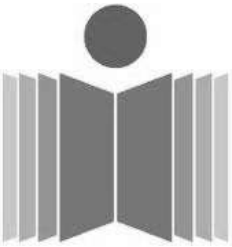
JEE (ADVANCED) -2014

Information Brochure



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1. INTRODUCTION

Indian Institutes of Technology (IITs) are institutions of national importance established through an Act of Parliament for fostering excellence in education. There are sixteen IITs at present, located at Bhubaneswar, Chennai, Delhi, Gandhinagar, Guwahati, Hyderabad, Indore, Jodhpur, Kanpur, Kharagpur, Mandi, Mumbai, Patna, Ropar, Roorkee and Varanasi. Over the years IITs have created world class educational platform that is dynamically sustained through quality teaching and internationally acclaimed research with excellent infrastructure and the best available minds. The faculty and alumni of IITs continue to make huge impact in all sectors of the society, both in India and abroad. Indian School of Mines(ISM), Dhanbad, is one of the oldest institutions in India and is known for its immense contributions towards society at large and for science and technology in particular.

Primary objectives of these institutions are to:

- build a solid foundation of scientific and technical knowledge and thus to prepare competent and motivated engineers and scientists
- create environment for freedom of thought, cultivate vision, encourage growth, develop personality and self-discipline for pursuit of excellence
- kindle entrepreneurial streak in the students

These Institutes admit students with these objectives and prepare them to become outstanding professionals and contribute to nation building. Today, alumni of these institutions occupy key positions in industry and academia, in India and abroad.

Each institute has well-equipped modern laboratories, state-of-the-art computer network and well-stocked technical library. Teaching methods rely on direct personal contact between the teachers and the students, and the use of traditional and modern instructional techniques. Students live in a pleasant and intellectually stimulating environment with people having similar goals and aspirations, which is an exciting and unique experience.

These Institutes offer courses leading to Bachelor's degree in a number of engineering, technological and science disciplines. Integrated M.Sc. courses in pure and applied sciences and Integrated M.Tech. courses in a few disciplines are also offered by some of these Institutions. In addition, some IITs offer Dual-Degree M.Tech. programmes, wherein both B.Tech. and M.Tech. degrees are awarded on completion of the programme.

Credit-based academic programmes offer flexibility to students to progress at their own pace. A minimum level of performance is necessary for satisfactory progress. The medium of instruction is English.

The Joint Entrance Examination (Advanced)-2014 will be conducted by seven zonal IITs (under the directives of the Joint Admission Board) for admission to the undergraduate programmes in all IITs and ISM Dhanbad. Only the top 150000

candidates (including all categories) based on their scores in Paper-1 of JEE (Main)-2014 will be eligible to appear in JEE (Advanced)-2014. JEE (Main)-2014 will be conducted by CBSE on behalf of the JEE Apex Board during the month of April, 2014 (both online and offline modes). For details of JEE (Main)-2014, candidates are advised to visit http://www.jeemain.nic.in. A certain number (based on the seats available in all IITs and ISM Dhanbad) of successful candidates (Indian and foreign nationals) above a certain All India Rank (AIR) in JEE (Advanced)-2014 will be offered admission.

2. ABOUT JEE (Advanced)-2014

JEE (Advanced)-2014 will be jointly conducted by IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kanpur, IIT Kharagpur, IIT Madras and IIT Roorkee. These institutes are referred to as the *zonal IITs*. The details of the pattern and the dates of examination, eligibility criteria and how to apply are outlined below:

2.1 Schedule of JEE (Advanced)-2014

The JEE (Advanced)-2014 will be held on **Sunday, May 25, 2014** as per the schedule given below:

Paper 1: 09:00 to 12:00 hrs (IST)
Paper 2: 14:00 to 17:00 hrs (IST)

The schedule will remain unaltered even if the above day is declared a public holiday.

2.2 Type of Examination

In JEE (Advanced)-2014, there will be two papers, each of three hours duration. The question papers will be printed separately in English and Hindi. Candidates have to specify their choice of question paper language at the time of online registration for JEE (Advanced)-2014. Each of the question papers will consist of three separate parts in Physics, Chemistry and Mathematics. The detailed syllabi are given in **APPENDIX-1**. The questions will be of objective (multiple choice) type, designed to test comprehension, reasoning and analytical ability of candidates. In some sections, incorrect answers may be awarded with negative marks.

Candidates will be provided with a two page doublet of optical response sheet (ORS) for answering. The answers for each of the questions are to be marked on the front page of the ORS by darkening the appropriate bubble/ bubbles (as per instructions in the question paper). The front page is the machine readable ORS on which the candidates have to indicate their answers. The front page is so designed as to leave impressions of the responses on page below, having the same layout of bubbles. **Candidates must not separate or disturb the alignment of the two pages of the ORS at any stage during the examination**. Candidates are directed to use **black ball point pen only** to darken the bubble(s) given as choices of answers to the questions. Candidates must strictly follow the instructions printed on the question paper for

appropriate way of darkening the bubbles for valid answers. While darkening the bubbles, apply adequate pressure to ensure that a proper impression is made on the page below. The lower page containing impressions of bubbles will be given to candidates by the invigilator after carefully separating the two pages at the end of the examination.

2.3 Examination for Blind Candidates

A blind candidate can request for the services of amanuensis (Scribe). The scribe will be provided by the Presiding Officer (PO) of the Examination Centre and will be of Class-XI standard from Science stream with Mathematics. The candidate will be able to meet the scribe provided by the PO a minimum of one hour before the scheduled examination time. One hour extra time to write the examination will be provided. For this, the candidate must submit a separate request letter to the Chairman of the respective zonal IIT while registering for JEE (Advanced)-2014 along with a copy of the PwD certificate obtained from the district medical board. The format of the letter is given in **APPENDIX-2**. The soft (scanned) copies of the request letter along with PwD certificate must be uploaded during the registration process.

2.4 Cities/Towns of JEE (Advanced)-2014 Centres

JEE (Advanced) - 2014 will be conducted in selected cities and towns of India. The list of cities / towns having examination centres is given in **APPENDIX-3**. While registering, candidates should select three **towns/cities in the same zone**. All correspondence in this matter should be addressed to the respective zonal IIT.

Efforts will be made to allot the city/town of choice of the candidates. However, in some exceptional circumstances, a different city in the same zone may be allotted. **Request from a candidate for change of city/town allotted to him/her will NOT be entertained under any circumstances.**

2.5 Items Prohibited in the Examination Hall

Electronic devices like mobile phone, calculator, iPod, iPad etc. are **NOT PERMITTED** in JEE (Advanced) - 2014. Further, items like log table, abacus, slide rule, book, notebook, geometry box etc. and any other means of calculation are also **strictly prohibited in the examination hall**.

3. ELIGIBILITY TO WRITE JEE (Advanced) - 2014 AND ELIGIBILITY FOR ADMISSION

Candidates who wish to write JEE (Advanced) - 2014 must write the Paper-1 of JEE (Main)-2014 in the month of April 2014. For eligibility criteria for appearing in JEE (Main) - 2014, please refer to **http://www.jeemain.nic.in**. Only top 1, 50,000 candidates (including all categories) qualified in Paper-1 of JEE (Main) - 2014 will be eligible to appear for JEE (Advanced) -2014.

Distribution of top 1, 50,000 candidates across various categories in the merit list of JEE (Main)-2014 are as follows:

- Top 75750 (50.5%) from the common merit list (CML)
- Top 40500 (27%) from Other Backward Classes-Non creamy layer OBC(NCL),
- Top 22500 (15%) from Scheduled Caste(SC)
- Top 11250 (7.5%) from Scheduled Tribe(ST) candidates

3% of total seats in each category are reserved for PwD candidates (i.e. 2272 GE-PwD, 1215 OBC (NCL) - PwD, 675 SC-PwD and 338 ST-PwD).

3.1 Age Limit

Candidates of GE and OBC categories must have been born on or after October 01, 1989 and those of SC, ST and PwD categories must have been born on or after October 01, 1984.

3.2 Number of Attempts in JEE (Advanced)

A candidate can attempt JEE (Advanced) a maximum of two times and that too, in *consecutive* years. However, being in the top 1, 50,000 in JEE (Main)-2014 is the prime eligibility criterion applicable to all irrespective of the attempt number. Those who appeared in their Qualifying Examination (QE) in 2012 or earlier (irrespective of whether they passed or failed) are **NOT ELIGIBLE**. Candidates who attempted IIT-JEE in 2012 or earlier, are also **NOT ELIGIBLE** to appear in JEE (Advanced)-2014.

3.3 Earlier Admission Taken Through JEE (Advanced)-2013

Candidates who had earlier taken admission (irrespective of whether or not they continued in any of the programmes) or accepted admission by paying the admission fee at any of the IITs or ISM Dhanbad, are **NOT ELIGIBLE** to appear in JEE (Advanced)-2014.

3.4 Performance Criteria in Qualifying Examination (QE)

Admission to IITs and ISM Dhanbad will be based only on category wise All India Rank (AIR) in JEE (Advanced)-2014 subject to the condition that such candidates are among the top 20 percentile of **successful** candidates of their Boards in respective categories. PwD candidates will be given relaxation in the eligibility criteria as per the decision of the Joint Admission Board of JEE (Advanced)-2014 in consonance with the directives of the Government of India.

In case a Board does not provide the information regarding the cut-off for top 20 percentile of successful candidates in respective category, the candidate will have to produce a certificate from the concerned Board stating that he/she falls within the top 20 percentile of successful candidates. If the candidate fails to do so, then the **CBSE**

percentile will be used as the criteria for deciding minimum cut off marks in qualifying examination.

Candidates who passed their QE in 2013 will be considered on the basis of the top 20 percentile cut off marks of their boards in 2013. Candidates, who passed in 2013 and would improve their performance of QE in 2014, will be considered on the basis of 2014 cut off marks of their respective Boards in their respective category.

If any Board awards only letter grades without providing an equivalent percentage of marks on the grade sheet, the candidate should obtain a certificate from the Board specifying the equivalent marks, and submit it at the time of online acceptance of seat. In case such a certificate is not provided the decision taken by the Joint Implementation Committee (JIC) of JEE (Advanced)-2014 will be final.

A current list of recognized Qualifying Examinations is furnished below:

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). (Please visit "http://www.aiuweb.org" for more details)
VI. H.S.C. vocational examination.
VII. A Diploma recognized by AICTE or a state board of technical education of at least 3 year duration.
VIII. General Certificate Education (GCE) examination (London / Cambridge / Sri Lanka) at the Advanced (A) level.
IX. High School Certificate Examination of the Cambridge University or International Baccalaureate Diploma of the International Baccalaureate Office, Geneva.

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.

3.5 Important Points

(i) The offer of admission is subject to verification of original certificates/ documents at the time of seat acceptance. **If any candidate is found ineligible on any ground at a later date even after admission to an Institute, his/her admission will be cancelled.**

(ii) If a Board invariably declares the results of the QE after July 15 every year, the candidate is advised not to attempt JEE (Advanced)-2014. It may be noted that candidates must produce statement of marks of the QE at the time of admission (additional time will NOT be provided for the same).

(iii) The decision of the Joint Admission Board of JEE (Advanced)-2014 regarding the eligibility/admission of any applicant shall be final.

4. RESERVATION OF SEATS

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

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

Benefit of OBC (NCL), SC and ST reservation shall be given only to those classes/castes/tribes which are in the respective central list of corresponding states published by the Government of India. Candidates (belonging to OBC (NCL), SC, ST and PwD) who will be eligible to write JEE (Advanced) – 2014 must upload the soft (scanned) copy of their category certificate during the online registration.

4.1 SC and ST Candidates

For candidates belonging to SC and ST categories, 15% and 7.5% seats, respectively, are reserved in every programme in all IITs, and ISM Dhanbad. Candidates belonging to these categories will be declared qualified on the basis of a relaxed criterion.

Candidates belonging to SC and ST categories will be required to produce the original caste/tribe certificate issued by a competent authority in the prescribed format (**APPENDIX–4**) during admission. Seats remaining vacant in these categories shall not be filled by candidates belonging to any other category.

4.2 OBC (NCL) Candidates

For candidates belonging to OBC (Non Creamy Layer), 27% of the seats are reserved in all IITs, and ISM Dhanbad. For the purpose of reservation of seats in JEE (Advanced)-2014, a candidate will be considered as OBC only if he/she belongs to the **non-creamy layer** of this category. Those belonging to the creamy layer of OBC are **NOT** entitled for reservation. In case the reserved seats in this category are not filled, they can be filled by GE category candidates.

The soft copy of the category certificate issued after June 01, 2013 by a competent authority in the prescribed format (**APPENDIX–5 or may also be downloaded directly from http://jeeadv.iitkgp.ac.in**) is required to be uploaded during the online registration for JEE (Advanced)-2014. Candidates are advised to ensure that the certificate that they are submitting is according to the latest guidelines of the Government of India. Visit http://www.ncbc.nic.in for latest updates and the Central List of State wise OBCs.

4.3 Persons with Disability (PwD)

In each institute 3% of seats in every category are reserved for Persons with Disability (PwD). For any type of disability (viz., locomotor, visual, dyslexia, speech, and/or hearing) benefit would be given to those who have at least 40% physical impairment. Leprosy-cured candidates who are otherwise fit to pursue the course are also included in this sub-category. Candidates belonging to this PwD sub-category are declared qualified on the basis of a relaxed criterion.

Candidates who are Persons with Disability will be required to submit the original certificate issued by a district medical board/competent authority in the prescribed format (**APPENDIX–6 or may also be downloaded directly from http://jeeadv.iitkgp.ac.in**) at the time of admission. Candidates are advised to ensure that the certificate that they are submitting is according to the latest guidelines of the Government of India (visit the web site of the Ministry of Social Justice and Empowerment, Department of Disability Affairs for latest information)

4.4 Preparatory Course

In case the seats reserved for SC and ST candidates are not filled, a limited number of candidates are offered admission to a Preparatory Course of one year duration on the basis of further relaxation of admission criteria. The same policy also holds for candidates belonging to PwD subcategory of all categories (GE, OBC (NCL), SC and ST). Admission is given to the candidates in the preparatory course **against the branches (and Institute) allocated to them** provided (i) the seats reserved for the respective category are vacant, (ii) candidates satisfy minimum norms, and (iii) candidates have not undergone the Preparatory Course earlier. On successful completion of the course, the students will be offered direct admission to the undergraduate programs **in the same branch in the allocated Institute** in July/August 2015, against the unfilled reserved seats for JEE (Advanced)-2014.

5. PREFERENTIAL ALLOTMENT OF SEATS FOR DS CANDIDATES

Two seats are available for preferential allotment in each Institute for children of defence/paramilitary personnel killed or permanently disabled in action during war or peacetime operations (DS). Such candidates should upload the relevant certificate issued by a competent authority in the Directorate of Resettlement and Rehabilitation, New Delhi under the Ministry of Defence, Govt. of India or in the Ministry of Home

Affairs, Govt. of India, as applicable, during the online registration for JEE (Advanced)-2014. To avail this preferential allotment, he/she must obtain a rank in the Common Merit List of JEE (Advanced)-2014 (see **Section 10.1**) and should produce the original certificate at the time of admission.

6. REGISTRATION PROCESS FOR JEE (Advanced)-2014

Results of JEE (Main)-2014 will be declared by May 3, 2014. Top 1, 50,000 (including all the categories) candidates will be declared qualified based on their scores in Paper-1 of JEE (Main)-2014. They only will be eligible to register for JEE (Advanced)-2014. To write JEE (Advanced)-2014 all eligible candidates should register online at **http://jeeadv.iitkgp.ac.in** from **10 AM, May 04 to 5 PM, May 09, 2014**. Eligible candidates who did not opt for appearing in JEE (Advanced)-2014 while applying for JEE (Main)-2014, can also register for JEE (Advanced)-2014 before 5 PM, May 09, 2014. **After online registration, candidates must pay the examination fee as applicable through the challan generated during the registration process, in any branch of SBI having core banking solution (CBS) before 5 PM, May 10, 2014. The examination fee for GE and OBC male candidates is Rs.2000/-. The fee for SC, ST, PwD male candidates is Rs.1000/-.** No fee is charged for female candidates of all categories**. All candidates (irrespective of gender) appearing from Dubai Centre are required to pay an amount of 220 US$. Registration process will be complete only after the payment is received.**

Important: The applicants must note that application for JEE (Advanced)-2014 cannot be withdrawn after registration and payment of fee. **Claims for refund of registration fee will not be entertained.** While registering for JEE (Advanced)-2014, candidate need to provide the following information (as applicable) and also upload soft (scanned) copies of the relevant certificates:

- Year of First Attempt in JEE (Advanced)
- Choice of Examination City / Town (see note *)
- Choice of Language of Question Paper
- Entitlement of DS Category
- Requirement of Scribe (see note below**)
- Original passport size photograph in JPEG format (preferably from digital camera)
- Legible scanned signature as a JPEG file
- Soft copies of Date of Birth, Class-X and Category and Sub-Category (PwD) certificate.

The registration procedure in details will be available on the JEE (Advanced) – 2014 online registration portal.

***Note: APPENDIX-3** gives the list of the cities/towns and their corresponding codes where the examination centres are located. Select three different cities/towns from the **same zone** available in the scroll list. Preferences must be entered under CHOICE-I, CHOICE-II and CHOICE-III, respectively in the same IIT zone.

****Note: Who needs a scribe: (*i*) A visually impaired candidate, not able to read the questions and give response on the ORS; (*ii*) if the candidate can not darken the bubbles in the ORS himself / herself due to loss of fingers/ hands.**

7. ADMIT CARD FOR JEE (Advanced) - 2014

After successful registration and payment of the requisite fee through Bank, candidates can download and print their admit cards for JEE (Advanced)-2014 from May 11 to May 24, 2014 from the JEE (Advanced)-2014 portal. The admit card will bear the name, roll number of JEE (Advanced), photograph, signature, date of birth, address, and category of the candidate, along with name and address of the Examination Centre allotted and the language opted for question paper. Candidates should carefully examine their Admit Card for all the entries made therein. In case of any discrepancy, candidates should inform the Chairman, JEE (Advanced) of the Zonal IIT immediately, and not later than May 22, 2014. In case the admit card is not available in the JEE (Advanced) website, candidates are advised to contact Zonal IIT through Phone/Email/Fax immediately, but not later than May 22, 2014. (Contact details of Zonal IITs are available in **Appendix 7**). It may not be possible to rectify discrepancies on admit cards, if reported beyond May 22, 2014.

Candidate must bring the hard copy of the downloaded admit card to the examination centre. Only those candidates, who carry valid Admit cards to the examination hall, will be allowed to write the examination.

7.1 Identity Verification

At the examination hall, the printed copy of the Admit Card should be presented to the invigilators for verification. The candidate's identity will be verified with respect to his/her details on the admit card and the centre verification record. If the identity is in doubt, the candidate may not be allowed to appear in the examination. The authorities may at their discretion permit the candidate to appear for the examination after completing certain formalities. No extra time will be allowed for these formalities to be completed.

On production of the downloaded admit card, candidates will be given the original Admit Card in the examination hall to replace the downloaded version. Any impersonation will lead to disqualification in JEE (Advanced)-2014.

7.2 Safe-keep of the Admit Card

Since the qualified candidates are required to produce the original admit card at the time of seat allocation and admission, it should be carefully preserved till the admission process through JEE (Advanced)-2014 is completed.

8. RESULTS OF JEE (Advanced)-2014

The answer sheet of JEE (Advanced)-2014 is a machine-readable ORS. These sheets are graded and scrutinized with extreme care. Candidates can view the answer keys of

JEE (Advanced)-2014 on JEE (Advanced)-2014 web site from **June 1, 2014**. ORS of all candidates, who would have appeared both in Paper-1 and Paper-2 will be on display on JEE (Advanced)–2014 website from June 08 to June 11, 2014 along with the machine - read responses and the marks scored. Candidates can submit requests online to review in case of any perceived errors in the machine - read responses. Candidates will be charged at the rate of Rs 500 per question to be reviewed. They should send the amount (Rs 500 x number questions to be reviewed) in the form of Demand Draft for their request to be considered. The Demand Draft (in favour of the Organizing Chairman, JEE (Advanced)-2014, payable at Kharagpur) must be sent to the Organizing Chairman, JEE (Advanced), IIT Kharagpur-721302 by speed post. Online review requests will not be entertained after 5 PM of June 15, 2014.

Results of JEE (Advanced)-2014 will be announced on **June 19, 2014**. Candidates will get to know their All India Ranks (AIR) / Category Ranks through JEE (Advanced) – 2014 websites after declaration of the results**.**

Note: Candidates will not receive any individual rank cards. Requests for issuing the same will not be entertained.

9. PROCEDURES FOR DETERMINING THE CUT-OFF MARKS AND RANKING

Only those candidates, who would have written both **Paper 1** and **Paper 2**, will be considered for the ranking. Marks in Physics in JEE (Advanced)-2014 will be equal to marks in Physics part of **Paper 1** plus marks in Physics part of **Paper 2**. Similar procedure will be followed for Chemistry and Mathematics. The sum of the marks obtained in the individual subjects in JEE (Advanced)-2014 will be the aggregate marks for the candidate.

9.1 Merit Lists

Based on the performance in JEE (Advanced)-2014, a common merit list will be prepared. Candidates must score at least 10% in each subject and 35% in aggregate in order to be in the common merit list.

Separate merit lists will be prepared corresponding to OBC (NCL), SC and ST categories.

Candidates of OBC (NCL) category must score at least 9% in each subject and 31.5% in aggregate in order to be in the OBC (NCL) merit list.

Candidates of SC and ST categories must score at least 5% in each subject and 17.5% in aggregate in order to be in their respective merit lists.

9.2 PwD Merit Lists

Separate PwD merit lists will be prepared corresponding to the GE, OBC (NCL), SC and ST categories. To be in these merit lists, candidates must score at least 5% in each subject and 17.5% in aggregate.

9.3 Preparatory Course Merit Lists

Separate merit lists will be prepared for preparatory courses only if the number of SC/ST/PwD candidates in the respective merit lists is less than 1.4 times the number of seats available in the respective categories. To be in these merit lists, candidates must score at least 2.5% in each subject and 8.75% in aggregate.
If a candidate qualifies in more than one category under relaxed norms, then he/she for the purpose of ranking shall be considered in all the categories in which he/she belongs. There will be no separate waiting list for candidates.

9.4 Tie-break

The tie-break policy in the various merit lists adopted for awarding ranks to the candidates who have scored the same aggregate marks is as follows: Higher rank will be assigned for higher marks in Mathematics, followed by marks in Physics and Chemistry. Candidates securing same marks in all these three subjects will be assigned the same rank.

Note: Obtaining a rank in JEE (Advanced)-2014 does not guarantee admission to any of the courses available at IITs, and ISM Dhanbad.

10. ONLINE CHOICE FILLING, SEAT ALLOCATION AND ADMISSIONS

10.1 Online Choice Filling and Seat Allocation

Candidates having valid AIR above a certain position in the merit list of JEE (Advanced)-2014 have to fill their choices of various courses at IITs and ISM Dhanbad online during 20-24 June, 2014.

The details of courses provisionally available in the participating institutes are given in **APPENDIX-9**. Some institutes may offer new courses not listed in the Appendix. Information regarding these courses will be available in the brochure at the time of choice filling.

The seats in various courses of the institutes (IITs and ISM Dhanbad) are allotted strictly on the basis of the All India Rank, category rank, and the choices of each qualified student submitted at the time of choice filling.

The results of JEE (Advanced)-2014 will also be used by other institutions for admissions to their courses / programmes. The names of these institutes will be

published on the JEE (Advanced)-2014 website at a later date. Candidates should contact these institutes directly for admission.

Details about online choice filling and seat allocation will be published through a separate brochure at a later date; and will be available in JEE (Advanced)-2014 website.

Note: Candidates are advised to visit the websites of the zonal IITs time-to-time, for updates.

10.2 Physical Fitness

Candidates who qualify in JEE (Advanced)-2014 will have to submit a physical fitness certificate from a registered medical practitioner in the prescribed format that will be made available at an appropriate time. Candidates will be admitted only if they are physically fit for pursuing a course of study at the participating institutes.

10.3 Requirements for Mining and Geology/Geophysics Courses

Those who opt for Mining Engineering and Mining Machinery courses and Integrated M.Sc programs in Geology/Geophysics should additionally make sure that they do not have any form of colour blindness. They will be required to submit a certificate from a registered medical practitioner to this effect at the time of seat allocation and admission. The standards of visual acuity with or without glasses will be adhered to strictly for candidates seeking admission to Mining Engineering as per DGMS Circular 14 of 1972. Persons with one-eyed vision are not permitted to work underground. Candidates with the above limitations are not allowed to opt for admission to Mining Engineering or Mining Machinery Engineering.

Female Candidates for Mining Courses

Section 46 (1) of the Mines Act, 1952 states that “No woman shall, notwithstanding anything contained in any other law, be employed (a) in any part of a mine which is below ground, (b) in any mine above ground except between 6:00 and 19:00 hrs.”. Hence, female candidates are not admitted to Mining Engineering and Mining Machinery Engineering at ISM Dhanbad, whereas the corresponding programmes at IIT Kharagpur and IIT (BHU) Varanasi have no such restriction.

10.4 Architecture Aptitude Test (AAT) for B. Arch. for the JEE (Advanced)-2014 Qualified Candidates

Candidates desirous of joining the B. Arch. (Architecture) courses will be required to pass in an Aptitude Test to be conducted only at the 7 zonal IITs (nowhere else) on **June 26, 2014.** However the seat allotment will be done based on the category wise All India Rank in the JEE (Advanced)-2014 .The test will consist of one paper of three hours duration – from 09:00 to 12:00 hrs (IST). Question papers for the Aptitude Test

will be in English only. Syllabus for this test is given in **APPENDIX-10**. Candidates must register online at the JEE (Advanced) portal for this Aptitude Test between **20 – 24 June, 2014**. Only those candidates who would have given B. Arch program (available at IIT Kharagpur and IIT Roorkee) as one of their choices while filling their choices online, will be eligible to write AAT. They are advised to update themselves from the JEE (Advanced)-2014 web page. No separate admit card will be issued to them. They have to bring the JEE (Advanced)-2014 original admit card to the Examination Hall. Candidates coming for the AAT are advised to bring their drawing and coloring aids. Candidates securing marks above the cut off (to be decided by the Joint Implementation Committee of JEE (Advanced)-2014) will be declared as 'passed' the test and put on the JEE (Advanced)-2014 web page on 29th June, 2014.

APPENDIX- 1 SYLLABI FOR JEE (Advanced)-2014

Chemistry

Physical chemistry

General topics: Concept of atoms and molecules; Dalton's atomic theory; Mole concept; Chemical formulae; Balanced chemical equations; Calculations (based on mole concept) involving common oxidation-reduction, neutralisation, and displacement reactions; Concentration in terms of mole fraction, molarity, molality and normality.

Gaseous and liquid states: Absolute scale of temperature, ideal gas equation; Deviation from ideality, van der Waals equation; Kinetic theory of gases, average, root mean square and most probable velocities and their relation with temperature; Law of partial pressures; Vapour pressure; Diffusion of gases.

Atomic structure and chemical bonding: Bohr model, spectrum of hydrogen atom, quantum numbers; Wave-particle duality, de Broglie hypothesis; Uncertainty principle; Qualitative quantum mechanical picture of hydrogen atom, shapes of s, p and d orbitals; Electronic configurations of elements (up to atomic number 36); Aufbau principle; Pauli's exclusion principle and Hund's rule; Orbital overlap and covalent bond; Hybridisation involving s, p and d orbitals only; Orbital energy diagrams for homonuclear diatomic species; Hydrogen bond; Polarity in molecules, dipole moment

(qualitative aspects only); VSEPR model and shapes of molecules (linear, angular, triangular, square planar, pyramidal, square pyramidal, trigonal bipyramidal, tetrahedral and octahedral).

Energetics: First law of thermodynamics; Internal energy, work and heat, pressure-volume work; Enthalpy, Hess's law; Heat of reaction, fusion and vapourization; Second law of thermodynamics; Entropy; Free energy; Criterion of spontaneity.

Chemical equilibrium: Law of mass action; Equilibrium constant, Le Chatelier's principle (effect of concentration, temperature and pressure); Significance of ΔG and ΔG^o in chemical equilibrium; Solubility product, common ion effect, pH and buffer solutions; Acids and bases (Bronsted and Lewis concepts); Hydrolysis of salts.

Electrochemistry: Electrochemical cells and cell reactions; Standard electrode potentials; Nernst equation and its relation to ΔG; Electrochemical series, emf of galvanic cells; Faraday's laws of electrolysis; Electrolytic conductance, specific, equivalent and molar conductivity, Kohlrausch's law; Concentration cells.

Chemical kinetics: Rates of chemical reactions; Order of reactions; Rate constant; First order reactions; Temperature dependence of rate constant (Arrhenius equation).

Solid state: Classification of solids, crystalline state, seven crystal systems (cell parameters a, b, c, α, β, γ), close packed structure of solids (cubic), packing in fcc, bcc and hcp lattices; Nearest neighbours, ionic radii, simple ionic compounds, point defects.

Solutions: Raoult's law; Molecular weight determination from lowering of vapour pressure, elevation of boiling point and depression of freezing point.

Surface chemistry: Elementary concepts of adsorption (excluding adsorption isotherms); Colloids: types, methods of preparation and general properties; Elementary ideas of emulsions, surfactants and micelles (only definitions and examples).

Nuclear chemistry: Radioactivity: isotopes and isobars; Properties of α, β *and* γ rays; Kinetics of radioactive decay (decay series excluded), carbon dating; Stability of nuclei with respect to proton-neutron ratio; Brief discussion on fission and fusion reactions.

Inorganic Chemistry

Isolation/preparation and properties of the following non-metals: Boron, silicon, nitrogen, phosphorus, oxygen, sulphur and halogens; Properties of allotropes of carbon (only diamond and graphite), phosphorus and sulphur.

Preparation and properties of the following compounds: Oxides, peroxides, hydroxides, carbonates, bicarbonates, chlorides and sulphates of sodium, potassium, magnesium and calcium; Boron: diborane, boric acid and borax; Aluminium: alumina, aluminium chloride and alums; Carbon: oxides and oxyacid (carbonic acid); Silicon: silicones, silicates and silicon carbide; Nitrogen: oxides, oxyacids and ammonia; Phosphorus: oxides, oxyacids (phosphorus acid, phosphoric acid) and phosphine; Oxygen: ozone and hydrogen peroxide; Sulphur: hydrogen sulphide, oxides, sulphurous acid, sulphuric acid and sodium thiosulphate; Halogens: hydrohalic acids, oxides and oxyacids of chlorine, bleaching powder; Xenon fluorides.

Transition elements (3d series): Definition, general characteristics, oxidation states and their stabilities, colour (excluding the details of electronic transitions) and calculation of spin-only magnetic moment; Coordination compounds: nomenclature of mononuclear coordination compounds, *cis-trans* and ionisation isomerisms, hybridization and geometries of mononuclear coordination compounds (linear, tetrahedral, square planar and octahedral).

Preparation and properties of the following compounds: Oxides and chlorides of tin and lead; Oxides, chlorides and sulphates of Fe^{2+}, Cu^{2+} and Zn^{2+}; Potassium permanganate, potassium dichromate, silver oxide, silver nitrate, silver thiosulphate.

Ores and minerals: Commonly occurring ores and minerals of iron, copper, tin, lead, magnesium, aluminium, zinc and silver.

Extractive metallurgy: Chemical principles and reactions only (industrial details excluded); Carbon reduction method (iron and tin); Self reduction method (copper and lead); Electrolytic reduction method (magnesium and aluminium); Cyanide process (silver and gold).

Principles of qualitative analysis: Groups I to V (only Ag^{+}, Hg^{2+}, Cu^{2+}, Pb^{2+}, Bi^{3+}, Fe^{3+}, Cr^{3+}, Al^{3+}, Ca^{2+}, Ba^{2+}, Zn^{2+}, Mn^{2+} and Mg^{2+}); Nitrate, halides (excluding fluoride), sulphate and sulphide.

Organic Chemistry

Concepts: Hybridisation of carbon; Sigma and pi-bonds; Shapes of simple organic molecules; Structural and geometrical isomerism; Optical isomerism of compounds containing up to two asymmetric centres, (*R,S* and *E,Z* nomenclature excluded); IUPAC nomenclature of simple organic compounds (only hydrocarbons, mono-functional and bi-functional compounds); Conformations of ethane and butane (Newman projections); Resonance and hyperconjugation; Keto-enol tautomerism; Determination of empirical and molecular formulae of simple compounds (only combustion method); Hydrogen bonds: definition and their effects on physical properties of alcohols and carboxylic acids; Inductive and resonance effects on acidity and basicity of organic acids and bases; Polarity and inductive effects in alkyl halides; Reactive intermediates produced during homolytic and heterolytic bond cleavage; Formation, structure and stability of carbocations, carbanions and free radicals.

Preparation, properties and reactions of alkanes: Homologous series, physical properties of alkanes (melting points, boiling points and density); Combustion and halogenation of alkanes; Preparation of alkanes by Wurtz reaction and decarboxylation reactions.

Preparation, properties and reactions of alkenes and alkynes: Physical properties of alkenes and alkynes (boiling points, density and dipole moments); Acidity of alkynes; Acid catalysed hydration of alkenes and alkynes (excluding the stereochemistry of addition and elimination); Reactions of alkenes with $KMnO_4$ and ozone; Reduction of alkenes and alkynes; Preparation of alkenes and alkynes by elimination reactions; Electrophilic addition reactions of alkenes with X_2, HX, HOX and H_2O (X=halogen); Addition reactions of alkynes; Metal acetylides.

Reactions of benzene: Structure and aromaticity; Electrophilic substitution reactions: halogenation, nitration, sulphonation, Friedel-Crafts alkylation and acylation; Effect of *o-*, *m-* and *p*-directing groups in monosubstituted benzenes.

Phenols: Acidity, electrophilic substitution reactions (halogenation, nitration and sulphonation); Reimer-Tieman reaction, Kolbe reaction.

Characteristic reactions of the following (including those mentioned above): Alkyl halides: rearrangement reactions of alkyl carbocation, Grignard reactions, nucleophilic substitution reactions; Alcohols: esterification, dehydration and oxidation, reaction with sodium, phosphorus halides, $ZnCl_2$/concentrated HCl, conversion of alcohols into aldehydes and ketones; Ethers: Preparation by Williamson's Synthesis; Aldehydes and Ketones: oxidation, reduction, oxime and hydrazone formation; aldol condensation, Perkin reaction; Cannizzaro reaction; haloform reaction and nucleophilic addition reactions (Grignard addition); Carboxylic acids: formation of esters, acid chlorides and amides, ester hydrolysis; Amines: basicity of substituted anilines and aliphatic amines, preparation from nitro compounds, reaction with nitrous acid, azo coupling reaction of diazoniumsalts of aromatic amines, Sandmeyer and related reactions of diazonium salts; carbylamine reaction; Haloarenes: nucleophilic aromatic substitution in haloarenes and substituted haloarenes (excluding Benzyne mechanism and Cine substitution).

Carbohydrates: Classification; mono- and di-saccharides (glucose and sucrose); Oxidation, reduction, glycoside formation and hydrolysis of sucrose.

Amino acids and peptides: General structure (only primary structure for peptides) and physical properties.

Properties and uses of some important polymers: Natural rubber, cellulose, nylon, teflon and PVC.

Practical organic chemistry: Detection of elements (N, S, halogens); Detection and identification of the following functional groups: hydroxyl (alcoholic and phenolic), carbonyl (aldehyde and ketone), carboxyl, amino and nitro; Chemical methods of separation of mono-functional organic compounds from binary mixtures.

Mathematics

Algebra: Algebra of complex numbers, addition, multiplication, conjugation, polar representation, properties of modulus and principal argument, triangle inequality, cube roots of unity, geometric interpretations.

Quadratic equations with real coefficients, relations between roots and coefficients, formation of quadratic equations with given roots, symmetric functions of roots.

Arithmetic, geometric and harmonic progressions, arithmetic, geometric and harmonic means, sums of finite arithmetic and geometric progressions, infinite geometric series, sums of squares and cubes of the first *n* natural numbers.

Logarithms and their properties.

Permutations and combinations, Binomial theorem for a positive integral index, properties of binomial coefficients.

Matrices as a rectangular array of real numbers, equality of matrices, addition, multiplication by a scalar and product of matrices, transpose of a matrix, determinant of a square matrix of order up to three, inverse of a square matrix of order up to three, properties of these matrix operations, diagonal, symmetric and skew-symmetric matrices and their properties, solutions of simultaneous linear equations in two or three variables.

Addition and multiplication rules of probability, conditional probability, Bayes Theorem, independence of events, computation of probability of events using permutations and combinations.

Trigonometry: Trigonometric functions, their periodicity and graphs, addition and subtraction formulae, formulae involving multiple and sub-multiple angles, general solution of trigonometric equations.

Relations between sides and angles of a triangle, sine rule, cosine rule, half-angle formula and the area of a triangle, inverse trigonometric functions (principal value only).

Analytical geometry:

Two dimensions: Cartesian coordinates, distance between two points, section formulae, shift of origin.

Equation of a straight line in various forms, angle between two lines, distance of a point from a line; Lines through the point of intersection of two given lines, equation of the bisector of the angle between two lines, concurrency of lines; Centroid, orthocentre, incentre and circumcentre of a triangle.

Equation of a circle in various forms, equations of tangent, normal and chord.

Parametric equations of a circle, intersection of a circle with a straight line or a circle, equation of a circle through the points of intersection of two circles and those of a circle and a straight line.

Equations of a parabola, ellipse and hyperbola in standard form, their foci, directrices and eccentricity, parametric equations, equations of tangent and normal.

Locus Problems.

Three dimensions: Direction cosines and direction ratios, equation of a straight line in space, equation of a plane, distance of a point from a plane.

Differential calculus: Real valued functions of a real variable, into, onto and one-to-one functions, sum, difference, product and quotient of two functions, composite functions, absolute value, polynomial, rational, trigonometric, exponential and logarithmic functions.

Limit and continuity of a function, limit and continuity of the sum, difference, product and quotient of two functions, L'Hospital rule of evaluation of limits of functions.

Even and odd functions, inverse of a function, continuity of composite functions, intermediate value property of continuous functions.

Derivative of a function, derivative of the sum, difference, product and quotient of two functions, chain rule, derivatives of polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions.

Derivatives of implicit functions, derivatives up to order two, geometrical interpretation of the derivative, tangents and normals, increasing and decreasing functions, maximum and minimum values of a function, Rolle's Theorem and Lagrange's Mean Value Theorem.

Integral calculus: Integration as the inverse process of differentiation, indefinite integrals of standard functions, definite integrals and their properties, Fundamental Theorem of Integral Calculus.

Integration by parts, integration by the methods of substitution and partial fractions, application of definite integrals to the determination of areas involving simple curves.

Formation of ordinary differential equations, solution of homogeneous differential equations, separation of variables method, linear first order differential equations.

Vectors: Addition of vectors, scalar multiplication, dot and cross products, scalar triple products and their geometrical interpretations.

Physics

General: Units and dimensions, dimensional analysis; least count, significant figures; Methods of measurement and error analysis for physical quantities pertaining to the following experiments: Experiments based on using Vernier calipers and screw gauge (micrometer), Determination of g using simple pendulum, Young's modulus by Searle's method, Specific heat of a liquid using calorimeter, focal length of a concave mirror and a convex lens using u-v method, Speed of sound using resonance column, Verification of Ohm's law using voltmeter and ammeter, and specific resistance of the material of a wire using meter bridge and post office box.

Mechanics: Kinematics in one and two dimensions (Cartesian coordinates only), projectiles; Uniform Circular motion; Relative velocity.

Newton's laws of motion; Inertial and uniformly accelerated frames of reference; Static and dynamic friction; Kinetic and potential energy; Work and power; Conservation of linear momentum and mechanical energy.

Systems of particles; Centre of mass and its motion; Impulse; Elastic and inelastic collisions.

Law of gravitation; Gravitational potential and field; Acceleration due to gravity; Motion of planets and satellites in circular orbits; Escape velocity.

Rigid body, moment of inertia, parallel and perpendicular axes theorems, moment of inertia of uniform bodies with simple geometrical shapes; Angular momentum; Torque; Conservation of angular momentum; Dynamics of rigid bodies with fixed axis of rotation; Rolling without slipping of rings, cylinders and spheres; Equilibrium of rigid bodies; Collision of point masses with rigid bodies.

Linear and angular simple harmonic motions.

Hooke's law, Young's modulus.

Pressure in a fluid; Pascal's law; Buoyancy; Surface energy and surface tension, capillary rise; Viscosity (Poiseuille's equation excluded), Stoke's law; Terminal velocity, Streamline flow, equation of continuity, Bernoulli's theorem and its applications.

Wave motion (plane waves only), longitudinal and transverse waves, superposition of waves; Progressive and stationary waves; Vibration of strings and air columns; Resonance; Beats; Speed of sound in gases; Doppler effect (in sound).

Thermal physics: Thermal expansion of solids, liquids and gases; Calorimetry, latent heat; Heat conduction in one dimension; Elementary concepts of convection and radiation; Newton's law of cooling; Ideal gas laws; Specific heats (C_V and C_p for monoatomic and diatomic gases); Isothermal and adiabatic processes, bulk modulus of gases; Equivalence of heat and work; First law of thermodynamics and its applications (only for ideal gases); Blackbody radiation: absorptive and emissive powers; Kirchhoff's law; Wien's displacement law, Stefan's law.

Electricity and magnetism: Coulomb's law; Electric field and potential; Electrical potential energy of a system of point charges and of electrical dipoles in a uniform electrostatic field; Electric field lines; Flux of electric field; Gauss's law and its application in simple cases, such as, to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell.

Capacitance; Parallel plate capacitor with and without dielectrics; Capacitors in series and parallel; Energy stored in a capacitor.

Electric current; Ohm's law; Series and parallel arrangements of resistances and cells; Kirchhoff's laws and simple applications; Heating effect of current.

Biot–Savart's law and Ampere's law; Magnetic field near a current-carrying straight wire, along the axis of a circular coil and inside a long straight solenoid; Force on a moving charge and on a current-carrying wire in a uniform magnetic field.

Magnetic moment of a current loop; Effect of a uniform magnetic field on a current loop; Moving coil galvanometer, voltmeter, ammeter and their conversions.

Electromagnetic induction: Faraday's law, Lenz's law; Self and mutual inductance; RC, LR and LC circuits with d.c. and a.c. sources.

Optics: Rectilinear propagation of light; Reflection and refraction at plane and spherical surfaces; Total internal reflection; Deviation and dispersion of light by a prism; Thin lenses; Combinations of mirrors and thin lenses; Magnification.

Wave nature of light: Huygen's principle, interference limited to Young's double-slit experiment.

Modern physics: Atomic nucleus; Alpha, beta and gamma radiations; Law of radioactive decay; Decay constant; Half-life and mean life; Binding energy and its calculation; Fission and fusion processes; Energy calculation in these processes.

Photoelectric effect; Bohr's theory of hydrogen-like atoms; Characteristic and continuous X-rays, Moseley's law; de Broglie wavelength of matter waves

APPENDIX-2: FORMAT OF REQUEST LETTER FOR SCRIBE AND EXTRA TIME FOR BLIND CANDIDATES

From Date:

Name of the candidate:

Application Number of JEE(Main)-2014:

Application Number of JEE (Advanced)-2014:

Address:_____

_____

_____

Mobile: Email:

To

The Chairman
JEE (Advanced)-2014
Indian Insitute of Technology _____(Write Appropriate Zone)

Dear Sir,

Subject: Requirement of SCRIBE and EXTRA TIME

I am a blind candidate and I would like to use service of scribe for writing JEE (Advanced)-2014. I also request you to provide extra time to complete the paper as per government norms. Kindly do the needful. Thanking you,

_____ _____

Signature of the candidate Signature of the Parent/Guardian

(Name of the candidate) (Name of the Parent/Guardian)

Enclosure: Attested copy of PwD Certificates (APPENDIX 6) issued by competent authority.

APPENDIX-3: LIST OF EXAMINATION CITIES / TOWNS FOR JEE (Advanced)-2014

IIT BOMBAY ZONE

State/City/Town	Code
GOA	
Panaji	101
GUJARAT	
Ahmedabad	102
Rajkot	103
Surat	104
Vadodara	105
MAHARASHTRA	
Mumbai	106
Nagpur	107
Navi Mumbai	108
Pune	109
RAJASTHAN	
Ajmer	110
Jaipur	111
Jodhpur	112

IIT DELHI ZONE

State/City/Town	Code
DELHI	
Delhi (East)	201
Delhi (West)	202
Delhi (North)	203
Delhi (South)	204
Delhi (Central)	205
HARYANA	
Faridabad	206
Gurgaon	207
JAMMU & KASHMIR	
Jammu	208
MADHYA PRADESH	
Indore	209
RAJASTHAN	
Sikar	210
Udaipur	211
UTTAR PRADESH	
Aligarh	212
Mathura	213

IIT GUWAHATI ZONE

State/City/Town	Code
ARUNACHAL PRADESH	
Itanagar	301
ASSAM	
Guwahati	302
Jorhat	303
Silchar	304
BIHAR	
Gaya	305
Katihar	306
Muzaffarpur	307
Patna	308
MANIPUR	
Imphal	309
MEGHALAYA	
Shillong	310
WEST BENGAL	
Siliguri	311
UAE	
Dubai	312

IIT KANPUR ZONE

State/City/Town	Code
MADHYA PRADESH	
Bhopal	401
Gwalior	402
Jabalpur	403
UTTARAKHAND	
Haldwani	404
UTTAR PRADESH	
Agra	405
Allahabad	406
Gorakhpur	407
Jhansi	408
Kanpur	409
Lucknow	410

IIT KHARAGPUR ZONE

State/City/Town	Code
ANDAMAN AND NICOBAR ISLANDS	
Port Blair	501
ANDHRA PRADESH	
Visakhapatnam	502
CHATTISGARH	
Bhilai	503
Bilaspur	504
Raipur	505

JHARKHAND

Bokaro	506
Dhanbad	507
Jamshedpur	508
Ranchi	509

ORISSA

Bhubaneswar	510
Rourkela	511

SIKKIM

Gangtok	512

TRIPURA

Agartala	513

WEST BENGAL

Durgapur	514
Kharagpur	515
Kolkata (North)	516
Kolkata (Salt Lake)	517
Kolkata (South)	518
Malda	519

.

IIT MADRAS ZONE

State/City/Town Code

ANDHRA PRADESH

Hyderabad	601
Nellore	602
Vijayawada	603
Warangal	604

KARNATAKA

Bangalore	605
Mangalore	606

KERALA

Kochi	607
Kozhikode	608
Thiruvananthapuram	609

PUDUCHERRY

Puducherry	610

TAMIL NADU

Chennai	611
Madurai	612

IIT ROORKEE ZONE

State/City/Town Code

CHANDIGARH

Chandigarh	701

HARYANA

Ambala	702
Kurukshetra	703
Panipat	704
Rohtak	705

HIMACHAL PRADESH

Palampur	706
Shimla	707

PUNJAB

Amritsar	708
Bathinda	709
Jalandhar	710
Ludhiana	711
Patiala	712

UTTARAKHAND

Dehradun	713
Haridwar	714
Roorkee	715

UTTAR PRADESH

Bareilly	716
Gautam Budh Nagar *(Noida)*	717
Ghaziabad	718
Meerut	719
Moradabad	720
Varanasi	721

APPENDIX-4: FORM OF CERTIFICATE TO BE PRODUCED BY SCHEDULED CASTES AND SCHEDULED TRIBES CANDIDATES

1. This is to certify that Shri/ Shrimati/ Kumari* _____ son/daughter* of _____ of Village/Town* _____ District/Division* _____ of State/Union Territory*_____belongs to the _____ Scheduled Caste / Scheduled Tribe* under :-

* The Constitution (Scheduled Castes) Order, 1950
* The Constitution (Scheduled Tribes) Order, 1950
*** The Constitution (Scheduled Castes) (Union Territories) Order, 1951**
* The Constitution (Scheduled Tribes) (Union Territories) Order, 1951

[As amended by the Scheduled Castes and Scheduled Tribes Lists (Modification Order) 1956, the Bombay Reorganisation Act, 1960, the Punjab Reorganisation Act, 1966, the State of Himachal Pradesh Act, 1970, the North Eastern Areas (Reorganisation) Act, 1971, the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act, 1976 and the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act, 2002]

* The Constitution (Jammu and Kashmir) Scheduled Castes Order, 1956;
* The Constitution (Andaman and Nicobar Islands) Scheduled Tribes Order, 1959, as amended by the Scheduled Castes and Scheduled Tribes Order (Amendment) Act, 1976;
*** The Constitution (Dadara and Nagar Haveli) Scheduled Castes Order, 1962;**
* The Constitution (Dadara and Nagar Haveli) Scheduled Tribes Order, 1962;
* The Constitution (Pondicherry) Scheduled Castes Order, 1964;
* The Constitution (Uttar Pradesh) Scheduled Tribes Order, 1967;
* The Constitution (Goa, Daman and Diu) Scheduled Castes Order, 1968;
* The Constitution (Goa, Daman and Diu) Scheduled Tribes Order, 1968;
* The Constitution (Nagaland) Scheduled Tribes Order, 1970;
* The Constitution (Sikkim) Scheduled Castes Order, 1978;
* The Constitution (Sikkim) Scheduled Tribes Order, 1978;
* The Constitution (Jammu and Kashmir) Scheduled Tribes Order, 1989;
* The Constitution (Scheduled Castes) Order (Amendment) Act, 1990;
* The Constitution (Scheduled Tribes) Order (Amendment) Act, 1991;
* The Constitution (Scheduled Tribes) Order (Second Amendment) Act, 1991;

2. # This certificate is issued on the basis of the Scheduled Castes / Scheduled Tribes* Certificate issued to Shri /Shrimati* _____ father/mother* of Shri /Shrimati /Kumari* _____ of Village/Town* _____ in District/Division* _____ of the State State/Union Territory* _____ who belong to the Caste / Tribe* which is recognised as a Scheduled Caste / Scheduled Tribe* in the State / Union Territory* _____ issued by the _____ dated_____.

3. Shri/ Shrimati/ Kumari * _____ and / or* his / her* family ordinarily reside(s)** in Village/Town* _____ of _____District/Division* of the State Union Territory* of _____.

Signature: _____
Designation _____
(with seal of the Office)

Place: _____ State/Union Territory* _____
Date: _____

* Please delete the word(s) which are not applicable.
# Applicable in the case of SC/ST Persons who have migrated from another State/UT.
IMPORTANT NOTES

The term “ordinarily reside(s)**” used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.

Officers competent to issue Caste/Tribe certificates:

1. District Magistrate / Additional District Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / City Magistrate / Sub-Divisional Magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner.
2. Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
3. Revenue Officers not below the rank of Tehsildar.
4. Sub-divisional Officer of the area where the candidate and/ or his family normally reside(s).
5. Administrator / Secretary to Administrator / Development Officer (Lakshdweep Island).
6. Certificate issued by any other authority will be rejected.

APPENDIX-5: FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES (NCL) APPLYING FOR ADMISSION TO CENTRAL EDUCATIONAL INSTITUTIONS (CEIs), UNDER THE GOVERNMENT OF INDIA

This is to certify that Shri / Smt. / Kum*._____ Son / Daughter* of Shri / Smt.* _____ of Village/Town* _____District/Division* _____ in the _____ State belongs to the _____

community which is recognized as a backward class under:

(i) Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
(ii) Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
(iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
(iv) Resolution No. 12011/96/94-BCC dated 9/03/96.
(v) Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
(vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
(vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
(viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
(ix) Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
(x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
(xi) Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 21/09/2000.
(xii) Resolution No. 12015/9/2000-BCC dated 06/09/2001.
(xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
(xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.
(xv) Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.

Shri / Smt. / Kum. _____ and / or his family ordinarily reside(s) in the _____ District / Division of _____ State. This is also to certify that **he/she does not belong to the persons/sections (Creamy Layer)** mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004, further modified vide OM No. 36033/3/2004-Estt. (Res.) dated 14/10/2008 or the latest notification of the Government of India.

Dated:

District Magistrate /
Deputy Commissioner /
Competent Authority

Seal

* Please delete the word(s) which are not applicable.

NOTE:

(a) The term 'Ordinarily resides' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.
(b) The authorities competent to issue Caste Certificates are indicated below:
(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).
(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
(iii) Revenue Officer not below the rank of Tehsildar' and
(iv) Sub-Divisional Officer of the area where the candidate and / or his family resides.

APPENDIX - 6: FORMAT OF THE CERTIFICATE FOR PERSONS WITH DISABILITY

NAME & ADDRESS OF THE INSTITUTE/HOSPITAL ISSUING THE CERTIFICATE

Certificate No.
Date:

CERTIFICATE FOR PERSONS WITH DISABILITIES

This is to certify that Shri/Shrimati/Kumari* _____ son/daughter* of _____ Age _____ years, Registration No. _____ is a case of Locomotor disability/Cerebral Palsy/Blindness/Low vision/Hearing impairment/Other disability* and has been suffering from degree of disability not less than _____ % (_____). The details of his/her above mentioned disability is described below:
(IN CAPITAL LETTERS)

_____
_____
_____

Note:-
1. This condition is progressive/non-progressive/likely to improve/not likely to improve.*
2. Re-assessment is not recommended/is recommended after a period of _____ months/years.
3. The certificate is issued as per PWD Act, 1995.
* Strike out which is not applicable.

Sd/-	**Sd/-**	**Sd/-**
(DOCTOR)	**(DOCTOR)**	**(DOCTOR)**
Seal	**Seal**	**Seal**

Signature/Thumb impression of the patient

Countersigned by the Medical Superintendent/CMO/Head of Hospital (with seal)

Recent Attested Photograph showing the disability affixed here.

APPENDIX - 7: CONTACT DETAILS OF ZONAL IITs FOR JEE (Advanced)–2014 (WEBSITES, EMAIL ID AND PHONE NUMBERS)

Institute	Website	Email ID	Phone	
			STD code	Number
IIT Bombay	http://jeeadv.iitb.ac.in/	jeeadv@iitb.ac.in	**022**	**25720305**
IIT Delhi	http://jeeadv.iitd.ac.in/	jee@admin.iitd.ac.in	**011**	**26581067**
IIT Guwahati	http://jeeadv.iitg.ac.in/	jee@iitg.ernet.in	**0361**	**2582180**
IIT Kanpur	http://jeeadv.iitk.ac.in/	jee@iitk.ac.in	**0512**	**259 7335**
IIT Kharagpur	http://jeeadv.iitkgp.ac.in/	jee@hijli.iitkgp.ernet.in	**03222**	**282101**
IIT Madras	http://jeeadv.iitm.ac.in	jee@iitm.ac.in	**044**	**22578224**
IIT Roorkee	http://jeeadv.iitr.ac.in/	jeech@iitr.ernet.in	**01332**	**284272**

ADDRESSES OF ZONAL IITs

Zone	Address	Phone	Fax
IIT Bombay	Chairman, JEE (Advanced) -2014, IIT Bombay, Powai, Mumbai 400076	(022)25764063	(022)25720305
IIT Delhi	Chairman, JEE (Advanced) -2014, IIT Delhi, Hauz Khas, New Delhi 110016	(011)26591785	(011)26581067
IIT Guwahati	Chairman, JEE (Advanced) -2014, IIT Guwahati, Guwahati 781039	(0361)2692795	(0361)2582180
IIT Kanpur	Chairman, JEE (Advanced) -2014, IIT Kanpur, Kanpur 208016	(0512)2597335	(0512)2590103
IIT Kharagpur	Organizing Chairman, JEE (Advanced) -2014, IIT Kharagpur, Kharagpur 721032	(03222)282102	(03222)278242
IIT Madras	Chairman, JEE (Advanced) -2014, IIT Madras, Chennai 600036	(044)22578220	(044)22578224
IIT Roorkee	Chairman, JEE (Advanced)-2014, IIT Roorkee, Roorkee 247667	(01332)284272	(01332)285346

APPENDIX - 8: IMPORTANT DATES

Start of Online Application for JEE(Main)-2014	November 15, 2013 (Friday)*
Closing of Online Application Process of JEE(Main)-2014	December 16, 2013 (Monday) *
JEE (Main)-2014 (offline)	**April 06, 2014 (Sunday) ***
Results of JEE(Main)-2014	**May 03, 2014 (Saturday) ***
Opening of website for eligible candidates to register for JEE (Advanced)-2014	May 04 (Sunday)– 09 (Friday) 2014
Opening of website for payment of registration fee for appearing JEE (Advanced)-2014	**May 04 (Sunday)– 09 (Friday) 2014**
Downloading of Admit card from JEE (Advanced)-2014 website	May 10, 2014 (Saturday) till 24th May, 2014 (Saturday)
JEE (Advanced) – 2014	**May 25, 2014 (Sunday)**
Answer key published in website	June 01, 2014 (Sunday)
Web display of ORS	June 08, 2014 (Sunday) – June 11, 2014 (Wednesday)
Declaration of Results (including Preparatory) through website	**June 19, 2014 (Thursday)**
Online Choice Filling for Courses offered in all IITs and ISM, Dhanbad	**June 20, 2014 (Friday) – June 24, 2014 (Tuesday)**
Registration for appearing in the Architecture Aptitude Test (AAT)	June 20, 2014 (Friday) – June 23, 2014 (Monday)
Architecture Aptitude Test (AAT-2014)	**June 26, 2014 (Thursday)**
Declaration of AAT-2014 results	June 29, 2014 (Sunday)

*** For latest updates refer to** http://www.jeemain.nic.in

APPENDIX - 9: LIST OF COURSES AVAILABLE IN ALL IITS AND ISM DHANBAD

Applicants must note that: (a) the titles of the courses listed below may change; (b) some of the listed courses may be dropped or altered and (c) some new courses may be offered.
Therefore the list is not final. The final list will be made available at the time of online choice filling.

	Programme	IIT Bombay	IIT Delhi	IIT Guwahati	IIT Kanpur	IIT Kharagpur	IIT Madras	IIT Roorkee	IIT-BHU Varanasi	ISM Dhanbad
	4 Years B.Tech(H). Programme									
1.	Aerospace Engineering	•			•	•	•			
2.	Agricultural & Food Engineering					•				
3.	Biological Sciences and Bioengineering				•					
4.	Biotechnology			•				•		
5.	Biotechnology & Biochemical Engineering					•				
6.	Ceramic Engineering								•	
7.	Chemical Engineering	•	•	•	•	•	•	•	•	•
8.	Chemical Science and Technology			•						
9.	Civil Engineering	•	•	•	•	•	•	•	•	
10.	Computer Science & Engineering	•	•	•	•	•	•	•	•	•
11.	Electrical Engineering	•	•		•	•	•	•	•	•
12.	Electrical Engineering (Power)		•							
13.	Electronics Engineering								•	
14.	Electronics & Communication Engineering			•				•		•
15.	Electronics & Electrical Communication Engineering					•				
16.	Electronics & Electrical Engineering			•						
17.	Engineering Physics	•	•	•			•			

18.	Environmental Engineering									•
19.	Industrial Engineering					•				
20.	Instrumentation Engineering					•				
21.	Manufacturing Science and Engineering					•				
22.	Materials Science and Engineering				•					
23.	Metallurgical & Materials Engineering					•	•	•		
24.	Mathematics and Computing			•						
25.	Mechanical Engineering	•	•	•	•	•	•	•	•	•
26.	Metallurgical Engineering								•	
27.	Metallurgical Engineering & Materials Science	•					•			
28.	Mineral Engineering									•
29.	Mining Engineering					•			•	•
30.	Mining Machinery Engineering									•
31.	Naval Architecture & Ocean Engineering						•			
32.	Ocean Engineering & Naval Architecture					•				
33.	Petroleum Engineering									•
34.	Polymer Science & Technology							•		
35.	Production and Industrial Engineering		•					•		
36.	Pulp & Paper Technology							•		
37.	Textile Technology		•							
	Four- year B.S. Courses									
38.	Chemistry				•					
39.	Economics				•					
40.	Mathematics and Scientific Computing				•					
41.	Physics				•					
	B. Pharm. 4 Years									
42.	Pharmaceutics								•	
	B. Des. 4 years									
43.	Design			•						

	B. Arch. 5 years									
44.	Architecture					•		•		
	M. Pharm. Dual Degree 5 years									
45.	Pharmaceutics								•	
	M.Sc. Integrated 5 years									
46.	Applied Geology					•				
47.	Applied Mathematics							•		
48.	Applied Physics									
49.	Chemistry	•				•				
50.	Economics					•				
51.	Exploration Geophysics					•				
52.	Mathematics and Computing					•				•
53.	Physics					•		•		
	BS & MS Dual Degree 5 years									
54.	**Physics**						•			
55.	**Biological Sciences**						•			
	M.Sc. Tech. Integrated 5 years									
56.	Applied Geology									•
57.	Applied Geophysics									•
	M.Tech. Integrated 5 year									
58.	Geological Technology							•		
59.	Geophysical Technology							•		
60.	Engineering Physics								•	
61.	Industrial Chemistry								•	
62.	Mathematics & Computing		•						•	
	B.Tech./M.Tech. Dual Degree 5 Years									
63.	Aerospace Engineering					•	•			
64.	Aerospace Engineering with M.Tech. in Applied Mechanics with specializations in Biomedical Engineering						•			
65.	Agricultural and Food Engineering with M.Tech in any of the listed specializations					•				
66.	Biochemical Engineering								•	
67.	Biological Engineering						•			

68.	Biochemical Engineering & Biotechnology		•							
69.	Bioengineering with M.Tech. in Biomedical Technology								•	
70.	Biotechnology						•			
71.	Biotechnology & Biochemical Engineering					•				
72.	Ceramic Engineering								•	
73.	Chemical Engineering		•			•	•			
74.	Chemical Engineering with M. Tech. in Hydrocarbon Engineering									
75.	Civil Engineering with M. Tech. in Applied Mechanics in any of the listed specialization						•			
76.	Civil Engineering with M. Tech. in Infrastructural Civil Engineering						•			
77.	Civil Engineering with M. Tech. in Structural Engineering								•	
78.	Civil Engineering with M. Tech. in any of the listed specialization					•	•			
79.	Computer Science & Engineering		•			•	•		•	
80.	Electrical Engineering with M. Tech. in Applied Mechanics with specialization in Biomedical Engineering						•			
81.	Electrical Engineering with M. Tech. in Communications and Signal Processing	•								
82.	Electrical Engineering						•			
83.	Electrical Engineering with M. Tech. in		•							

	Information & Communication Technology									
84.	Electrical Engineering with M. Tech. in Microelectronics	•								
85.	Electrical Engineering with M. Tech. in any of the listed specializations					•				
86.	Electrical Engineering with M.Tech. in Power Electronics								•	
87.	Electronics & Communication Engineering with M. Tech. in Wireless Communication									
88.	Electronics & Electrical Communication Engineering with M. Tech. in any of the listed specializations					•				
89.	Energy Engineering with M.Tech in Energy Systems Engineering	•								
90.	Engineering Design with M. Tech. in Automotive Engineering						•			
91.	Engineering Design with M.Tech in Biomedical Design						•			
92.	Quality Engineering Design and Manufacturing					•				
93.	Engineering Physics with M.Tech in Engineering Physics with specialization in Nano Science	•								

94.	Industrial Engineering with M. Tech. in Industrial Engineering and Management					•				
95.	Manufacturing Science & Engineering with M. Tech. in Industrial Engineering & Management					•				
96.	Material Science & Technology								•	
97.	Mechanical Engineering								•	
98.	Mechanical Engineering with M. Tech. in Computer Aided Design & Automation	•								
99.	Mechanical Engineering with M. Tech. in Computer Integrated Manufacturing	•								
100.	Mechanical Engineering with M. Tech. In Thermal Engineering						•			
101.	Mechanical Engineering with M. Tech. in Intelligent Manufacturing						•			
102.	Mechanical Engineering with M. Tech. in Product Design						•			
103.	Mechanical Engineering with M. Tech. in any of the listed specialization					•				
104.	Metallurgical Engineering								•	
105.	Metallurgical Engineering & Materials Science with M. Tech. in Ceramics & Composites	•								
106.	Metallurgical Engineering & Materials	•								

	Science with M. Tech. in Metallurgical Process Engineering									
107.	Metallurgical & Materials Engineering						•			
108.	Metallurgical & Materials Engineering with M. Tech. in Metallurgical & Materials Engineering					•				
109.	Mineral Engineering with M.Tech. in Mineral Engineering									•
110.	Mineral Engineering with MBA									•
111.	Mining Engineering					•			•	
112.	Mining Engineering with M.Tech. in Mining Engineering									•
113.	Mining Engineering with MBA									•
114.	Mining Engineering with M.Tech. in Safety Engineering and Disaster Management in Mines					•				
115.	Naval Architecture & Ocean Engineering						•			
116.	Naval Architecture Engineering with M.Tech. in Applied Mechanics in any of the listed specializations						•			
117.	Ocean Engineering & Naval Architecture					•				
118.	Petroleum Engineering with									•

	M.Tech. in Petroleum Management									
119.	Process Engineering with MBA							•		

	Programme B.Tech. 4 Years								
	Programme **B.Tech. 4 Years**	**IIT Bhubaneswar**	**IIT Gandhinagar**	**IIT Hyderabad**	**IIT Indore**	**IIT Mandi**	**IIT Patna**	**IIT Ropar**	**IIT Jodhpur**
1	Chemical Engineering		•	•					
2	Civil Engineering	•		•					
3	Computer Science and Engineering			•	•	•	•	•	•
4	Engineering Science			•					
5	Electrical Engineering	•	•	•	•	•	•	•	•
6	Mechanical Engineering	•	•	•	•	•	•	•	•
7	Systems Science								•
8	Biologically -inspired Systems Science								•

APPENDIX - 10: SYLLABUS FOR ARCHITECTURE APTITUDE TEST (AAT)

Freehand drawing:
This would comprise of simple drawing depicting the total object in its right form and proportion, surface texture, relative location and details of its component parts in appropriate scale. Common domestic or day-to-day life usable objects like furniture, equipment, etc., from memory.

Geometrical drawing:
Exercises in geometrical drawing containing lines, angles, triangles, quadrilaterals, polygons, circles etc. Study of plan (top view), elevation (front or side views) of simple solid objects like prisms, cones, cylinders, cubes, splayed surface holders etc.

Three-dimensional perception:
Understanding and appreciation of three-dimensional forms with building elements, colour, volume and orientation. Visualization through structuring objects in memory.

Imagination and aesthetic sensitivity:
Composition exercise with given elements. Context mapping. Creativity check through innovative uncommon test with familiar objects. Sense of colour grouping or application.

Architectural awareness:
General interest and awareness of famous architectural creations – both national and international, places and personalities (architects, designers etc.) in the related domain.

Candidates are advised to bring geometry box sets, pencils, erasers and colour pencils or crayons for the Aptitude Test.