JAM 2022

Joint Admission test for Masters | संयुक्त स्नातकोत्तर उपाधि प्रवेश परीक्षा

Information Brochure

Examination Date: February 13, 2022 (Sunday)

Test for admission to
M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree,
and other Post-Bachelor's Degree Programmes
at

Indian Institutes of Technology

Bhilai	Dhanbad	Indore	Madras	Roorkee
Bhubaneswar	Gandhinagar	Jodhpur	Mandi	Ropar
Bombay	Guwahati	Kanpur	Palakkad	Tirupati
Delhi	Hyderabad	Kharagpur	Patna	Varanasi

&

Integrated Ph.D. Programmes at

Indian Institute of Science, Bangalore

Organizing Institute: IIT ROORKEE

Website: https://jam.iitr.ac.in

Contact Us

Phone No.: (01332) 284531
E-mail: jam@iitr.ac.in
Organizing Chair, JAM 2022
GATE-JAM Office
Indian Institute of Technology Roorkee
Roorkee - 247667, Uttarakhand, India

Revision History

18/9/2021: Relaxation of Eligibility Requirements (Second point of Section 5 on Page 7)

Test Papers

Biotechnology (BT)
Chemistry (CY)
Economics (EN)
Geology (GG)
Mathematics (MA)
Mathematical Statistics (MS)
Physics (PH)

Highlights

- IIT Roorkee is the Organizing Institute for JAM 2022.
- JAM 2022 Examination will be conducted **ONLINE only** as a Computer Based Test (CBT) for all Test Papers.
- All the seven Test Papers of JAM 2022 will be of fully **objective type**, with three different patterns of questions, namely (i) Multiple Choice Questions (MCQs), (ii) Multiple Select Questions (MSQs), and (iii) Numerical Answer Type (NAT) questions.
- Applications for JAM 2022 examination will be accepted **ONLINE only** during August 30-October 11, 2021 through link available on JAM 2022 website.
- No hard copies of documents are to be sent to the Organizing Institute. The required documents are to be uploaded online to the application website only.
- No hard copy of JAM 2022 scorecard will be sent to the JAM 2022 qualified candidates by the Organizing Institute. It can only be downloaded from JAM 2022 website within a specified period.
- No additional requirements, such as suitability test or interview, are needed for admission to the programmes in IITs under JAM.
- Candidates who qualify in JAM 2022 are eligible to apply for admission to IITs in the academic year 2022-23.
- Applications for admission to IITs by JAM 2022 qualified candidates can be submitted from April 11-25, 2022 **ONLINE only** through link available on JAM 2022 website.
- Integrated Ph.D. programmes in Physical Sciences, Chemical Sciences, Mathematical Sciences & Biological Sciences at IISc Bangalore may use the JAM results to shortlist candidates for an interview for the final selection.

Important Dates for JAM 2022

Commencement of ONLINE Registration and Application on JAM 2022 Website	August 30, 2021 (Monday)
Last Date for Online Application Submission and Uploading of Documents on the Website	October 11, 2021 (Monday)
Availability of JAM Admit Cards for download	January 04, 2022 (Tuesday)
Date of JAM 2022 Examination	February 13, 2022 (Sunday)
Announcement of the Results of JAM 2022	March 22, 2022 (Tuesday)
Submission of Application Form for Admission on the JAM 2022 Website	April 11 – 25, 2022
Declaration of First Admission List	June 01, 2022 (Wednesday)
Declaration of Second Admission List	June 16, 2022 (Thursday)
Declaration of Third Admission List	June 25, 2022 (Saturday)
Declaration of Fourth and Final Admission List	July 05, 2022 (Tuesday)
Closure of Admissions through JAM 2022	July 11, 2022 (Monday)

Note: The dates are tentative and may be subject to change.

Contents

1. INTRODUCTION

The Indian Institutes of Technology (IITs) are institutions of national importance established through an Act of Parliament in 1956. The Indian Institute of Science (IISc) is a premier research and teaching institute established in 1909. The IISc and IITs are well-known, the world over, for high-quality education in engineering, science, social science, management and research in frontier areas. The aim of these institutes is to build a strong foundation of knowledge, pursue excellence and enhance creativity in an intellectually stimulating environment. The current pace of advancement of technology needs a coherent back-up of basic science education and research. The vibrant academic ambience and research infrastructure at IISc and IITs motivate students to pursue Research and Development careers in frontier areas of basic sciences, social sciences, as well as interdisciplinary areas of science and technology. Further, IISc and IITs have well-equipped modern laboratories, efficient computer networks and state-of-the-art libraries. The teaching process is structured to promote close and continuous interface between the faculty and the students. A number of financial assistantships are available to SC/ST and other deserving/meritorious students at individual institutes.

From the Academic Session 2004-05, IITs started conducting a **Joint Admission test for M.Sc. (JAM**). The objective of JAM is to provide admissions to M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, and other Post-Bachelor's Degree Programmes at IITs and Integrated Ph.D. Degree Programmes at IISc and to consolidate Science as a career option for bright students across the country. JAM has been established as a benchmark for the undergraduate level science education in the country. The Integrated Ph.D. Programme at IISc, started in the early 1990s to enable students to directly join a Ph.D. Programme after their B.Sc. Degree, has flourished under JAM. From the year 2021, a new Test Paper Economics (EN) is added and the purview of JAM is extended to social sciences to provide admission to Masters Programmes in **Economics** at the IITs. To reflect this, the name of the examination was changed to **Joint Admission test for Masters (JAM**) from 2021.

The M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, and other Post-Bachelor's Degree Programmes at the IITs and the Integrated Ph.D. Programmes at the IISc offer high-quality education in their respective disciplines, comparable to the best in the world. The curricula for these programmes are designed to provide the students with opportunities to develop academic talent leading to challenging and rewarding professional life. The curricula are regularly updated at the IISc and IITs. The interdisciplinary content of the curricula equips the students with the ability to utilize scientific knowledge for practical applications. The medium of instruction is English for all the above mentioned programmes. All programmes are open to all eligible students irrespective of their nationality.

2. GENERAL INFORMATION

a) JAM 2022 is open to all nationals (Indian/Foreign). Candidates seeking admission to the academic programmes for the academic year 2022-23 covered under JAM 2022 must appear in JAM 2022. There is no age restriction.

b) **JAM 2022 will be held on February 13, 2022 (Sunday) as a Computer Based ONLINE Examination.**

c) For admission, foreign nationals are required to satisfy the rules and regulations of the Admitting Institute(s) pertaining to foreign students. For further details, they are advised to contact the concerned Admitting Institute(s).

d) To apply for admission to a desired programme, a candidate is required to qualify in the relevant Test Paper and also satisfy the Minimum Educational Qualifications (MEQs) and Eligibility Requirements (ERs) of the concerned Academic Programme.

e) The candidates who have either appeared or are due to appear in the final examination of their qualifying degree in 2022 are also eligible to appear in JAM 2022. By qualifying in JAM 2022, candidates can apply for a provisional admission subject to the condition that: (a) all parts of their final examination shall be completed by the date of registration of the Admitting Institute, and (b) proof of having passed the qualifying degree with required eligibility, as specified by the Admitting Institute, should be submitted by **September 30, 2022**.

f) On the basis of performance in JAM 2022, for each Test Paper, separate merit lists will be prepared for General (GEN), Economically Weaker Sections (EWS), OBC Non-Creamy Layer (OBC-NCL), SC, ST, and Persons with Disability (PwD) category candidates.

g) Admission to most of the Academic Programmes at various institutes will be made on the basis of Rank in JAM 2022.

h) Requests for change of category, if any, with proper documentation, should reach the Organizing Institute latest by **May 04, 2022**. Requests received after this date will not be accepted under any circumstances.

i) **Candidates should note that mere appearance in JAM 2022 or being in the merit list of any Test Paper neither guarantees nor provides any automatic entitlement to admission. Qualified candidates will have to apply for admission as per the prescribed procedure. Admissions shall be made in order of merit in each category and the number of seats available at the Admitting Institute(s)**.

j) The list of academic programmes, number of seats, eligibility requirements and minimum educational qualifications of each of the programmes mentioned in this Information Brochure are subject to change, as per the policy of Admitting Institute(s).

k) With regard to the interpretation of the provisions on any matter not covered in this Information Brochure, the decision of the **Organizing Institute, JAM 2022** shall be final and binding on all the parties concerned.

l) In all matters concerning JAM 2022, the decision of the **Organizing Institute, JAM 2022** will be final and binding on all the applicants.

m) Although JAM 2022 is held at different centres across the country, **Indian Institute of Technology Roorkee** is the **Organizing Institute**, and has the overall responsibility of conducting JAM 2022. In case of any claims or disputes related to JAM 2022, it is hereby made absolutely clear that the Nainital High Court (Nainital, Uttarakhand) alone shall have the exclusive jurisdiction to entertain and settle any such disputes and claims.

3. ACADEMIC PROGRAMMES

The following are the full-time M.Sc. (Two-Year), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, and other Post-Bachelor's Degree Programmes at different IITs and Integrated Ph.D. Programmes at the IISc to which admissions shall be made on the basis of JAM 2022.

i. **Indian Institute of Science, Bangalore (IISc):** Integrated Ph.D. Programmes in Biological Sciences, Chemical Sciences, Mathematical Sciences, and Physical Sciences.

ii. **IIT Bhilai (IITBhilai):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics and Computing, and (iii) Physics.

iii. **IIT Bhubaneswar (IITBBS):** Joint M.Sc.-Ph.D. Programmes in (i) Atmosphere & Ocean Sciences, (ii) Chemistry, (iii) Geology, (iv) Mathematics, and (v) Physics.

The modalities for selection to the Ph.D. programme in the joint M.Sc.-Ph.D. programme are as follows:

After completing the third semester of the M.Sc. Programme,

a) Those students securing CGPA ≥ 8.5 and having expressed their desire to continue in writing are eligible to opt for the Ph.D. Programme. Final selection will be based on the written test, interview and other short-listing criteria set by the Institute. Those not selected and those who do not opt for the Ph.D. Programme will exit with an M.Sc. degree.

b) Those with CGPA < 8.5 are not allowed to opt for the Ph.D. Programme and will exit with an M.Sc. degree.

iv. **IIT Bombay (IITB):**

- Two-Year Master of Science (M.Sc.) Programmes in (i) Applied Geology, (ii) Applied Geophysics, (iii) Applied Statistics & Informatics, (iv) Biotechnology, (v) Chemistry, (vi) Mathematics, and (vii) Physics.
- M.Sc.-Ph.D. Dual Degree Programmes in (i) Energy, (ii) Environmental Science, (iii) Operations Research. Both the degrees will be awarded together after the successful completion of the Programmes.

v. **IIT Delhi (IITD):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Economics, (iii) Mathematics, and (iv) Physics.

vi. **IIT (ISM) Dhanbad (IITISM):**

- Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics & Computing, (iii) Physics.
- Three-Year Master in Science (M.Sc.[Tech]) in (i) Applied Geology, and (ii) Applied Geophysics.

vii. **IIT Gandhinagar (IITGN):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.

viii. **IIT Guwahati (IITG):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics & Computing, and (iii) Physics.

ix. **IIT Hyderabad (IITH):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics/Mathematics & Computing, and (iii) Physics.

x. **IIT Indore (IITI):** Two-Year Master of Science (M.Sc.) Programmes in (i) Astronomy, (ii) Biotechnology, (iii) Chemistry, (iv) Mathematics, and (v) Physics with an option to convert it to M.Sc.-Ph.D. Dual Degree Programme during second semester. Programme conversion of the eligible students is confirmed at the end of the third semester subject to their qualification of the CSIR/UGC-NET, GATE or any equivalent examination and meeting the short-listing criteria of the concerned discipline. Students continuing in M.Sc.-Ph.D. Dual Degree Programme are awarded M.Sc. degree after successful completion of all its prescribed requirements with recognition that it also partially fulfills the requirements of M.Sc. and Ph.D. Dual Degree Programme.

xi. **IIT Jodhpur (IITJ):**

- Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.
- M.Sc.-M.Tech. Dual Degree Programme in (i) Mathematics - Data & Computational Sciences and (ii) Physics and Materials Engineering.

xii. **IIT Kanpur (IITK):**

- Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, (iii) Physics, and (iv) Statistics.
- M.Sc.-Ph.D. Dual Degree Programme in Physics (Transfer from M.Sc.-Ph.D. Dual Degree Programme to M.Sc. Physics Programme is not permitted. However, for students admitted to the M.Sc.-Ph.D. Dual Degree Programme, the M.Sc. degree will be given after successful completion of all academic requirements of the first six semesters while working towards Ph.D. degree).

xiii. **IIT Kharagpur (IITKgp):** Joint M.Sc.-Ph.D. Programmes in (i) Chemistry, (ii) Geology, (iii) Geophysics, (iv) Mathematics, (v) Medical Physics, (vi) Molecular Medical Microbiology, (vii) Nuclear Medicine, and (viii) Physics.

xiv. **IIT Madras (IITM):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.

xv. **IIT Mandi (IITMandi):** Two-Year Master of Science (M.Sc.) Programmes in (i) Applied Mathematics, (ii) Chemistry, and (iii) Physics.

xvi. **IIT Palakkad (IITPKD):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.

xvii. **IIT Patna (IITP):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.

xviii. **IIT Roorkee (IITR):** Two-Year Master of Science (M.Sc.) Programmes in (i) Applied Geology, (ii) Chemistry, (iii) Economics, (iv) Mathematics, and (v) Physics.

xix. **IIT Ropar (IITRPR):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics, and (iii) Physics.

xx. **IIT Tirupati (IITTP):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics & Statistics, and (iii) Physics.

xxi. **IIT (BHU) Varanasi (IITBHU):** Two-Year Master of Science (M.Sc.) Programmes in (i) Chemistry, and (ii) Physics.

The Academic Programmes, their duration and number of seats available in IITs with programme codes are listed in **Annexure I**.

Information related to Integrated PhD Programmes at IISc can be obtained at https://www.iisc.ac.in/admissions/ph-d-integratedprogrammes

The profile of the Institutes covered under JAM 2022 is available at the respective websites as given in Table 1.

Table 1: Website Addresses of Institutes

S. No.	Name of the Institute	Website
1	IISc Bangalore	www.iisc.ac.in
2	IIT Bhilai	www.iitbhilai.ac.in
3	IIT Bhubaneswar	www.iitbbs.ac.in
4	IIT Bombay	www.iitb.ac.in
5	IIT Delhi	www.iitd.ac.in
6	IIT (ISM) Dhanbad	www.iitism.ac.in
7	IIT Gandhinagar	www.iitgn.ac.in
8	IIT Guwahati	www.iitg.ac.in
9	IIT Hyderabad	www.iith.ac.in
10	IIT Indore	www.iiti.ac.in
11	IIT Jodhpur	www.iitj.ac.in
12	IIT Kanpur	www.iitk.ac.in
13	IIT Kharagpur	www.iitkgp.ac.in
14	IIT Madras	www.iitm.ac.in
15	IIT Mandi	www.iitmandi.ac.in
16	IIT Palakkad	www.iitpkd.ac.in
17	IIT Patna	www.iitp.ac.in
18	IIT Roorkee	www.iitr.ac.in
19	IIT Ropar	www.iitrpr.ac.in
20	IIT Tirupati	www.iittp.ac.in
21	IIT (BHU) Varanasi	www.iitbhu.ac.in

Note: JAM score will also be used by other centrally funded institutes like NITs, IIEST Shibpur, SLIET Punjab and IISERs for admission to their programmes

4. TEST PAPERS AND MINIMUM EDUCATIONAL QUALIFICATIONS (MEQs) FOR ADMISSION

JAM 2022 Examination will be conducted in seven subjects, also referred to as Test Papers; Biotechnology (BT), Chemistry (CY), Economics (EN), Geology (GG), Mathematics (MA), Mathematical Statistics (MS) and Physics (PH). Candidates are advised to become familiar with the code(s) of the Test Paper(s) as this information is required at the time of application submission, at the time of examination, and later at the time of admission process.

The Minimum Educational Qualifications (MEQs) for admissions to various Academic Programmes covered under JAM 2022 are given in **Annexure II**, along with the names of the Test Papers and their Codes and the Institute offering the Academic Programmes. Admission to each of the Academic Programmes shall be offered on the basis of merit list in the corresponding Test Paper(s) of JAM 2022.

5. ELIGIBILITY REQUIREMENTS (ERs) FOR ADMISSION

The candidates who qualify in JAM 2022 must fulfill the following Eligibility Requirements (ERs) for admissions to IITs.

- All candidates admitted through JAM should have a Bachelor's degree.
- ~~In the qualifying degree, the aggregate marks or CGPA/CPI **without rounding-off** (taking into account all subjects, including languages and subsidiaries, all years combined) should be at least 55% or 5.5 out of 10 for General/OBC (NCL)/EWS category candidates, and 50% or 5.0 out of 10 for SC/ST and PwD category candidates.~~
- The candidates must **PASS** the qualifying degree examination. In case if a candidate is promoted without a marksheet, the promotion certificate or a document accompanying the promotion certificate duly signed by the Head of the Institute must mention the subjects taken in that semester/year to evaluate the MEQ requirements for admission to a specific program.
- Foreign nationals with Indian degree are eligible to apply, subject to the admitting institute's policy.

If CGPA/CPI is on a different scale, it would be linearly mapped to a 10-point scale.

For Candidates with letter grades/CGPA (instead of percentage of marks), the equivalence in percentage of marks will be decided by the Admitting Institute(s).

Proof of having passed the Qualifying Degree with the Minimum Educational Qualifications (MEQs) as specified by the Admitting Institute should be submitted by **September 30, 2022**.

At the time of admission, all admitted candidates will have to submit a Physical Fitness certificate from a registered medical practitioner in the prescribed form. At the time of admission, the admitted candidates may also have to undergo a Physical Fitness test by a medical board constituted by the Admitting Institute. In case candidates are not found physically fit to pursue their chosen course of study, their admission is liable to be cancelled.

Notes:

a) **It is entirely the responsibility of the Candidates to prove that they satisfy the Minimum Educational Qualifications (MEQs) and Eligibility Requirements (ERs) for admission.**

b) **The Admitting Institute has the right to cancel, at any stage, the admission of candidates who are found to have been admitted to a Programme to which they are not entitled, being unqualified or ineligible in accordance with the rules and regulations in effect.**

6. PATTERN OF TEST PAPERS

The JAM 2022 Examination for all the seven Test Papers will be conducted as **ONLINE** Computer Based Test (CBT) where the candidates will be shown the questions in a random sequence on a computer screen. For all the seven Test Papers, the duration of the examination will be of **THREE** hours. The medium for all the Test Papers will be English only. There will be a total of 60 questions carrying a total of 100 marks. The entire paper will be divided into three sections, A, B and C. All sections are compulsory. Questions in each section will be of different types as given below:

- **Section-A** contains a total of 30 Multiple Choice Questions (MCQs) involving 10 questions of one mark each and 20 questions of two marks each. Each MCQ has four choices out of which only one choice is the correct answer. Candidates can mark the answer by clicking the choice.
- **Section-B** contains a total of 10 Multiple Select Questions (MSQs) carrying two marks each. Each MSQ is similar to MCQ but with the difference that MSQ may have one or more than one correct choice(s) out of the four given choices. The candidate is awarded full credit only if all the correct answer(s) and no wrong answers are selected. Candidates can mark the answer(s) by clicking the choice(s).
- **Section-C** contains a total of 20 Numerical Answer Type (NAT) questions involving 10 questions of one mark each and 10 questions of two marks each. For NAT questions, the answer is a signed real number, which needs to be entered using the virtual numeric keypad displayed on the monitor. No choices will be shown for NAT questions.
- In all sections, questions not attempted will result in zero mark. In Section-A (MCQ), wrong answer will result in **negative** marks. For each wrong answer to 1 mark questions, 1/3 mark will be deducted and similarly for each wrong answer to 2 marks questions, 2/3 mark will be deducted. In Section-B (MSQ), there are **no negative** and **no partial** marking provisions. There is **no negative** marking in Section-C (NAT) as well.
- There is a provision for using **online virtual calculator**. The candidates are **NOT** allowed to bring their own calculators.
- Mobile phones, watches, and any other electronic devices are **strictly prohibited** inside the examination hall. Charts, graph sheets, and tables are also **NOT** allowed inside the examination hall.
- A scribble pad will be provided for rough work. Candidates have to write their name and registration number before using it. The candidate can possess only one scribble pad at any point of time. A second scribble pad is given only upon returning the first one. The scribble pad has to be returned at the end of the examination.
- The candidates are required to select the answer for MCQ and MSQ type questions using the mouse. The answer for NAT questions can be entered using a virtual numeric keypad (the keyboard of the computer will be disabled).
- At the end of 3 hours, the examination will end automatically.

Use of unfair means by a candidate in JAM 2022, whether detected at the time of examination, or at any other stage, will lead to the cancellation of candidature as well as disqualification of the candidate from appearing in JAM in future.

The candidates are advised to visit the JAM 2022 website regularly for more details on the pattern of questions for JAM 2022, including examples. Candidates will also be able to take a mock examination through a 'Mock Test' link that will be made available on the website on a date closer to the examination.

7. TEST SCHEDULE AND APPLICATION FEE

The Test Paper schedule of JAM 2022 is given in Table 2.

Table 2: JAM 2022 Test Schedule

Examination Date	Session	Test Papers and Codes
February 13, 2022 (Sunday)	Forenoon* (FN)	Biotechnology (BT), Mathematical Statistics (MS) and Physics (PH)
	Afternoon* (AN)	Chemistry (CY), Economics (EN), Geology (GG) and Mathematics (MA)

*Examination time will be published on the website and printed on the Admit Cards.

Number of Test Papers Allowed:
A candidate can appear in either one or two Test Paper(s). However, a candidate can appear in two Test Papers if and only if they are not scheduled in the same session (see Table 2).

Application Fee:
The details of the application fee specific to Gender/Category are given in Table 3. **The application fee is non-refundable**.

Table 3: Application Fee for JAM 2022

Group/Category	Fee Details	
	One Test Paper	Two Test Papers
Female (All Categories)/SC/ST/PwD	₹ 750	₹ 1050
All Others	₹ 1500	₹ 2100

8. CHOICE OF EXAMINATION CITIES

The JAM 2022 Examination is conducted in collaboration with eight zones. The names of these eight zones and the locations of Examination Cities/Towns for JAM 2022 are listed zone-wise in **Annexure III**. Candidates must specify their first, second and third choice cities at the time of applying for JAM 2022. When the choice of first city is made, then the zone gets determined and the candidates will be able to choose the second choice city only from the same zone. The third choice city can be chosen from anywhere in India including from the same zone. If a minimum required number of candidates have not applied at a listed City/Town, then the City/Town may be dropped from the final list, and those candidates will be allotted a centre in the city of their second or third choice. However, because of operational constraints, the JAM 2022 Committee reserves the right to add a new city or remove an existing one, and allot a city that may not be any one of the choices stated by the candidate.

An examination city may have one or more examination centres. A centre once allotted will not normally be changed. A request for change of centre within the same City/Town will **NOT** be permitted.

In exceptional circumstances, a change of examination City/Town may be permitted, if a request with a valid reason for the same is received by the office of the Organizing Chair, JAM 2022 through an e-mail (jam@iitr.ac.in), on or before **November 12, 2021**. The request for city change should be made after an online payment of ₹ 500 on JAM 2022 portal (https://jam.iitr.ac.in) under the specific link of "Payment for city change request". Proof of this payment should be attached to the request e-mail for city change. **Please note that payment of ₹ 500 is non-refundable and does not necessarily guarantee the change of the city.** The decision of the Organizing Institute, JAM 2022, in this regard will be final.

9. CODE OF CONDUCT

All candidates appearing for the JAM 2022 must strictly comply with the following Rules and Regulations:

- Candidates appearing for the examination must carry their **Admit Card** and **Original Valid Photo-Identity Proof** to the examination hall.
- The candidate's fingerprint and/or photograph will be captured before the examination. This captured data will be used for verification during admission. Hence, candidates should avoid any coating (e.g., ink, mehendi, henna, or tattoo) on their fingertips and have clean fingers on the examination day.
- A scribble pad will be provided for rough work. Candidates have to write their name and registration number before using it. The candidate can possess only one scribble pad at any point of time. A second scribble pad is given only upon returning the first one. The scribble pad has to be returned at the end of the examination.
- Carrying mobile phones (even in the switched-off mode), smart watches, calculators, and other electronic gadgets inside the examination hall is strictly prohibited.
- Carrying any other electronic devices that can be used for communication or for any other purpose, and printed or hand-written materials, inside the examination hall is strictly prohibited.
- All means of communication (verbal or otherwise) among the candidates inside the examination hall are strictly prohibited.
- Candidates should not tamper with the computer and the related hardware provided in the examination hall. Candidates found to have tampered with these willfully, will have their candidature cancelled. In addition, appropriate legal action will be initiated against such candidates.

Examination may be cancelled for those candidates who are found adopting unfair means and not in line with the code and ethics of the JAM 2022. Their Test Paper(s) responses will not be evaluated, even if they were allowed to complete their examination. In addition, appropriate legal action may be initiated against all such candidates.

10. RESERVED SEATS

In each programme, a certain number of seats are reserved for candidates belonging to various categories. The number of seats reserved under various categories in each of the programmes covered under JAM 2022 is given in **Annexure I**. The category-wise merit list in a JAM paper will be prepared based on the category declared by the candidate in the application form. The final seat allotment will be done based on a valid Category Certificate (in the prescribed format) submitted along with the Application Form for Admission.

Candidates who seeks admission under SC/ST category must submit, along with the filled-in Application Form for Admission, the requisite certificate issued by a competent authority as specified in **Annexure IV**, failing which their candidature for admission will not be considered under the reserved category.

A candidate who seeks admission under the OBC-NCL/EWS Category must submit an OBC-NCL/EWS Certificate issued by a competent authority as specified in **Annexure IV**, in the format shown in **Annexure V** for OBC-NCL and **Annexure VI** for EWS along with the filled-in Application Form for Admission. **Candidates will be considered in the General Category in case the OBC-NCL/EWS Certificate is not in the prescribed format or they have submitted an invalid certificate. No opportunity will be given to the candidates for late submission of the aforementioned certificate under any circumstances.**

For PwD candidates with any category of disability (*viz*., blindness or low vision, hearing impairment, loco-motor disability, and/or cerebral palsy), benefit will be given to only those who have at least **40%** permanent physical impairment with respect to a body part/system/extremity/whole body, etc. Such candidates must submit, along with the filled-in Application Form, the Certificate of Disability from a Government Medical Board and should be fit to pursue the Programme. The disability percentage of candidates selected for admission under PwD category may also be required to be certified by a Medical Board, duly constituted by the Admitting Institute. *The JAM Organizing Institute will not be responsible for any incorrect declaration of the PwD status of candidates. JAM 2022 will follow the guidelines as mentioned in government regulations.*

Please refer to the guidelines given by the Ministry of Social Justice & Empowerment, Government of India. The facility of a scribe is meant for only those PwD candidates who have physical limitations to write including the speed of writing (Refer to **Annexure VII**, in particular, item IV on page 2/6). The additional time for examination would be applicable to candidates as per item XII on page 3/6 of **Annexure VII** and its **Corrigendum** dated 8th February 2019. Furthermore, visually challenged PwD candidates may contact the Institute Representative of JAM 2022 through the Invigilator in the examination hall for a magnified/large font question paper on the computer screen.

Notes:

a) The number of seats for various programmes given in **Annexure I** are likely to change as per the information received from the Admitting Institutes.

b) The provisions and number for the reserved seats given in **Annexure I** are subject to modification in accordance with any subsequent order issued by the Government of India.

c) It is entirely the responsibility of candidates to prove their eligibility for admission in terms of Minimum Educational Qualifications (MEQs), etc., and for claiming reservation under a specific category.

11. HOW TO APPLY

11.1 Application Procedure

Candidates can apply for JAM 2022 only through **JAM Online Application Processing System (JOAPS)** portal link available at the website **https://jam.iitr.ac.in.** The facility for Online Registration and Application will be available through the website **https://jam.iitr.ac.in** from **August 30, 2021**. Candidates have to first register on JOAPS website, by providing their **name, a valid E-mail address, a working mobile number and a password**. Candidates must give an E-mail address that they use and check frequently, as all communication to the candidate from JAM 2022 will be sent to this E-mail address. The candidate must not use somebody else's E-mail address and **only one candidate can be registered with one E-mail address**. Similarly, candidates should provide their personal mobile number because most of the communication may also be sent via SMS. The password that the candidate provides should be chosen such that it cannot be guessed easily by others and this password must not be forgotten by the candidate as it is required for login to the online application portal. Upon successful registration, an E-mail containing candidate's Enrolment ID will be sent to the E-mail address provided by the candidate. The Enrolment ID will also be sent to the mobile number provided by the candidate. The candidate needs to use this Enrolment ID along with the password for all JAM 2022 related communications or website operations. **Candidates are advised to keep the Enrolment ID along with the password information safe and confidential**.

JOAPS portal provides an online interface to the candidate for interacting with the JAM Administration. With this interface, a candidate can:

- Apply for the examination online.
- Upload photograph, signature, and other documents like category certificate (if applicable), PwD certificate (if applicable), etc.
- Pay the application fee through any of the electronic payment modes.
- Check the status of the application form: Received, Under scrutiny, Accepted, Defect status, Status after rectification, Rejected with valid reasons, Admit card ready for download, etc.
- Download Admit Card.
- View answers, marks, and JAM score.
- Download JAM Score Card.
- Submission of application for Admission.

Candidates are discouraged from making application through a third person. If someone else (friend or Internet café person) is filling the application on behalf of the candidate, the candidate must ensure that the data submitted are correct. It has been noticed during earlier occasions that the information (including signature) filled by another person on behalf of the candidate was wrong, as they did not have correct information about the candidate. We, therefore, strongly discourage such practice while filling the online application form.

Data Requirement for Filling the Application Form: The following data will be required while filling the form at JOAPS portal:

- Personal information (name, date of birth, personal mobile number, parent's name, parent's mobile number, etc.). Please note **that the name of the candidate in the application form must exactly be the same as per the qualifying degree certificate**. JAM 2022 Score Card will be issued as per the name entered in the application form. Prefix/title such as Mr/Shri/Dr/Mrs/Smt, etc. should NOT be used.

- Address for communication (including PIN code)
- Eligibility degree details
- College name and address with PIN code
- Choice of JAM paper(s)
- Choice of JAM examination cities
- High-quality image of the candidate's photograph conforming to the specifications given in **Section 11.2**
- High-quality image of the candidate's signature conforming to the specifications given in **Section 11.3**
- Scanned copy of the Category (SC/ST) Certificate (if applicable) as per guidelines given in **Section 11.4**
- Scanned copy of PwD Certificate (if applicable) as per guidelines given in **Section 11.4**
- Details of the valid Identity Document (ID)
  (This ID proof, in original, should be carried by the candidate to the examination hall)
- Net-banking/debit card/credit card details for fee payment

JOAPS allows the candidate to "Enter" the data, "Save" a partially filled form, "Logout", and "Resume Filling" by logging in again. The JOAPS portal is self-explanatory and user-friendly.

Upon logging into the JOAPS portal, candidates need to fill in information, such as parent's/guardian's name and mobile number, city choices, the number and choice of Test Paper(s) that they wish to appear, date of birth, gender, address for communication, category, and PwD status. Their application fee will get determined based on this information. Candidates should also fill their other details, such as information on qualifying degree, percentage of marks/CGPA, details of valid personal ID information, etc. It may be noted that the candidate can specify any one of the following photo ID cards for the personal ID information: Aadhaar ID, College ID, Driving License, Employee ID, PAN Card, Passport, or Voter ID. The JAM 2022 application requires that candidate's photograph and signature are uploaded electronically at JOAPS. *Uploading photograph and signature that does not meet the specifications can result in disqualification of the application without any refund of the application fee.*

11.2 Photograph Requirements

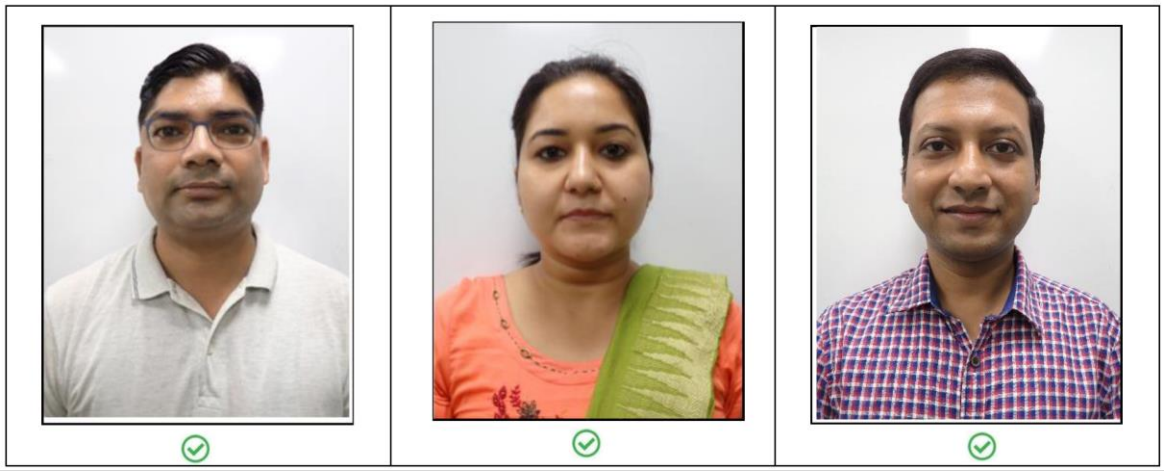
- **Please upload only a good quality recent photograph. The JAM Score Card will be printed with the photograph you submit.**
- **The photograph must match with your appearance on the day of the examination.**
- A passport size (3.5 cm Width × 4.5 cm Height) photograph of the face of the candidate is required for the application form.
- The photograph must be recent and must be in **COLOUR**. Photographs of poor resolution taken using a mobile phone and other self-composed portraits may result in the rejection of the application.
- The photograph is required in JPEG format and must be of size 3.5 cm × 4.5 cm (Width × Height).

- **Maximum size of the JPEG image can be 480×640 in pixels.** The minimum pixel size of the JPEG image should be 240×320. The file size of the image should be in the range of 50 kB to 200 kB.
- Background of the photograph must be **white** or a *very light colour*.
- The face should occupy at least 50% of the area of the photograph with a full-face view looking into the camera directly.
- The main features of the face must not be covered by hair of the head, any cloth/facemask or any shadow. Forehead, eyes, nose and chin should be clearly visible.
- If you normally wear spectacles, a photograph with glare on glasses is not acceptable. While you may wear spectacles for the photo shoot, **if glare cannot be avoided**, then remove the spectacles.
- **You must not wear spectacles with dark or tinted glasses; only clear glasses are permitted.**
- Poor quality photograph will lead to rejection of your JAM application, without any refund of the application fee.

Table 4 shows some samples of acceptable good-quality photographs and rejected poor-quality photographs.

Table 4: Sample Photographs

A: Samples of Acceptable Photographs



B: Samples of Rejected Photographs

B: Samples of Rejected Photographs

		
Smaller in Size (Standard size is 3.5 cm X 4.5 cm) ⊗	Face not covering 50% area ⊗	Cropped from other Photo ⊗
		
Shadow on the face ⊗	Face covered with mask or cloth ⊗	Facial features are partially visible ⊗
		
Glare on spectacles ⊗	Improper Background Photo ⊗	Blurred Image ⊗

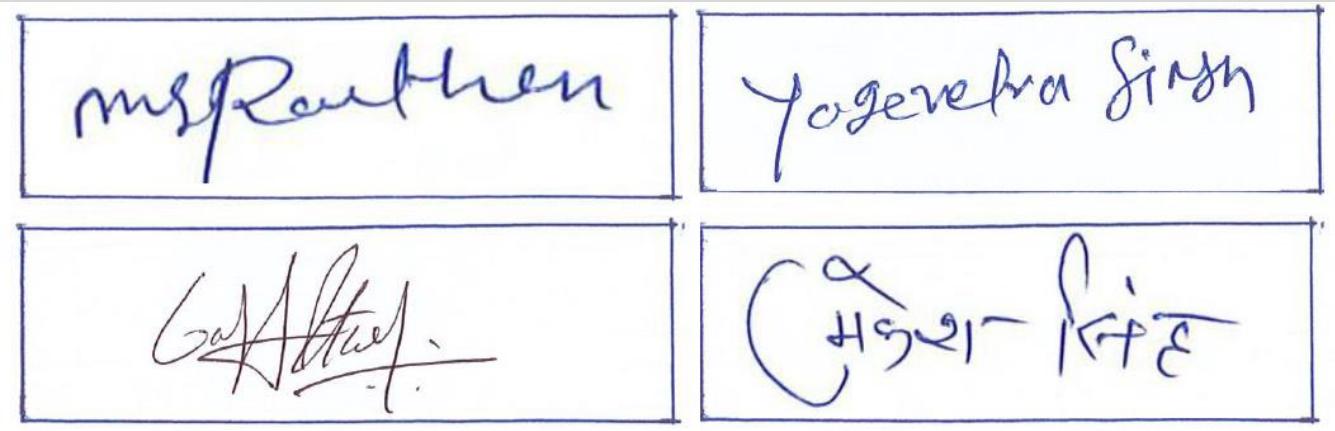
11.3 Signature Requirements

- Please draw a rectangular box of size 2 cm × 7 cm (Height × Width) on a white paper. Sign with black or dark blue ink pen completely within this box horizontally.
- A signature with all CAPITAL LETTERS, Initials or in any other colour (other than black and blue) shall NOT be accepted.
- Get the digital image of the rectangular box (with your signature inside) scanned by using a professional scanner. Crop it to the border of the box.
- Only JPEG image format will be accepted.
- The maximum image size of the signature should be 160×560 in pixels.
- The minimum image size of the signature should be 80×280 in pixels.
- The file size of the image should be in the range of 50 kB to 150 kB.

Table 5 shows some samples of acceptable good-quality signatures and rejected poor-quality signatures.

Table 5: Sample Signatures

A: Samples of Acceptable Signatures



B: Samples of Rejected Signatures

Signature in dark background ⊗

Signature in ALL CAPITAL ⊗

Signature outside the rectangle ⊗

Signature in other than blue or black ink ⊗

Signature outside the rectangle and not signed horizontally ⊗

Signature is too small to view ⊗

Signature is too hazy ⊗

Signature with background and/or writeup not allowed ⊗

11.4 Category Certificate

Candidates who belong to SC or ST category have to upload a valid documentary proof for concession in application fees. Certificate issued ONLY by authorized officials **(Annexure IV)** shall be valid. Necessary action shall be initiated for any wrongdoing and misinformation. The same document shall be required to be submitted to the Admitting Institute at the time of admission. The onus of verifying SC/ST certificate lies with the Admitting Institute. The JAM 2022 Committee will not be responsible for any incorrect declaration of the SC/ST status of candidates.

Person with Disability (PwD) Certificate: In order to avail application fee concession under the Person with Disability (PwD) category, the candidates should attach a recently obtained valid PwD certificate issued by the competent authority. The same document shall be required to be submitted to the Admitting Institute at the time of admission. The onus of verifying the PwD certificate lies with the Admitting Institute. The JAM Committee will not be responsible for any incorrect declaration of the PwD status of candidates.

Candidates should upload scanned copy of SC/ST/PwD certificate in pdf format of file size in the range 10 kB to 300 kB.

NOTE to OBC-NCL/EWS Candidates: OBC-NCL/EWS candidates are NOT required to submit/upload any category certificate along with the filled online application form. However, they are required to submit this certificate in the prescribed format (Annexure V for OBC-NCL and Annexure VI for EWS), issued ONLY by authorized officials (Annexure IV), at a later date (will be mentioned on JAM 2022 website).

After filling in the required fields in the application form and uploading the required documents, the candidate must review the application form before final submission and payment.

The last date to complete and submit the application form is October 11, 2021.

Any application that is incomplete in any respect and does not have the required valid documents will be rejected. The candidates are advised to visit the '**FAQs**' section on the website: **https://jam.iitr.ac.in** for additional queries.

11.5 Application Fee Payment Procedure

The application fee as shown in Table 3 is to be paid **online** only. Candidates will be able to make the payment using net-banking, debit or credit card until **October 11, 2021**. Additional bank charges may apply for the transaction depending on the payment option. This charge will be specified on the payment portal. Before proceeding for making any payment, applicants should view their application by clicking the "**Save and Preview**" button. They should carefully check the application and ensure that there are no errors in the application form. They should also ensure that all the relevant and valid documents are uploaded. If there is any mistake, they can go back and do the correction. After this they should click on "**Proceed for Payment**" button. Once a candidate clicks "**Proceed for Payment**" button, **NO FURTHER CHANGES** in the application form can be made and the candidate will be directed to the payment portal. On the fee payment portal, the fee amount and bank charges will be shown and the candidate has to confirm that the payment is for JAM 2022. Once confirmed and payment is successful, the candidate will be redirected back to the JOAPS Website, where it shows confirmation of the fee payment. If the candidate had selected only ONE Paper, there will be an option to choose a second Paper. If candidates desire to do so, they can proceed by paying the additional amount for second Paper as indicated.

If candidates have difficulty in making the payment (due to internet connection or power failure, for example) or is not sure whether payment has been processed or not, then they should login to JOAPS website after about an hour and check the status of the payment. If the status is "**Fee Pending/Not Paid**" then a fresh online payment through JOAPS fee payment portal may be initiated. If it is not done, the application will be rejected due to non-payment of the application fee in time. In case, the fee amount has been debited from your bank account, but JOAPS does not acknowledge any fee payment, then the money will be credited back to your account within seven working days.

11.6 Important Points

- An application once submitted CANNOT be changed/rectified. Therefore, before submitting the JAM 2022 application, please ensure that all the details and all the necessary supporting documents are filled/uploaded and there is NO ERROR.
- Please also ensure to pay the application fee as per the Gender/Category and Test Paper option. If the fee paid is NOT as per the Gender and Category and the number of Test Paper(s) entered in the Application Form, then the filled-in form will be rejected without any intimation to the candidate.
- Multiple applications submitted by a candidate are liable for rejection. Hence, DO NOT submit multiple application forms. After submitting an application, if candidates decide to appear in other Test Paper or to change Test Paper(s), they can ADD THE ADDITIONAL TEST PAPER or can CHANGE THE TEST PAPER(S) before the closing date (**October 11, 2021**) in the earlier submitted application form. In such cases, the candidate has to pay an additional fee online before the closing date (**October 11, 2021**) as per Table 6.
- The status of an application will be updated after the scrutiny of the application.
- The status of an application can be checked at any point of time by logging in JOAPS.

Table 6: Additional Fee for Addition or Change of Test Paper(s)

Group/ Category	Existing	Wishes to Change		Wishes to Add	
		Case	Additional Fee	Case	Additional Fee
Female (All Categories)/ SC/ST/PwD	One Test Paper	One Test Paper	₹ 750	One Test Paper	₹ 300
	Two Test Papers	Any One Test Paper	₹ 300	Not Applicable	
		Both Papers	₹ 1050		
All Others	One Test Paper	One Test Paper	₹ 1500	One Test Paper	₹ 600
	Two Test Papers	Any One Test Paper	₹ 600	Not Applicable	
		Both Papers	₹ 2100		

- Candidates who have wrongly entered the Category or Gender will be allowed to change the Category or Gender on the JOAPS portal with an additional fee as per Table 7. All such candidates are required to pay the additional fee ONLINE only, on or before **October 21, 2021**. Additional bank charges may apply for the transaction depending on the payment option. This charge will be specified on the payment portal. No other modes of payment are allowed.
- Please contact the JAM office of Organizing Institute, in case of any queries/problems in filling application form and making the fee payment online.

Table 7: Additional Fee for Changing Category or Gender (No fee will be refunded)

Existing Group/ Category	Change	Case	Additional Fee
Female (All Categories)/ SC/ST/PwD **(Group-1)**	Within Group-1	One or Two Test Paper(s)	NIL
	To Group-2	One Test Paper	₹ 750
		Both Papers	₹ 1050
All Others **(Group-2)**	To Group-1	One or Two Test Paper(s)	NIL

11.7 Application Scrutiny and Rectification

All the applications shall be scrutinized to verify the data entered by the candidate with the submitted supporting documents and clarity of the photograph, signature, and relevant supporting documents. If everything is found to be in order, the application will be accepted. Otherwise, defects in the application will be marked and intimated to the candidate for rectification within a stipulated time. The status of the application and defects marked in the application will be intimated to the candidates through E-mail and/or SMS. The latest status of an application will be updated after the receipt and re-scrutiny of the application. The status of an application can be checked at any point of time by logging in JOAPS.

Candidates should rectify the marked defects in the application before the stipulated deadline. **Failing to rectify the defects within the stipulated time can lead to the application being rejected and no further communication will be entertained in this regard.**

12. ADMIT CARD

An Admit Card, bearing the Candidate's Name, Registration Number, Photograph, Signature and Name(s) and Code(s) of the Test Paper(s) applied, along with the Name and Address of the Test Centre allotted, will be available for download from JOAPS portal from **January 04, 2022** **until the Examination Date**. Admit Cards will not be sent by post/E-mail. The candidate should carefully examine the Admit Card for all the entries made therein. In case of any discrepancy, the candidate should inform the Organizing Chair, JAM 2022, IIT Roorkee immediately through E-mail. If a candidate is not able to download his/her Admit Card, then the zonal Chairman, JAM (IISc/IITs of the first choice Test City/Town of the candidate) may be contacted through E-mail/Phone. Please provide the Online Enrolment ID, Name, E-mail ID, Mobile Number, Mailing Address, and City Code of the desired Test Centre (first choice) to get information about the Registration Number and the Name of the Test Centre allotted.

A printout of the downloaded Admit Card must be brought to the Test Centre along with the original and valid photo identification. The candidate has to give the details of this ID proof while filling the online application. No candidate will be permitted to appear in JAM 2022 without a valid Admit Card, and a valid and original ID. The Admit Card should be presented to the invigilators/JAM officials for verification.

A copy of the Admit Card of JAM 2022 must be carefully preserved by the Candidate and produced at the time of Admission, if required by the Admitting Institute.

The Organizing Institute may withdraw the permission granted to a candidate to appear in JAM 2022, if it is found later on that the candidate is not eligible to appear in the exam, even though an Admit Card has been issued and is produced by the candidate before the Presiding Officer of the Test Centre.

13. RANK AND MERIT LIST

13.1 Rank List

For each Test Paper in JAM 2022, an **All India Rank (AIR)** will be assigned to all qualified candidates based on their performance in the Test Paper.

Tie-Breaking: The tie-breaking criterion for awarding the ranks to candidates scoring the same aggregate marks in a Test Paper will be as follows:

Scores in the NAT section followed by the scores in the MSQ section will be used to break the tie. Final tie-breaker will be the date of birth of the candidates. The older candidate gets a higher preference. If this criterion fails to break ties, the concerned candidates will be awarded the same rank.

13.2 Merit List

The results (merit lists) will be declared on **March 22, 2022 (Tuesday)**. The results will be available on the website: **https://jam.iitr.ac.in**.

For each Test Paper, an All India Merit list will be prepared based on AIR. The number of candidates included in the All India Merit List will depend on the total number of seats available in each category (OBC-NCL, EWS, SC, ST, and PwD) in a given subject. These candidates (henceforth called Qualified Candidates) are eligible to apply for admission to any of the corresponding academic programmes available at IITs and the IISc (see Appendix I). Please note that the number of category-wise (OBC-NCL, EWS, SC, ST, and PwD) candidates included in the All India Merit List will be based on the category declared by the candidates in their application.

The **JAM Score Card (indicating the All India Rank(s) and the mark(s) obtained by the candidate)** will be available for download from the JAM 2022 website from **April 01, 2022 to July 31, 2022** for qualified candidates.

14. ADMISSION PROCEDURE

Only candidates who qualify in JAM 2022 (whose names appear in the Merit List) will be eligible to apply for admission to any of the Academic Programmes available at the Admitting Institutes (refer to **Annexure I** and **Annexure II**). Candidates are advised to refer to the profiles of the Admitting Institutes and Departments (Table 1). Applicants should note that they have to apply by filling an online Application Form for Admission (henceforth called **Admission Form**) available only at JOAPS website. Based on the Test Paper(s) qualified, an applicant can apply to one or more academic programmes covered under that Test Paper(s), subject to fulfillment of the Minimum Educational Qualifications (MEQs) and the Eligibility Requirements (ERs) of the Admitting Institutes. For the academic session 2022-23, the following admission procedure shall be followed for all the programmes at IITs covered under JAM 2022. Candidates are also advised to refer to the JAM 2022 website for latest updates.

After JAM 2022 results are announced, a qualified candidate must apply ONLINE only using the prescribed Admission Form available at JOAPS portal, irrespective of IITs where the admission is sought. The period for submission of online Admission Form is April 11, 2022 to April 25, 2022.

NOTE to OBC-NCL/EWS Candidates: The candidates must upload a valid OBC-NCL/EWS certificate issued after March 31, 2021, in the prescribed format when they submit their application form for admission after the declaration of JAM 2022 results. The final seat allotment will be done based on the OBC-NCL/EWS certificate submitted along with the application form for admission. The candidate will be considered in the General category in case the OBC-NCL/EWS Certificate is invalid or not in the prescribed format or not uploaded within the specified time.

Irrespective of whether a candidate has qualified in one or two Test Papers, only one duly completed Admission Form should be submitted. The duly completed Admission Form must list, in an option form, all the programmes at IITs (along with the order of preferences) where the candidate is seeking admission.

i. Upon logging into the JAM Online Application Process System website (JOAPS), the candidate needs to provide the required information, such as choice of the programmes in order of preference, educational qualifications, percentage of marks/CGPA, category, PwD status, etc. After carefully choosing the order of programme preferences based on the ERs and MEQs of the programmes at Admitting Institutes, a payment of ₹ 600 (Rupees six hundred only) is to be made as non-refundable processing fee. The payment can be made online through JOAPS latest by **April 25, 2022**.

ii. The Admission Form will not be considered if it is found incomplete in any aspect or if it is not accompanied by the payment and the candidate will not be considered for admission, irrespective of satisfying the ERs and MEQs of any programme(s) for which the Admission Form has been submitted. Also, candidates will be considered for admission only to the programme(s), given in their Admission Form.

iii. Taking into consideration the order of preference as given in the Admission Form and corresponding rank(s) in the Merit List, the **First Admission List** for each programme under JAM 2022 will be prepared by the Organizing Institute and will be announced by **June 01, 2022** on JAM 2022 website.

Note: Applicants are requested to periodically check the website for the status of the application/any communication. They should also check the messages sent to their registered E-mail ID and/or mobile number.

iv. After the declaration of the First List of Admission, intimation will be sent by the Organizing Institute to the candidates concerned. Along with the submission of acceptance form, these candidates will also have to pay an advance seat booking fee (₹ 10000 for General/OBC-NCL/EWS category candidates and ₹ 5000 for SC/ST/PwD category candidates) online through JOAPS, within the deadline mentioned in the offer letter. This amount will be transferred to the Admitting Institute and it will be adjusted against the Institute Fee at the time of Registration.

v. If seats remain vacant after the first admission process is over, the Organizing Institute will prepare a **Second Admission List**. This second list will be announced by the Organizing Institute on **June 16, 2022** on JAM 2022 website and an intimation based on the second list, if any, will be sent by the Organizing Institute to the candidates concerned.

vi. Candidates who have been intimated about the offer through the Second List but not through the First List, must submit their acceptance form, along with an advance seat booking fee (₹ 10000 for General/OBC-NCL/EWS category candidates and ₹ 5000 for SC/ST/PwD category candidates) paid online through JOAPS, within the deadline mentioned in the offer letter. This amount will be transferred to the Admitting Institute and it will be adjusted against the Institute Fee at the time of Registration.

vii. If seats remain vacant even after the second admission process is over, the Organizing Institute will prepare a **Third Admission List**. This third list will be announced by the Organizing Institute on **June 25, 2022** on JAM 2022 website and the intimation will be sent by the Organizing Institute to the candidates concerned.

viii. Candidates who have been intimated about the offer through the Third List but not through the first two Lists, must submit their acceptance form, along with an advance seat booking fee (₹ 10000 for General/OBC-NCL/EWS category candidates and ₹ 5000 for SC/ST/PwD category candidates) paid online through JOAPS, within the deadline mentioned in the intimation. This amount will be transferred to the Admitting Institute and it will be adjusted against the Institute Fee at the time of Registration.

ix. If seats remain vacant even after the third admission process is over, the Organizing Institute may prepare a **Fourth and Final Admission List**. This fourth list will be announced by the Organizing Institute on **July 05, 2022** on JAM 2022 website and the intimation will be sent by the Organizing Institute to the candidates concerned.

x. Candidates who have been intimated about the offer through the Fourth List but not through the first three Lists, must submit their acceptance form, along with an advance seat booking fee (₹ 10000 for General/OBC-NCL/EWS category candidates and ₹ 5000 for SC/ST/PwD category candidates) paid online through JOAPS, within the deadline mentioned in the intimation. This amount will be transferred to the Admitting Institute and it will be adjusted against the Institute Fee at the time of Registration.

xi. **With the Fourth and Final Admission List, the admission process based on JAM 2022 will end.**

xii. If a qualified candidate is allotted a seat through the First Admission List and if the offer of admission is accepted, the lower preferences of the candidate, if any, will be automatically cancelled. However, candidates will remain on the waiting list for all their higher preferences (if any). A qualified candidate, who is not allotted any seat in the First/Second/Third Admission List, will remain on the waiting list in the next round of admission(s). A qualified candidate will not be considered further in the admission process, if an admission offer is not accepted.

Notes:

a) Verification of Minimum Educational Qualifications (MEQs) and the Eligibility Requirements (ERs) for admission is the prerogative of the Admitting Institute(s) only and the Organizing Institute will not respond to any queries in this regard.

b) The offer of admission to a candidate will be provisional, subject to the fulfillment of all the requirements by the dates specified.

c) Candidates should note that being in the Merit List of any Test Paper neither guarantees nor provides any automatic entitlement for admission. Admissions shall be made in order of merit and depending on the number of seats available at the Admitting Institute(s).

d) Fingerprint/photograph of the candidates will be captured before they take the JAM 2022 examination. This captured data will be used for verification during the admission process. Hence, candidates should avoid any coating (e.g., ink, mehendi, henna, or tattoo) on their fingertips and have clean fingers on the examination and admission days.

15. SYLLABI FOR TEST PAPERS

15.1 BIOTECHNOLOGY (BT)

The Biotechnology (BT) Test Paper comprises Biology, Chemistry, Mathematics and Physics.

BIOLOGY (10+2+3 level)

Cell Biology: Structure of prokaryotic and eukaryotic cells; Membrane structure and function; Organelles and internal organization of the eukaryotic cell Protein trafficking in a eukaryotic cell; Cell communication – signalling pathways: endocrine and paracrine signalling; Extracellular matrix and apoptosis; Cell cycle – stages of mitosis and meiosis, and control of cell division cycle.

Biochemistry: Structure and function of biological macromolecules; Allostery; Enzymes – basic mechanisms of enzyme catalysis, Michaelis-Menten kinetics, enzyme inhibition, vitamins as coenzymes, and regulation; Bioenergetics – free-energy change, high-energy compounds, biological oxidation-reduction reactions and reduction potential; Metabolism – glycolysis, TCA cycle, oxidative phosphorylation, photosynthesis, nitrogen fixation, urea cycle, and regulation of glycolysis and TCA cycle.

Genetics: Mendel's laws; Inheritance patterns of polygenic traits; Mendelian inheritance patterns of human disorders; Pedigree analysis; Chromosomal basis of inheritance; Genetic recombination; Mapping genes on chromosomes based on linkage analysis; Plant breeding.

Molecular Biology: Landmark experiments that established DNA is the genetic material; DNA replication; Proof-reading and repair of DNA; DNA recombination; Transcription; RNA processing; Translation; Regulation of gene expression including operons bacteria and differential gene expression in multicellular eukaryotes.

Evolution: Darwinian view – natural selection, fossil record and descent with modification; Population genetics – sources of genetic variation, gene pools and allele frequencies, Hardy-Weinberg equation, genetic drift, gene flow and adaptive evolution; Different types of speciation; Phylogenetic classification; Origin of life – abiotic synthesis of biological macromolecules, protocell, dating fossils and origin of multicellularity.

Microbiology: Isolation; Cultivation; Structural features of viruses, bacteria, fungi and protozoa; Pathogenic microorganisms; Nutrition-based classification of microbes; Microbial metabolism; Growth kinetics; Submerged fermentation techniques; Microbial genetics.

Plant Biology: Types of tissues and organs; Primary and secondary growth; Morphogenesis; Transport in vascular plants; Plant nutrition; Development of flowering plants – gametophytic and sporophytic generations, different developmental phases, genetic control of flowering, gametogenesis, incompatibility, embryogenesis, dormancy, germination and environmental influence; Plant hormones; Photobiology; Plant response to biotic and abiotic stresses

Animal Biology: Digestive, circulatory, respiratory, excretory, nervous, reproductive and endocrine systems; Basics of immunology – Innate and adaptive immunity, Immune cells and Immunoglobulins; Animal development – Fertilization, embryonic pattern formation, cleavage, gastrulation, cellular differentiation and morphogenesis.

Ecology: Climate patterns; Terrestrial and aquatic biomes; Environmental constraints on species distribution; Factors affecting population density; Interactions among communities; Ecosystems; Ecological remediation.

Biotechnology: Plant tissue culture; Cloning of animals through somatic cell nuclear transfer; Applications of recombinant DNA technology in medicine, agriculture and forensic science.

Methods in Biology:

Cell Biology: Microscopy (light microscopy and electron microscopy); Staining proteins with antibodies; Visualizations using the GFP reporter.

Biochemical techniques: UV spectrophotometry; Biomolecular chromatography; cell fractionation by centrifugation; Electrophoresis; and Western blotting.

Molecular biology techniques: DNA cloning – plasmid vectors, and restriction enzymes; Polymerase Chain Reaction; Expression of cloned eukaryotic genes in bacteria; Hybridization techniques; DNA sequencing.

CHEMISTRY (10+2+3 level)

Structure and properties of Atoms: Bohr's theory; Periodicity in properties.

Bonding in molecules: Chemical bonding; Complex formation; Physical and chemical basis of molecular interactions.

Chemical kinetics, thermodynamics, and equilibrium: Chemical equilibrium; Chemical thermodynamics (first and second law); and Chemical kinetics (zero and first order reactions).

Physical and chemical properties of compounds: Chemical catalysis; Acid-base concepts; Concepts of pH and buffer; Conjugative effects and resonance; Inductive effects; Electromeric effects; Photochemistry; and Electrochemistry.

Chemistry of organic compounds: Hydrocarbons; Alkyl halides; Alcohols; Aldehydes; Ketones; Carboxylic acids; Amines and their derivatives; Aromatic hydrocarbons, halides, nitro and amino compounds, phenols, diazonium salts, carboxylic and sulphonic acids; Soaps and detergents; Stereochemistry of carbon compounds.

Instrumental techniques - Spectroscopy**:** fundamentals of molecular spectroscopy, emission and absorption spectroscopy, UV-Vis, IR and 1-D proton NMR spectroscopy, basics of mass spectrometry; Basics of calorimetry; Basic concepts of crystallography.

MATHEMATICS (10+2 level)

Sets; Relations and Functions; Mathematical Induction; Logarithms; Complex numbers; Linear and Quadratic equations; Sequences and Series; Trigonometry; Cartesian System of Rectangular Coordinates; Straight lines and Family; Three Dimensional Geometry; Permutations and Combinations; Binomial Theorem; Vectors; Matrices and Determinants; Boolean Algebra; Functions; Limits and Continuity; Differentiation; Ordinary Differential Equations; Application of Derivatives; Integration as inverse process of differentiation; Definite and indefinite integrals; Methods of Integration; Integration by parts.

Statistics: Measures of dispersion; Mean Deviation for grouped and ungrouped data; Variance and Standard Deviation; and Analysis of Frequency Distribution.

Probability: Random Experiments; Event; Axiomatic Approach to Probability; Conditional Probability and its properties; Multiplication Theorem on Probability; Independent Events; Bayes' Theorem; Random Variables and its Probability Distributions; Bernoulli Trails and Binomial Distributions.

PHYSICS (10+2 level)

Units and measurements; Motion in one and two dimensions; Laws of motion; Work and kinetic energy; Conservation of energy; System of particles and rotational motion; Mechanical properties of solids and fluids; Thermal properties of matter; Heat and laws of thermodynamics; Kinetic theory of gases; Electric charge and field; Electric potential and capacitance; Current, resistance and simple circuits; Moving charges and magnetic field; Magnetism and matter; Electromagnetic induction; Electromagnetic waves; Alternating currents; Optics: Geometrical Optics – Reflection by spherical mirrors, Refraction at spherical surfaces and lenses, Total internal reflection and Optical instruments; Wave optics – Reflection and refraction of plane waves, Interference, Diffraction, Polarization, and Young's experiment: Dual nature of radiation and matter; Atoms, nuclei and nuclear physics; Semiconductor materials, devices and simple circuits.

15.2 CHEMISTRY (CY)

Physical Chemistry

Atomic and Molecular Structure:

Planck's black body radiation, Photoelectric effect, Bohr's theory, de Broglie postulate, Heisenberg's Uncertainty Principle; Schrödinger's wave equation (including mathematical treatment), postulates of quantum mechanics, normalized and orthogonal wave functions, its complex conjugate (idea of complex numbers) and significance of Ψ^2; Operators; Particle in one-dimension box, radial and angular wave functions for hydrogen atom, radial probability distribution; Finding maxima of distribution functions (idea of maxima and minima), energy spectrum of hydrogen atom; Shapes of s, p, d and f orbitals; Pauli's Exclusion Principle; Hund's rule of maximum multiplicity.

Gaseous State:

Kinetic molecular model of a gas: collision frequency; collision diameter; mean free path and viscosity of gases; Maxwell-Boltzmann distribution: molecular velocities, law of equipartition of energy, molecular basis of heat capacities; Ideal gases, and deviations from ideal gas behaviour, van der Waals equation of state; critical state, law of corresponding states.

Liquid State:

Physical properties of Liquid, vapour pressure, surface tension and co-efficient of viscosity and their applications; effect of concentration of solutes on surface tension and viscosity; effect of temperature on viscosity of liquids.

Solid State:

Unit Cells, Miller indices, crystal systems and Bravais Lattices, elementary applications of vectors to crystal systems; X-ray diffraction, Bragg's Law, Structure of NaCl, CsCl, and KCl, diamond, and graphite; Close packing in metals and metal compounds, semiconductors, insulators; Defects in crystals, lattice energy; isomorphism; heat capacity of solids.

Chemical Thermodynamics:

Mathematical treatment: Exact and in-exact differentials, partial derivatives, Euler's reciprocity, cyclic rule; Reversible and irreversible processes; Laws of thermodynamics, thermochemistry, thermodynamic functions, such as enthalpy, entropy, and Gibbs free energy, their properties and applications; Partial molar quantities, dependence of thermodynamic parameters on composition, Gibbs Duhem equation, chemical potential and its applications.

Chemical and Phase Equilibria:

Law of mass action; K_p, K_c, K_x and K_n; Effect of temperature on K; Le-Chatelier principle; Ionic equilibria in solutions; pH and buffer solutions; Salt hydrolysis; Solubility and solubility product; Acid – base titration curves; Indicators; Dilute solutions; Raoult's and Henry's Laws and their applications; Colligative properties; Gibbs phase rule; Phase equilibria; single and two-component phase diagrams.

Electrochemistry:

Conductivity, equivalent and molar conductivity and their properties; Kohlrausch law; DebyeHückel-Onsager equation; Ionic velocities, mobilities, transference numbers; Applications of conductance measurement; Quantitative aspects of Faraday's laws of electrolysis, applications of electrolysis in metallurgy and industry; Electromotive force of a cell, Nernst equation; Standard electrode potential, Electrochemical series; Concentration cells with and without transference; Applications of EMF measurements including potentiometric titrations.

Chemical Kinetics:

Order and molecularity of a reaction, differential and integrated form of rate expressions - basic ideas of integration and differentiation; Kinetics of opposing, parallel, and consecutive reactions; Steady state approximation in reaction mechanisms; Chain reactions; Uni-molecular reaction (Lindemann mechanism); Temperature dependence of reaction rates, Arrhenius equation; activation energy; Collision theory of reaction rates; Types of catalysts, specificity and selectivity, mechanisms of catalyzed reactions at solid surfaces; Enzyme catalysis (Michaelis-Menten mechanism, Double reciprocal plot), Acid-base catalysis.

Adsorption:

Gibbs adsorption equation; adsorption isotherm; types of adsorption; surface area of adsorbents; surface films on liquids.

Spectroscopy:

Beer-Lambert's law; fundamental concepts of rotational, vibrational, electronic and magnetic resonance spectroscopy.

Organic Chemistry

Basic Concepts in Organic Chemistry and Stereochemistry:

Electronic effects (resonance, inductive, hyperconjugation) and steric effects and its applications (acid/base property); optical isomerism in compounds with and without any stereocenters (allenes, biphenyls); conformation of acyclic systems (substituted ethane/n-propane/n-butane) and cyclic systems, substituted cyclohexanes, and polycyclic (*cis* and *trans* decalins) systems.

Organic Reaction Mechanism and Synthetic Applications:

Chemistry of reactive intermediates (carbocations, carbanions, free radicals, carbenes, nitrenes, benzynes); nucleophilic substitution, elimination reactions and mechanisms; Hofmann-Curtius-Lossen rearrangement, Wolff rearrangement, Simmons-Smith reaction, Reimer-Tiemann reaction, Michael reaction, Darzens reaction, Wittig reaction and McMurry reaction; Pinacolpinacolone, Favorskii, benzilic acid rearrangement, Baeyer-Villeger reaction; oxidation and reduction reactions in organic chemistry; Organometallic reagents in organic synthesis (Grignard, organolithium , organocopper and organozinc (Reformatsky only); Diels-Alder, electrocyclic and sigmatropic reactions; functional group inter-conversions and structural problems using chemical reactions.

Qualitative Organic Analysis:

Identification of functional groups by chemical tests; elementary UV, IR and ^{1}H NMR spectroscopic techniques as tools for structural elucidation of simple organic molecules.

Natural Products Chemistry:

Chemistry of alkaloids, steroids, terpenes, carbohydrates, amino acids, peptides and nucleic acids.

Aromatic and Heterocyclic Chemistry:

Monocyclic, bicyclic and tricyclic aromatic hydrocarbons, and monocyclic compounds with one hetero atom: synthesis, reactivity and properties, aromaticity; Electrophilic and nucleophilic aromatic substitution reactions.

Inorganic Chemistry

Periodic Table:

Periodic classification of elements, Aufbau's principle, periodicity; Variations of orbital energy, effective nuclear charge, atomic, covalent, and ionic radii, ionization enthalpy, electron gain enthalpy, and electronegativity with atomic number, electronic configuration of diatomic molecules (first and second row elements).

Extractions of Metals:

General methods of isolation and purification of elements; Principles and applications of Ellingham diagram.

Chemical Bonding and shapes of molecules:

Ionic bond: Packing of ions in crystals, radius ratio rule, Born-Landé equation, Kapustinskii expression, Madelung constant, Born-Haber cycle, solvation energy, polarizing power and polarizability; Fajan's rules; Covalent bond: Lewis structure, valence bond theory. Hybridization, molecular orbital theory, molecular orbital diagrams of diatomic and simple polyatomic molecules and ions; Multiple bonding (σ and π bond approach) and bond lengths; van der Waals forces, ion-dipole forces, dipole-dipole interactions, induced dipole interactions, instantaneous dipole-induced dipole interactions, hydrogen bonding; Effect of intermolecular forces on melting and boiling points, solubility energetics of dissolution process; Bond dipole, dipole moment, and molecular polarizabilities; VSEPR theory and shapes of molecules; ionic solids.

Main Group Elements (s and p blocks):

Reactions of alkali and alkaline earth metals with oxygen, hydrogen and water; Alkali and alkaline earth metals in liquid ammonia; Gradation in properties of main group element in a group; Inert pair effect; Synthesis, structure and properties of diborane, ammonia, silane, phosphine and hydrogen sulphide; Allotropes of carbon; Oxides of nitrogen, phosphorus and sulphur; Oxoacids of phosphorus, sulphur and chlorine; Halides of silicon and phosphorus; Synthesis and properties of borazine, silicone and phosphazene; Synthesis and reactions of xenon fluorides.

Transition Metals (d block):

Characteristics of d-block elements; oxide, hydroxide and salts of first row metals; coordination complexes: structure, isomerism, reaction mechanism and electronic spectra; VB, MO and crystal field theoretical approaches for structure, color and magnetic properties of metal complexes; Organometallic compounds with metal-ligand single and multiple bonds (such as metal carbonyls, metal nitrosyls and metallocenes); Homogenous catalysis involving Wilkinson's catalyst.

Bioinorganic Chemistry:

Essentials and trace elements of life; basic reactions in the biological systems and the role of metal ions, especially Fe^{2+}, and Zn^{2+}; structure and function of myoglobin, hemoglobin and carbonic anhydrase.

Instrumental Methods of Analysis:

Basic principles; instrumentations and simple applications of conductometry, potentiometry and UV-vis spectrophotometry; analyses of water, air and soil samples.

Analytical Chemistry:

Principles of qualitative and quantitative analysis; Acid-base, oxidation- reduction and complexometric titrations using EDTA; Precipitation reactions; Use and types of indicators; Use of organic reagents in inorganic analysis; Radioactivity, nuclear reactions, applications of isotopes; Mathematical treatment in error analysis, elementary statistics and probability theory.

15.3 ECONOMICS (EN)

Microeconomics

Consumer theory: Preference, utility and representation theorem, budget constraint, choice, demand (ordinary and compensated), Slutsky equation, revealed preference axioms

Theory of production and cost: Production technology, isoquants, production function with one and more inputs, returns to scale, short run and long run costs, cost curves in the short run and long run

General equilibrium and welfare: Equilibrium and efficiency under pure exchange and production, welfare economics, theorems of welfare economics

Market structure: Perfect competition, monopoly, pricing with market power, price discrimination (first, second and third), monopolistic competition and oligopoly

Game theory: Strategic form games, iterated elimination of dominated strategies, Nash equilibrium, mixed extension and mixed strategy Nash equilibrium, examples: Cournot, Bertrand duopolies, Prisoner's dilemma

Public goods and market failure: Externalities, public goods and markets with asymmetric information (adverse selection and moral hazard)

Macroeconomics

National income accounting: Structure, key concepts, measurements, and circular flow of income - for closed and open economy, money, fiscal and foreign sector variables - concepts and measurements

Behavioural and technological functions: Consumption functions - absolute income hypothesis, life-cycle and permanent income hypothesis, random walk model of consumption, investment functions - Keynesian, money demand and supply functions, production function

Business cycles and economic models (closed economy): Business cycles-facts and features, the Classical model of the business cycle, the Keynesian model of the business cycle, simple Keynesian cross model of income and employment determination and the multiplier (in a closed economy), IS-LM Model, Hicks' IS-LM synthesis, role of monetary and fiscal policies

Business cycles and economic models (open economy): Open economy, Mundell-Fleming model, Keynesian flexible price (aggregate demand and aggregate supply) model, role of monetary and fiscal policies

Inflation and unemployment: Inflation - theories, measurement, causes, and effects, unemployment - types, measurement, causes, and effects

Growth models: Harrod-Domar, Solow and Neo-classical growth models (AK model, Romer model and Schumpeterian growth model)

Statistics for Economics

Probability theory: Sample space and events, axioms of probability and their properties, conditional probability and Bayes' rule, independent events, random variables and probability distributions, expectation, variance and higher order moments, functions of random variables, properties of commonly used discrete and continuous distributions, density and distribution functions for jointly distributed random variables, mean and variance of jointly distributed random variables, covariance and correlation coefficients

Mathematical statistics: Random sampling, types of sampling, point and interval estimation, estimation of population parameters using methods of moments and maximum likelihood procedures, properties of estimators, sampling distribution, confidence intervals, central limit theorem, law of large number

Hypothesis testing: distributions of test statistics, testing hypotheses related to population parameters, Type I and Type II errors, the power of a test, tests for comparing parameters from two samples

Correlation and regression: Correlation and types of correlation, the nature of regression analysis, method of Ordinary Least Squares (OLS), CLRM assumptions, properties of OLS, goodness of fit, variance and covariance of OLS estimator

Indian Economy

Indian economy before 1950: Transfer of tribute, deindustrialization of India

Planning and Indian development: Planning models, relation between agricultural and industrial growth, challenges faced by Indian planning

Indian economy after 1991: Balance of payments crisis in 1991, major aspects of economic reforms in India after 1991, reforms in trade and foreign investment

Banking, finance and macroeconomic policies: aspects of banking in India, CRR and SLR, financial sector reforms in India, fiscal and monetary policy, savings and investment rates in India

Inequalities in social development: India's achievements in health, education and other social sectors, disparities between Indian States in human development

Poverty: Methodology of poverty estimation, Issues in poverty estimation in India

India's labour market: unemployment, labour force participation rates

Mathematics for Economics

Preliminaries and functions: Set theory and number theory, elementary functions: quadratic, polynomial, power, exponential, logarithmic, functions of several variables, graphs and level curves, convex set, concavity and quasiconcavity of function, convexity and quasi-convexity of functions, sequences and series: convergence, algebraic properties and applications, complex numbers and its geometrical representation, De Moivre's theorem and its application

Differential calculus: Limits, continuity and differentiability, mean value theorems, Taylor's theorem, partial differentiation, gradient, chain rule, second and higher order derivatives: properties and applications, implicit function theorem, and application to comparative statics problems, homogeneous and homothetic functions: characterisations and applications

Integral calculus: Definite integrals, fundamental theorems, indefinite integrals and applications

Differential equations, and difference equations: First order difference equations, first order differential equations and applications

Linear algebra: Matrix representations and elementary operations, systems of linear equations: properties of their solution, linear independence and dependence, rank, determinants, eigenvectors and eigenvalues of square matrices, symmetric matrices and quadratic forms, definiteness and semidefiniteness of quadratic forms

Optimization: Local and global optima: geometric and calculus-based characterisations, and applications, multivariate optimization, constrained optimization and method of Lagrange multiplier, second order condition of optima, definiteness and optimality, properties of value function: envelope theorem and applications, linear programming: graphical solution, matrix formulation, duality, economic interpretation

15.4 GEOLOGY (GG)

The Planet Earth: Origin of the Solar System and the Earth; Geosphere and the composition of the Earth; Shape and size of the Earth; Earth-Moon system; Dating rocks and age of the Earth; Volcanism and volcanic landforms; Interior of the Earth; Earthquakes; Earth's magnetism and gravity, Isostasy; Basic elements of Plate Tectonics; Orogenic cycles.

Geomorphology: Weathering and erosion; Soil formation; Transportation and deposition by wind, ice, river, sea and resulting landforms.

Structural Geology: Orientation of planes and lines in space – concept of dip, strike, rake and plunge. Contour lines; Rule of 'V's and outcrop patterns; Interpretation of geological maps and cross-section construction; Classification and origin of folds, faults, joints, unconformities, foliations and lineations; Stereographic and equal-area projections of planes and lines; Numerical problems related to outcrop and bore-hole data.

Paleontology: Major steps in the evolution of life forms; Fossils, their mode of preservation and utility in age determination and paleoenvironmental interpretations; Morphology, major evolutionary trends and ages of important groups of animals – Brachiopoda, Mollusca, Trilobita, Graptolitoidea, Anthozoa, Echinodermata; Gondwana plant fossils; Elementary idea of vertebrate fossils in India.

Stratigraphy: Principles of stratigraphy; Litho-, Chrono- and biostratigraphic classification; Stratigraphic correlation techniques; Archaean cratons of Peninsular India (Dharwar, Singhbhum and Aravalli); Proterozoic mobile belts; Stratigraphy of Cuddapah and Vindhyan basins; Stratigraphy of Paleozoic – Mesozoic of Spiti and Kashmir, Gondwana Supergroup, Jurassic of Kutch, Cretaceous of Trichinopoly, Tertiary and Quaternary sequences of Assam, Bengal and Siwaliks.

Mineralogy: Symmetry and forms in common crystal classes; Physical properties of minerals; Isomorphism, polymorphism, solid solution and exsolution; Classification of minerals; Structure of silicates; Mineralogy of common rock-forming minerals; Elements of Optical Mineralogy, Optical properties of common rock-forming minerals.

Petrology: Definition and classification of rocks; Igneous rocks – forms of igneous bodies; Processes of evolution and diversification of magma; Classification, association, and genesis of common igneous rocks. Sedimentary rocks – classification, texture, and structure; Petrology of sandstone and limestone; Elements of sedimentary environments and facies. Metamorphic rocks – classification and texture; Types of metamorphism; Controls on metamorphism – pressure, temperature and fluids; Concept of projections – ACF, AKF and AFM diagrams; Phase Rule and its applications; Concepts of zones and facies, Characteristic mineral assemblages of pelites in the Barrovian zones and mafic rocks in common facies.

Economic Geology: Physical properties of common economic minerals; General processes of formation of mineral deposits; Mode of occurrence and distribution of metallic and non-metallic mineral deposits in India; Fundamentals of reserve calculation; Elements of coal and hydrocarbon geology, Coal and hydrocarbon occurrences in India.

Applied Geology: Groundwater and hydrological cycle, Types of aquifers, porosity and permeability; Principles of engineering geology; Geological considerations in construction of dams and tunnels.

15.5 MATHEMATICS (MA)

Real Analysis:

Sequences and Series of Real Numbers: convergence of sequences, bounded and monotone sequences, Cauchy sequences, Bolzano-Weierstrass theorem, absolute convergence, tests of convergence for series – comparison test, ratio test, root test; Power series (of one real variable), radius and interval of convergence, term-wise differentiation and integration of power series.

Functions of One Real Variable: limit, continuity, intermediate value property, differentiation, Rolle's Theorem, mean value theorem, L'Hospital rule, Taylor's theorem, Taylor's series, maxima and minima, Riemann integration (definite integrals and their properties), fundamental theorem of calculus.

Multivariable Calculus and Differential Equations:

Functions of Two or Three Real Variables: limit, continuity, partial derivatives, total derivative, maxima and minima.

Integral Calculus: double and triple integrals, change of order of integration, calculating surface areas and volumes using double integrals, calculating volumes using triple integrals.

Differential Equations: Bernoulli's equation, exact differential equations, integrating factors, orthogonal trajectories, homogeneous differential equations, method of separation of variables, linear differential equations of second order with constant coefficients, method of variation of parameters, Cauchy-Euler equation.

Linear Algebra and Algebra:

Matrices: systems of linear equations, rank, nullity, rank-nullity theorem, inverse, determinant, eigenvalues, eigenvectors.

Finite Dimensional Vector Spaces: linear independence of vectors, basis, dimension, linear transformations, matrix representation, range space, null space, rank-nullity theorem.

Groups: cyclic groups, abelian groups, non-abelian groups, permutation groups, normal subgroups, quotient groups, Lagrange's theorem for finite groups, group homomorphisms.

15.6 MATHEMATICAL STATISTICS (MS)

The Mathematical Statistics (MS) Test Paper comprises following topics of Mathematics (about 30% weight) and Statistics (about 70% weight).

Mathematics

Sequences and Series of real numbers: Sequences of real numbers, their convergence, and limits. Cauchy sequences and their convergence. Monotonic sequences and their limits. Limits of standard sequences. Infinite series and its convergence, and divergence. Convergence of series with non-negative terms. Tests for convergence and divergence of a series. Comparison test, limit comparison test, D'Alembert's ratio test, Cauchy's n^{th} root test, Cauchy's condensation test and integral test. Absolute convergence of series. Leibnitz's test for the convergence of alternating series. Conditional convergence. Convergence of power series and radius of convergence.

Differential Calculus of one and two real variables: Limits of functions of one real variable. Continuity and differentiability of functions of one real variable. Properties of continuous and differentiable functions of one real variable. Rolle's theorem and Lagrange's mean value theorems. Higher order derivatives, Lebnitz's rule and its applications. Taylor's theorem with Lagrange's and Cauchy's form of remainders. Taylor's and Maclaurin's series of standard functions. Indeterminate forms and L' Hospital's rule. Maxima and minima of functions of one real variable, critical points, local maxima and minima, global maxima and minima, and point of inflection. Limits of functions of two real variables. Continuity and differentiability of functions of two real variables. Properties of continuous and differentiable functions of two real variables. Partial differentiation and total differentiation. Lebnitz's rule for successive differentiation. Maxima and minima of functions of two real variables. Critical points, Hessian matrix, and saddle points. Constrained optimization techniques (with Lagrange multiplier).

Integral Calculus: Fundamental theorems of integral calculus (single integral). Lebnitz's rule and its applications. Differentiation under integral sign. Improper integrals. Beta and Gamma integrals: properties and relationship between them. Double integrals. Change of order of integration. Transformation of variables. Applications of definite integrals. Arc lengths, areas and volumes.

Matrices and Determinants: Vector spaces with real field. Subspaces and sum of subspaces. Span of a set. Linear dependence and independence. Dimension and basis. Algebra of matrices. Standard matrices (Symmetric and Skew Symmetric matrices, Hermitian and Skew Hermitian matrices, Orthogonal and Unitary matrices, Idempotent and Nilpotent matrices). Definition, properties and applications of determinants. Evaluation of determinants using transformations. Determinant of product of matrices. Singular and non-singular matrices and their properties. Trace of a matrix. Adjoint and inverse of a matrix and related properties. Rank of a matrix, row-rank, column-rank, standard theorems on ranks, rank of the sum and the product of two matrices. Row reduction and echelon forms. Partitioning of matrices and simple properties. Consistent and inconsistent system of linear equations. Properties of solutions of system of linear equations. Use of determinants in solution to the system of linear equations. Cramer's rule. Characteristic roots and Characteristic vectors. Properties of characteristic roots and vectors. Cayley Hamilton theorem.

Statistics

Probability: Random Experiments. Sample Space and Algebra of Events (Event space). Relative frequency and Axiomatic definitions of probability. Properties of probability function. Addition theorem of probability function (inclusion exclusion principle). Geometric probability. Boole's and Bonferroni's inequalities. Conditional probability and Multiplication rule. Theorem of total probability and Bayes' theorem. Pairwise and mutual independence of events.

Univariate Distributions: Definition of random variables. Cumulative distribution function (c.d.f.) of a random variable. Discrete and Continuous random variables. Probability mass function (p.m.f.) and Probability density function (p.d.f.) of a random variable. Distribution (c.d.f., p.m.f., p.d.f.) of a function of a random variable using transformation of variable and Jacobian method. Mathematical expectation and moments. Mean, Median, Mode, Variance, Standard deviation, Coefficient of variation, Quantiles, Quartiles, Coefficient of Variation, and measures of Skewness and Kurtosis of a probability distribution. Moment generating function (m.g.f.), its properties and uniqueness. Markov and Chebyshev inequalities and their applications.

Standard Univariate Distributions: Degenerate, Bernoulli, Binomial, Negative binomial, Geometric, Poisson, Hypergeometric, Uniform, Exponential, Double exponential, Gamma, Beta (of first and second type), Normal and Cauchy distributions, their properties, interrelations, and limiting (approximation) cases.

Multivariate Distributions: Definition of random vectors. Joint and marginal c.d.f.s of a random vector. Discrete and continuous type random vectors. Joint and marginal p.m.f., joint and marginal p.d.f.. Conditional c.d.f., conditional p.m.f. and conditional p.d.f.. Independence of random variables. Distribution of functions of random vectors using transformation of variables and Jacobian method. Mathematical expectation of functions of random vectors. Joint moments, Covariance and Correlation. Joint moment generating function and its properties. Uniqueness of joint m.g.f. and its applications. Conditional moments, conditional expectations and conditional variance. Additive properties of Binomial, Poisson, Negative Binomial, Gamma and Normal Distributions using their m.g.f..

Standard Multivariate Distributions: Multinomial distribution as a generalization of binomial distribution and its properties (moments, correlation, marginal distributions, additive property). Bivariate normal distribution, its marginal and conditional distributions and related properties.

Limit Theorems: Convergence in probability, convergence in distribution and their inter relations. Weak law of large numbers and Central Limit Theorem (i.i.d. case) and their applications.

Sampling Distributions: Definitions of random sample, parameter and statistic. Sampling distribution of a statistic. **Order Statistics**: Definition and distribution of the r^{th} order statistic (d.f. and p.d.f. for i.i.d. case for continuous distributions). Distribution (c.d.f., p.m.f., p.d.f.) of smallest and largest order statistics (i.i.d. case for discrete as well as continuous distributions). **Central Chi-square distribution**: Definition and derivation of p.d.f. of central $\chi 2$ distribution with n degrees of freedom (d.f.) using m.g.f.. Properties of central $\chi 2$ distribution, additive property and limiting form of central $\chi 2$ distribution. **Central Student's *t*-distribution**: Definition and derivation of p.d.f. of Central Student's t-distribution with n d.f., Properties and limiting form of central t-distribution. **Snedecor's Central *F*-distribution**: Definition and derivation of p.d.f. of Snedecor's Central F-distribution with (m, n) d.f.. Properties of Central F-distribution, distribution of the reciprocal of F-distribution. Relationship between t, F and $\chi 2$ distributions.

Estimation: Unbiasedness. Sufficiency of a statistic. Factorization theorem. Complete statistic. Consistency and relative efficiency of estimators. Uniformly Minimum variance unbiased estimator (UMVUE). Rao-Blackwell and Lehmann-Scheffe theorems and their applications. Cramer-Rao inequality and UMVUEs. **Methods of Estimation**: Method of moments, method of maximum likelihood, invariance of maximum likelihood estimators. Least squares estimation and its applications in simple linear regression models. Confidence intervals and confidence coefficient. Confidence intervals for the parameters of univariate normal, two independent normal, and exponential distributions.

Testing of Hypotheses: Null and alternative hypotheses (simple and composite), Type-I and Type-II errors. Critical region. Level of significance, size and power of a test, p-value. Most powerful critical regions and most powerful (MP) tests. Uniformly most powerful (UMP) tests. Neyman Pearson Lemma (without proof) and its applications to construction of MP and UMP tests for parameter of single parameter parametric families. Likelihood ratio tests for parameters of univariate normal distribution.

15.7 PHYSICS (PH)

Mathematical Methods: Calculus of single and multiple variables, partial derivatives, Jacobian, imperfect and perfect differentials, Taylor expansion, Fourier series. Vector algebra, Vector Calculus, Multiple integrals, Divergence theorem, Green's theorem, Stokes' theorem. First order equations and linear second order differential equations with constant coefficients. Matrices and determinants, Algebra of complex numbers.

Mechanics and General Properties of Matter: Newton's laws of motion and applications, Velocity and acceleration in Cartesian, polar and cylindrical coordinate systems, uniformly rotating frame, centrifugal and Coriolis forces, Motion under a central force, Kepler's laws, Gravitational Law and field, Conservative and non-conservative forces. System of particles, Center of mass, equation of motion of the CM, conservation of linear and angular momentum, conservation of energy, variable mass systems. Elastic and inelastic collisions. Rigid body motion, fixed axis rotations, rotation and translation, moments of Inertia and products of Inertia, parallel and perpendicular axes theorem. Principal moments and axes. Kinematics of moving fluids, equation of continuity, Euler's equation, Bernoulli's theorem.

Oscillations, Waves and Optics: Differential equation for simple harmonic oscillator and its general solution. Superposition of two or more simple harmonic oscillators. Lissajous figures. Damped and forced oscillators, resonance. Wave equation, traveling and standing waves in one-dimension. Energy density and energy transmission in waves. Group velocity and phase velocity. Sound waves in media. Doppler Effect. Fermat's Principle. General theory of image formation. Thick lens, thin lens and lens combinations. Interference of light, optical path retardation. Fraunhofer diffraction. Rayleigh criterion and resolving power. Diffraction gratings. Polarization: linear, circular and elliptic polarization. Double refraction and optical rotation.

Electricity and Magnetism: Coulomb's law, Gauss's law. Electric field and potential. Electrostatic boundary conditions, Solution of Laplace's equation for simple cases. Conductors, capacitors, dielectrics, dielectric polarization, volume and surface charges, electrostatic energy. Biot-Savart law, Ampere's law, Faraday's law of electromagnetic induction, Self and mutual inductance. Alternating currents. Simple DC and AC circuits with R, L and C components. Displacement current, Maxwell's equations and plane electromagnetic waves, Poynting's theorem, reflection and refraction at a dielectric interface, transmission and reflection coefficients (normal incidence only). Lorentz Force and motion of charged particles in electric and magnetic fields.

Kinetic Theory, Thermodynamics: Elements of Kinetic theory of gases. Velocity distribution and Equipartition of energy. Specific heat of Mono-, di- and tri-atomic gases. Ideal gas, van-der-Waals gas and equation of state. Mean free path. Laws of thermodynamics. Zeroth law and concept of thermal equilibrium. First law and its consequences. Isothermal and adiabatic processes. Reversible, irreversible and quasi-static processes. Second law and entropy. Carnot cycle. Maxwell's thermodynamic relations and simple applications. Thermodynamic potentials and their applications. Phase transitions and Clausius-Clapeyron equation. Ideas of ensembles, Maxwell-Boltzmann, Fermi-Dirac and Bose-Einstein distributions.

Modern Physics: Inertial frames and Galilean invariance. Postulates of special relativity. Lorentz transformations. Length contraction, time dilation. Relativistic velocity addition theorem, mass energy equivalence. Blackbody radiation, photoelectric effect, Compton effect, Bohr's atomic model, X-rays. Wave-particle duality, Uncertainty principle, the superposition principle, calculation of expectation values, Schrödinger equation and its solution for one, two and three dimensional boxes. Solution of Schrödinger equation for the one dimensional harmonic oscillator. Reflection and transmission at a step potential, Pauli exclusion principle. Structure of atomic nucleus, mass and binding energy. Radioactivity and its applications. Laws of radioactive decay.

Solid State Physics, Devices and Electronics: Crystal structure, Bravais lattices and basis. Miller indices. X-ray diffraction and Bragg's law; Intrinsic and extrinsic semiconductors, variation of resistivity with temperature. Fermi level. p-n junction diode, I-V characteristics, Zener diode and its applications, BJT: characteristics in CB, CE, CC modes. Single stage amplifier, two stage R-C coupled amplifiers. Simple Oscillators: Barkhausen condition, sinusoidal oscillators. OPAMP and applications: Inverting and non-inverting amplifier. Boolean algebra: Binary number systems; conversion from one system to another system; binary addition and subtraction. Logic Gates AND, OR, NOT, NAND, NOR exclusive OR; Truth tables; combination of gates; de Morgan’s theorem

Annexure I: Academic Programmes (and their Codes) covered under JAM 2022 at various Admitting Institutes for JAM 2022 qualified candidates

* indicates seats reserved for persons with disabilities

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN	EWS	OBC-NCL	SC	ST	Total
IIT Bhilai	M.Sc. (4 semesters)	Chemistry (2801)	CY	4	1	3 + 1*	2	1	12
		Mathematics & Computing (2802)	MA	5	2	3	1	1	12
		Physics (2803)	PH	5 + 1*	1	3	2	0	12
IIT Bhubaneswar	Joint M.Sc.-Ph.D.‡	Chemistry (1901)	CY	10	2	7	3 + 1*	2	25
		Mathematics (1902)	MA	9 + 1*	2 + 1*	6	3	2	24
		Physics (1903)	PH	10	3	7 + 1*	4	2	27
		Geology (1904)	GG	9 + 1*	2	7	4	2	25
		Atmosphere & Ocean Sciences (1905)	GG/PH/MA/ MS/CY	9 + 1*	2	6	4	2	24
IIT Bombay	M.Sc. (4 semesters)	Applied Geology (1201)	GG	14 + 1*	4	10	5 + 1*	3	38
		Applied Geophysics (1202)	PH	8	2	5	3	1 + 1*	20
		Applied Statistics & Informatics (1203)	MS	18 + 1*	5	12 + 1*	7	4	48
		Biotechnology (1204)	BT	14	4	8 + 1*	5	2 + 1*	35
		Chemistry (1205)	CY	21 + 2*	6	15	8 + 1*	4	57
		Mathematics (1206)	MA	14 + 1*	3 + 1*	10	6	3	38
		Physics (1207)	PH	23 + 1*	5 + 1*	15 + 1*	9	5	60
	M.Sc.-Ph.D. Dual Degree	Energy (1212)	CY/MA/PH	9	2	6	2 + 1*	2	22
		Environmental Science (1213)	BT/CY/PH/ MA	4 + 1*	1	3	2	1	12
		Operations Research (1214)	MA/MS	5 + 1*	2	4	2	1	15
IIT Delhi	M.Sc. (4 semesters)	Chemistry (1301)	CY	26 + 2*	7	17 + 1*	9 + 1*	5	68
		Mathematics (1302)	MA	27 + 1*	7	17 + 1*	10	4 + 1*	68
		Physics (1303)	PH	27 + 1*	6 + 1*	17 + 1*	10	5	68
		Economics (1304)	EN	9 + 1*	2	7	4	2	25
IIT (ISM) Dhanbad	M.Sc. (4 semesters)	Chemistry (2601)	CY	26 + 1*	6	17 + 1*	10	5	66
		Mathematics & Computing (2602)	MA	21 + 1*	6	15	7 + 1*	4	55
		Physics (2603)	PH	21 + 1*	6	15	8	3 + 1*	55
	M.Sc. (Tech) (6 semesters)	Applied Geology (2604)	GG	26 + 1*	6	17 + 1*	10	5	66
		Applied Geophysics (2605)	PH	22	6	15	7 + 1*	4	55

‡ Note:

(a) The order of JAM paper preference for seat allocation in program 1905 is GG, PH, MA, MS, CY.

(b) Students admitted to the Joint M.Sc.-Ph.D. program can either leave with the M.Sc. degree after the fourth semester or join the Ph.D. program if they have secured a minimum CGPA of 8 at the end of the third semester clearing the prescribed credit requirements.

* indicates seats reserved for persons with disabilities

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN	EWS	OBC-NCL	SC	ST	Total
IIT Gandhinagar	M.Sc. (4 semesters)	Chemistry (2001)	CY	11	2	7	4	1 + 1*	26
		Mathematics (2002)	MA	14 + 1*	4	10 + 1*	5	3	38
		Physics (2003)	PH	15	4	9 + 1*	5 + 1*	3	38
IIT Guwahati	M.Sc. (4 semesters)	Chemistry (1401)	CY	24 + 1*	5 + 1*	15 + 1*	9	4	60
		Mathematics & Computing (1402)	MA	22 + 2*	6	16	9	4 + 1*	60
		Physics (1403)	PH	23 + 1*	6	15 + 1*	8 + 1*	5	60
IIT Hyderabad	M.Sc. (4 semesters)	Chemistry (2101)	CY	15 + 1*	4	11	5 + 1*	3	40
		Mathematics/ Mathematics & Computing (2102)	MA	11	2	5 + 1*	4	2	25
		Physics (2103)	PH	16	3 + 1*	11	6	2 + 1*	40
IIT Indore	M.Sc. (4 semesters)	Chemistry (2201)	CY	11 + 1*	3	8	4 + 1*	2	30
		Physics (2202)	PH	12	3	8	5	1 + 1*	30
		Mathematics (2203)	MA	8	2	4 + 1*	3	2	20
		Biotechnology (2204)	BT	6	2	4	2	1	15
		Astronomy (2205)	PH	5 + 1*	2	4	2	1	15
IIT Jodhpur	M.Sc. (4 semesters)	Chemistry (2401)	CY	13 + 1*	4	11	6	3	38
		Mathematics (2402)	MA	7 + 1*	2	5	4	1	20
		Physics (2403)	PH	13 + 1*	4	11	6	3	38
	M.Sc.-M.Tech. Dual Degree	Mathematics-Data & Computational Sciences (2404)	MA	3	1	3	2	1	10
		Physics and Materials Engineering (2405)	PH	6	1	3	2	1	13
IIT Kanpur	M.Sc. (4 semesters)	Chemistry (1501)	CY	19 + 1*	4 + 1*	13	7	3 + 1*	49
		Mathematics (1502)	MA	19 + 1*	5	13	6 + 1*	4	49
		Physics (1503)	PH	14 + 1*	4	9 + 1*	6	3	38
		Statistics (1504)	MS	24 + 1*	5 + 1*	16 + 1*	9	5	62
	M.Sc.-Ph.D. Dual Degree	Physics (1505)	PH	8	2	4 + 1*	3	2	20

* indicates seats reserved for persons with disabilities

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN	EWS	OBC-NCL	SC	ST	Total
IIT Kharagpur	Joint M.Sc.-Ph.D.	Chemistry (1601)	CY	22 + 1*	6	14 + 1*	8 + 1*	4	57
		Geology (1602)	GG	14 + 1*	4	9 + 1*	6	3	38
		Mathematics (1603)	MA	15	4	9 + 1*	5 + 1*	3	38
		Physics (1604)	PH	23 + 1*	6	15 + 1*	9	3 + 1*	59
		Geophysics (1605)	GG	6	2	4	2	0 + 1*	15
			PH	6	2	4	1 + 1*	1	15
		Medical Physics (1606)	PH	2 + 1*	0	1	1	1	6
		Nuclear Medicine (1607)	CY	2	1	2	1	0	6
		Molecular Medical Microbiology (1608)	BT	2	1	1	1	0	5
IIT Madras	M.Sc. (4 semesters)	Chemistry (1701)	CY	26 + 1*	6 + 1*	17 + 1*	10	5	67
		Mathematics (1702)	MA	19 + 1*	5	12 + 1*	6 + 1*	4	49
		Physics (1703)	PH	21 + 1*	5	14 + 1*	8	4	54
IIT Mandi	M.Sc. (4 semesters)	Chemistry (3101)	CY	19 + 1*	4 + 1*	14	7	4	50
		Applied Mathematics (3102)	MA	19 + 1*	5	13 + 1*	7	4	50
		Physics (3103)	PH	16	4	11	5 + 1*	2 + 1*	40
IIT Palakkad	M.Sc. (4 semesters)	Chemistry (2901)	CY	8	3	5	2 + 1*	2	21
		Mathematics (2902)	MA	8	2	6	3	1 + 1*	21
		Physics (2903)	PH	8	3	5	2 + 1*	2	21
IIT Patna	M.Sc. (4 semesters)	Chemistry (2501)	CY	11 + 1*	3	8	5	2	30
		Mathematics (2502)	MA	12 + 1*	3	7 + 1*	4	2	30
		Physics (2503)	PH	12 + 1*	3	8	4	2	30
IIT Roorkee	M.Sc. (4 semesters)	Applied Geology (1801)	GG	8	2	4 + 1*	3	1	19
		Chemistry (1802)	CY	17 + 1*	4	11 + 1*	7	3	44
		Economics (1803)	EN	13	3	9	4 + 1*	2 + 1*	33
		Mathematics (1804)	MA	15	4	10	5 + 1*	2 + 1*	38
		Physics (1805)	PH	11 + 1*	3	8 + 1*	4	2	30
IIT Ropar	M.Sc. (4 semesters)	Chemistry (2302)	CY	9 + 1*	2	7	3 + 1*	2	25
		Mathematics (2301)	MA	10	3	6 + 1*	3	2	25
		Physics (2303)	PH	10	3	6	4	1 + 1*	25
IIT Tirupati	M.Sc. (4 semesters)	Mathematics & Statistics (3001)	MA	6	2	4	2	1	15
		Chemistry (3002)	CY	6	2	3 + 1*	2	1	15
		Physics (3003)	PH	5 + 1*	1	4	3	1	15
IIT (BHU) Varanasi	M.Sc. (4 semesters)	Chemistry (2701)	CY	9 + 1*	2	6 + 1*	4	2	25
		Physics (2702)	PH	10	3	7	3	1 + 1*	25

Note: If a PwD candidate is not available, the seat will be allotted to the candidate in the respective category, in the final round of admission.

Results Sharing Institutes

For programmes listed in Table 8, admissions will not be directly based on the JAM 2022 score. However, to get admitted into these programmes, a candidate must qualify JAM 2022 and then apply separately to the Institutes concerned.

Table 8: Results Sharing Institutes and Programmes

S. No.	Programme	Admitting Institute	JAM Test Papers
1	Integrated Ph.D. in Biological Sciences	IISc Bangalore	BT
2	Integrated Ph.D. in Chemical Sciences	IISc Bangalore	CY, PH
3	Integrated Ph.D. in Mathematical Sciences	IISc Bangalore	MA, MS
4	Integrated Ph.D. in Physical Sciences	IISc Bangalore	PH

CCMN 2022 (Counselling Body for Admission to NITs and CFTIs) may admit candidates through qualified JAM 2022 scores. Refer to web page of CCMN-2022 (https://ccmn.admissions.nic.in/) for further information about these Institutes. JAM score will also be used by IIEST Shibpur, SLIET Punjab and IISERs for admission to their programmes.

Annexure II: Test Papers and their codes, corresponding Academic Programmes offered by the Admitting Institutes and their Minimum Educational Qualifications (MEQs) for Admission

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Biotechnology (BT)	M.Sc. Biotechnology	IITB, IITI	Any Branch/Subject	No Restrictions
	Joint M.Sc.-Ph.D. in Molecular Medical Microbiology	IITKgp	B.Sc./B.S. degree (three years/six semesters) with Biology/Biotechnology/Botany/Life Science/Physiology/Zoology/Microbiology/ Biochemistry/Genetics and Molecular Biology as Honours/Major/Main Subject, and any one of Chemistry/Physics/Mathematics as one of compulsory subsidiary subject for at least one year/two semesters	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Environmental Science	IITB	Any one of Biology, Biotechnology, Chemistry, Mathematics and Physics for two years/four semesters, and any one of the other four subjects for at least one year/two semesters	Mathematics

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Chemistry (CY)	M.Sc. Chemistry	IITGN	No Restrictions	No Restrictions
		IITBhilai, IITH, IITI, IITR#	Chemistry for three years/six semesters	No Restrictions
		IITB, IITBHU, IITD, IITG, IITISM, IITJ, IITK, IITM, IITMandi, IITP, IITPKD, IITRPR, IITTP	Chemistry for three years/six semesters	Mathematics
	Joint M.Sc.-Ph.D. in Chemistry	IITBBS, IITKgp	Chemistry for three years/six semesters	Mathematics
	Joint M.Sc.-Ph.D. in Nuclear Medicine	IITKgp	B.Sc./B.S. degree (three years/six semesters) with Chemistry as Honours/Major/Main Subject, Mathematics as compulsory one subsidiary subject and Physics/ Biology as another subsidiary subject for at least two years/four semesters	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Environmental Science	IITB	Any one of Biology, Biotechnology, Chemistry, Mathematics and Physics for two years/four semesters, and any one of the other four subjects for at least one year/two semesters	Mathematics
	Joint M.Sc.-Ph.D. in Atmosphere and Ocean Sciences	IITBBS	Mathematics and Physics with any one of these subjects among Chemistry, Computer Science, Computer Application, Geology, and Statistics	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Energy	IITB	Bachelor's degree in Science (B.Sc. or equivalent) of minimum three years' duration, with any one of Chemistry, Mathematics and Physics for two years/four semesters and any one of the remaining two subjects for at least one year/two semesters	No Restrictions

Minimum Educational Qualification for engineering graduates/students should be treated as removed for this programme and these candidates will be admitted based on their JAM rank only.

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Economics (EN)	M.Sc. in Economics	IITD	Any Bachelor's degree (B.A. / B. Sc./ B.Com/ B.Stat. / B.Math./ B.Tech/B.E. or equivalent). The bachelor's degree or equivalent qualification obtained by the candidate must entail a minimum of three years of education after completing higher secondary schooling (10+2) or equivalent.	No Restrictions
		IITR#	B.Tech/B.E./ B.Sc. (PCM)/ B.Stat. and B.A./ B.Com. (with Mathematics as one of the subjects in the whole programme)	No Restrictions

Minimum Educational Qualification for engineering graduates/students should be treated as removed for this programme and these candidates will be admitted based on their JAM rank only.

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Geology (GG)	M.Sc. Applied Geology	IITB	Geology for three years/six semesters and any two subjects among Mathematics, Physics, Chemistry and Biological Science	Mathematics
		IITR#	Geology for three years/six semesters and any two subjects among Mathematics, Physics, Chemistry and Biological Science	No Restrictions
	Joint M.Sc.-Ph.D. in Geophysics	IITKgp	Geology as a subject for three years/ six semesters and any two subjects among Mathematics, Physics and Chemistry	Mathematics
	Joint M.Sc.-Ph.D. in Geology	IITBBS, IITKgp	Geology as a subject for three years/ six semesters and any two subjects among Mathematics, Physics and Chemistry	Mathematics
	Joint M.Sc.-Ph.D. in Atmosphere and Ocean Sciences	IITBBS	Mathematics and Physics and any one of these subjects among Chemistry, Computer Science, Computer Application, Geology and Statistics	No Restrictions
	M.Sc.(Tech) in Applied Geology*	IITISM	B.Sc. degree (3-year) with Geology as Honours/ Major/ Main/Equivalent subject and any two subsidiary subjects from Mathematics, Physics and Chemistry.	Mathematics

Minimum Educational Qualification for engineering graduates/students should be treated as removed for this programme and these candidates will be admitted based on their JAM rank only.

* Medical criteria:

a) Applicants with color blindness and/or Uni-ocularity are not eligible.
b) To do fieldwork, persons with disability (PwD) category candidates should be able to walk in the field without assistance/escort (on-road and/or off-road conditions).

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Mathematics (MA)	M.Sc. Mathematics	IITGN	No Restrictions	No Restrictions
		IITB, IITD#, IITI, IITJ, IITM, IITP, IITPKD, IITR#, IITRPR	Mathematics for at least two years/four semesters	
		IITK	Bachelor's degree in Mathematics or at least 30% of total courses in Bachelor's degree should be in Mathematics	
	M.Sc. Mathematics/ Mathematics and Computing	IITH#	Mathematics for at least two years/four semesters	No Restrictions
	M.Sc.-M.Tech. Dual Degree in Mathematics-Data and Computational Sciences	IITJ	Mathematics for at least two years/four semesters	No Restrictions
	M.Sc. Mathematics and Computing	IITBhilai, IITG	Mathematics for at least two years/four semesters	No Restrictions
		IITISM	Mathematics for at least two years/four semesters	Mathematics
	M.Sc. Mathematics and Statistics	IITTP	Mathematics for at least two years/four semesters	Mathematics
	Joint M.Sc.-Ph.D. in Mathematics	IITBBS, IITKgp	Mathematics/ Statistics as a subject for at least two years/four semesters.	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Operations Research	IITB	Mathematics/ Statistics as a subject for at least two years/four semesters.	No Restrictions
	M.Sc. Applied Mathematics	IITMandi	Mathematics for at least two years/four semesters	Mathematics
	M.Sc.-Ph.D. Dual Degree in Energy	IITB	Bachelor's degree in Science (B.Sc. or equivalent) of minimum three years' duration, with any one of Chemistry, Mathematics and Physics for two years/four semesters and any one of the remaining two subjects for at least one year/two semesters	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Environmental Science	IITB	Any one of Biology, Biotechnology, Chemistry, Mathematics and Physics for two years/four semesters, and any one of the other four subjects for at least one year/two semesters.	Mathematics
	Joint M.Sc.-Ph.D. in Atmosphere and Ocean Sciences	IITBBS	Mathematics and Physics and any one of these subjects among Chemistry, Computer Science, Computer Application, Geology, and Statistics	No Restrictions

Minimum Educational Qualification for engineering graduates/students should be treated as removed for this programme and these candidates will be admitted based on their JAM rank only.

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Mathematical Statistics (MS)	M.Sc. Applied Statistics and Informatics	IITB	Mathematics or Statistics for at least two years/four semesters	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Operations Research	IITB	Mathematics or Statistics for at least two years/four semesters	No Restrictions
	M.Sc. Statistics	IITK	Bachelor's degree in Statistics or at least 30% of total courses in Bachelor's degree should be in Statistics	No Restrictions
	Joint M.Sc.-Ph.D. in Atmosphere and Ocean Sciences	IITBBS	Mathematics and Physics and any one of these subjects among Chemistry, Computer Science, Computer Application, Geology, and Statistics	No Restrictions

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Physics (PH)	M.Sc. Physics	IITGN	No Restrictions	No Restrictions
		IITB, IITBhilai, IITBHU, IITD, IITG, IITH, IITI, IITISM, IITJ, IITK, IITM, IITMandi, IITP, IITPKD, IITR, IITRPR	No restrictions for engineering degrees. For B.Sc. / B.S. degree, Physics for at least two years/four semesters and Mathematics for at least one year/two semesters.	
		IITTP	1. For B.Sc./B.S. students, Physics for at least two years/four semesters and Mathematics for at least one year/two semesters. 2. For B.Tech./B.E. students, four core courses in Physics including Quantum Mechanics, Classical Mechanics, and Electrodynamics are required.	
	Joint M.Sc.-Ph.D. in Physics	IITBBS, IITKgp	No restrictions for engineering degrees. For B.Sc. / B.S. degree, Physics for at least two years/four semesters and Mathematics for at least one year/two semesters.	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Physics	IITK	No restrictions for engineering degrees. For B.Sc. / B.S. degree, Physics for at least two years/four semesters and Mathematics for at least one year/two semesters.	No Restrictions

Test Paper (code)	Academic Programme	Institute	Minimum Educational Qualifications for Admission	
			Essential subjects in Bachelor's Degree along with minimum duration	Essential subjects at (10+2) level
Physics (PH)	M.Sc. Applied Geophysics	IITB	Physics and Mathematics/ Mathematical Physics for two years/four semesters and at least one of them as subject for three years/six semesters	No Restrictions
	Joint M.Sc.-Ph.D. in Medical Physics	IITKgp	B.Sc./B.S. degree (3yrs/6 semesters) with physics as Honours/Major/Main Subject, Mathematics as compulsory one subsidiary subject and Chemistry/Biology as another subsidiary subject for at least two years/four semesters	No Restrictions
	M.Sc. Astronomy	IITI	Bachelor's of Science in Physics/ Mathematics/ Statistics/ Electronics/ Computer Science OR Bachelor's of Engineering/Technology in any branch AND Courses in Physics for at least 6 credits or 2 semesters and Mathematics for at least 6 credits or two semesters.	No Restrictions
	Joint M.Sc.-Ph.D. in Atmosphere and Ocean Sciences	IITBBS	Mathematics and Physics and any one of these subjects among Chemistry, Computer Science, Computer Application, Geology and Statistics	No Restrictions
	Joint M.Sc.-Ph.D. in Geophysics	IITKgp	Geology/Physics as a subject for three years/six semesters and any two subjects among Mathematics, Physics, Geology and Chemistry	Mathematics
	M.Sc.-M.Tech Dual Degree in Physics and Materials Engineering	IITJ	No restrictions for engineering degrees. For B.Sc. / B.S. degree, Physics for at least two years/four semesters and Mathematics for at least one year/two semesters.	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Energy	IITB	Bachelor's degree in Science (B.Sc. or equivalent) of minimum three years' duration, with any one of Chemistry, Mathematics and Physics for two years/four semesters and any one of the remaining two subjects for at least one year/two semesters	No Restrictions
	M.Sc.-Ph.D. Dual Degree in Environmental Science	IITB	Any one of Biology, Biotechnology, Chemistry, Mathematics and Physics for two years/four semesters, and any one of the other four subjects for at least one year/two semesters	Mathematics
	M.Sc.(Tech) in Applied Geophysics	IITISM	B.Sc. degree with Physics for three years/six semesters. Mathematics with 12 credits/one year and any one subject among Chemistry, Electronics, Statistics, Geology and Computer Science with 12 credit points/one year.	No Restrictions

Annexure III: Examination Cities/Towns for JAM 2022

IISc Bangalore Zone	IIT Bombay Zone	IIT Delhi Zone	IIT Guwahati Zone
Belagavi/Belgaum Bengaluru Bidar Gulbarga/Kalaburagi Hassan Hubballi Hyderabad Kannur Kozhikode Mangaluru Mysuru (Mysore) Palakkad Shimoga Thrissur Vatakara	Ahmedabad Ahmednagar Akola Amravati Aurangabad Goa Jalgaon Kolhapur Mumbai Nagpur Nanded Nashik Pune Rajkot Sangli Satara Solapur Surat Vadodara	Faridabad Greater NOIDA Gurugram Hisar Indore Jaipur Jammu Jind Jodhpur Mathura New Delhi Srinagar	Agartala Asansol-Durgapur Dhanbad Dibrugarh Dimapur-Kohima Guwahati Imphal Jorhat Kalyani Patna Shillong Siliguri
IIT Kanpur Zone	**IIT Kharagpur Zone**	**IIT Madras Zone**	**IIT Roorkee Zone**
Agra Aligarh Bareilly Bhopal Gorakhpur Jabalpur Kanpur Lucknow Prayagraj (Allahabad) Varanasi	Berhampur Bhubaneswar Bilaspur Cuttack Kharagpur Kolkata Raipur Ranchi Vijayawada Visakhapatnam	Alappuzha Chennai Coimbatore Ernakulam Karimnagar Kollam Kottayam Madurai Puducherry Salem Thiruvananthapuram Tiruchirapalli Tirunelveli Tirupati Warangal	Dehradun Ghaziabad Jalandhar Kurukshetra Meerut Mohali Moradabad NOIDA Patiala Roorkee

Annexure IV: Authorities who may issue SC/ST/OBC-NCL/EWS Certificates

SC/ST/OBC (Non-Creamy Layer)/EWS candidates should submit a certificate issued by any of the following authorities:

i) District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/1st Class Stipendiary Magistrate/Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner (not below the rank of 1st Class Stipendiary Magistrate)

ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate

iii) Revenue Officer not below the rank of Tehsildar

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

Notes:

i) The prescribed format for OBC (NON-CREAMY LAYER) is given in **Annexure V**, and for EWS in **Annexure VI**.

ii) **Certificate issued by any other authority will be rejected**.

Annexure V: Pro forma for OBC (Non-Creamy Layer) Certificate

(FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES APPLYING FOR ADMISSIONS TO CENTRAL EDUCATIONAL INSTITUTIONS (CEIs) UNDER THE GOVERNMENT OF INDIA)

This is to certify that Shri/Smt./Kumari _____

Son/Daughter of _____

of Village/Town _____ in District/Division _____ in the State/Union Territory _____ belongs to the _____ Community which is recognized as a backward class under the Government of India, Ministry of Social Justice and Empowerment's Resolution No. _____ dated _____*. Shri/Smt./Kumari _____ and/or his/her family ordinarily reside(s) in the _____ District/Division of _____ State/Union Territory. 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 and Training O.M. No. 36012/22/93-Estt.(SCT) dated 08.09.1993 as amended from time to time.

Dated:

District Magistrate,
Deputy Commissioner, etc.

Seal

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* The authority issuing the certificate may have to mention the details of Resolution (Number and Date) of Government of India, in which the caste of the candidate is mentioned as OBC.

NOTE:

(a) The term "Ordinarily" 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/ 1st Class Stipendiary Magistrate/ Sub-Divisional Magistrate/ Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner (not below the rank of 1st 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/her family resides.

The date of issue of OBC (NCL) certificate should be after March 31, 2021.

Annexure VI: Pro forma for Economically Weaker Sections (EWS) Certificate

(INCOME & ASSETS CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER SECTIONS)

Government of ……..
(Name & Address of the authority issuing the certificate)

Certificate No ……. Date: ……..

VALID FOR THE YEAR ……..

This is to certify that Shri/Smt./Kumari…… son/daughter/wife of ……..permanent resident of ……, Village/Street ……. Post Office…… District…… in the State/Union Territory …… Pin Code…….. whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income* of his/her family** is below Rs. 8 lakh (Rupees Eight Lakh only) for the financial year …… . His/her family does not own or possess any of the following assets*** :

I. 5 acres of agricultural land and above;
II. Residential flat of 1000 sq. ft. and above;
Ill. Residential plot of 100 sq. yards and above in notified municipalities;
IV. Residential plot of 200 sq. yards and above in. areas other than the notified municipalities.

2. Shri/Smt./Kumari ……..……belongs to the …….. caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List)

Recent Passport size attested photograph of the applicant

Signature with seal of office……

Name ……..

Designation ……..……

***Note 1:** Income covered all sources i.e. salary, agriculture, business, profession, etc.

****Note 2:** The term 'Family" for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years.

*****Note 3:** The property held by a "Family' in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

The authorities competent to issue EWS Certificates are indicated below:

(i) District Magistrate/ Additional Magistrate/ Collector/ Deputy Commissioner/ Additional Deputy Commissioner/ Deputy Collector/ 1st Class Stipendiary Magistrate/ Sub-Divisional Magistrate/ Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner (not below the rank of 1st Class Stipendiary Magistrate)
(ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate
(iii) Revenue Officer not below the rank of Tehsildar
(iv) Sub-Divisional Officer of the area where the candidate and/or his/her family resides.

The date of issue of EWS certificate should be after March 31, 2021.

Annexure VII: Guidelines for conducting written examination for Persons with benchmark Disabilities

F. No. 34-02/2015-DD-III
Government of India
Ministry of Social Justice & Empowerment
Department of Empowerment of of Persons with Disabilities (Divyangjan)
***

Pt. Deendayal Antyodaya Bhawan,
C.G.O. Complex, New Delhi -110003
Dated: the 29th August, 2018

Office Memorandum

Subject: Guidelines for conducting written examination for Persons with Benchmark Disabilities

The undersigned is directed to say that this Department had issued the guidelines for conducting written examination for persons with disabilities defined in terms of erstwhile Persons with Disabilities (Equal Opportunities, Protection for Rights and Full Participation) Act, 1995 vide OM No. 16-110/2003-DD.III dated 26/02/2013. The Department had constituted a Committee under the Chairmanship of Secretary, DEPwD in March, 2015 to review the said guidelines based on the issues raised by Union Public Service Commission and others. Meanwhile the Central Government enacted the Rights of Persons with Disabilities Act, 2016 (RPwD Act, 2016) which came into force from 19.04.2017. The Act provides for reservation in Government jobs for persons with benchmark disabilities as defined under section 2 (r) of the said Act.

Based on the findings of the Committee, the Central Government hereby lays down the revised guidelines for conducting written examination for persons with benchmark disabilities in supersession of the earlier guidelines issued vide OM No. 16-110/2003-DD.III dated 26/02/2013 as under:

I. These guidelines may be called as "Guidelines for conducting written examination for persons with benchmark disabilities 2018".

II. There should be a uniform and comprehensive policy across the country for persons with benchmark disabilities for written examination taking into account improvement in technology and new avenues opened to the persons with benchmark disabilities providing a level playing field. Policy should also have flexibility to accommodate the specific needs on case-to-case basis.

III. There is no need for fixing separate criteria for regular and competitive examinations.

IV. The facility of Scribe/Reader/Lab Assistant should be allowed to any person with benchmark disability as defined under section 2(r) of the RPwD Act, 2016 and has limitation in writing including that of speed if so desired by him/her.

In case of persons with benchmark disabilities in the category of blindness, locomotor disability (both arm affected-BA) and cerebral palsy, the facility of scribe/reader/lab assistant shall be given, if so desired by the person.

In case of other category of persons with benchmark disabilities, the provision of scribe/reader/lab assistant can be allowed on production of a certificate to the effect that the person concerned has physical limitation to write, and scribe is essential to write examination on his behalf, from the Chief Medical Officer/Civil Surgeon/ Medical Superintendent of a Government health care institution as per proforma at **APPENDIX-I.**

V. The candidate should have the discretion of opting for his own scribe/reader/lab assistant or request the Examination Body for the same. The examining body may also identify the scribe/ reader/lab assistant to make panels at the District/Division/ State level as per the requirements of the examination. In such instances the candidates should be allowed to meet the scribe **two days** before the examination so that the candidates get a chance to check and verify whether the scribe is suitable or not.

VI. In case the examining body provides the scribe/reader/lab assistant, it shall be ensured that qualification of the scribe should not be more than the minimum qualification criteria of the examination. However, the qualification of the scribe/reader should always be matriculate or above.

In case the candidate is allowed to bring his own scribe, the qualification of the scribe should be one step below the qualification of the candidate taking examination. The persons with benchmark disabilities opting for own scribe/reader should submit details of the own scribe as per proforma at **APPENDIX-II**

VII. There should also be flexibility in accommodating any change in scribe/reader/lab assistant in case of emergency. The candidates should also be allowed to take more than one scribe/reader for writing different papers especially for languages. However, there can be only one scribe per subject.

VIII. Persons with benchmark disabilities should be given, as far as possible, the option of choosing the mode for taking the examinations i.e. in Braille or in the computer or in large print or even by recording the answers as the examining bodies

can easily make use of technology to convert question paper in large prints, e-text, or Braille and can also convert Braille text in English or regional languages.

IX. In case, the persons with benchmark disabilities are allowed to take examination on computer system, they should be allowed to check the computer system one day in advance so that the problems, if any in the software/system could be rectified. Use of own computer/laptop should not be allowed for taking examination. However, enabling accessories for the computer based examinations such as keyboard, customized mouse etc should be allowed.

X. The procedure of availing the facility of scribe should be simplified and the necessary details should be recorded at the time of filling up of the forms. Thereafter, the examining body should ensure availability of question papers in the format opted by the candidate as well as suitable seating arrangement for giving examination.

XI. The disability certificate issued by the competent medical authority at any place should be accepted across the country.

XII. The word "extra time or additional time" that is being currently used should be changed to "compensatory time" and the same should not be less than 20 minutes per hour of examination for persons who are allowed use of scribe/reader/lab assistant. All the candidates with benchmark disability not availing the facility of scribe may be allowed additional time of minimum of one hour for examination of 3 hours duration. In case the duration of the examination is less than an hour, then the duration of additional time should be allowed on pro-rata basis. Additional time should not be less than 5 minutes and should be in the multiple of 5.

XIII. The candidates should be allowed to use assistive devices like talking calculator (in cases where calculators are allowed for giving exams), tailor frame, Braille slate, abacus, geometry kit, Braille measuring tape and augmentative communication devices like communication chart and electronic devices.

XIV. Proper seating arrangement (preferably on the ground floor) should be made prior to the commencement of examination to avoid confusion or distraction during the day of the exam. The time of giving the question papers should be marked accurately and timely supply of supplementary papers should be ensured.

XV. As far as possible, the examining body should also provide reading material in Braille or E-Text or on computers having suitable screen reading software for open book examination. Similarly online examination should be in accessible format i.e. websites, question papers and all other study material should be accessible as per the international standards laid down in this regard.

XVI. Alternative objective questions in lieu of descriptive questions should be provided for Hearing-Impaired persons, in addition to the existing policy of giving alternative questions in lieu of questions requiring visual inputs, for persons with Visual Impairment.

XVII. As far as possible the examination for persons with disabilities should be held at the ground floor. The examination centres should be accessible for persons with disabilities.

2. It is requested to ensure that the above guidelines are scrupulously followed while conducting examination for persons with benchmark disabilities. All the recruitment agencies, Academics/Examination Bodies etc. under the administrative control of each Ministry/Deapartment may be advised appropriately to ensure compliance of implementing these guidelines. Action taken in this regard may be intimated to this office.

3. The above guidelines are issued with the approval of Hon'ble Minister (Social Justice & Empowerment).

Yours faithfully,

(D.K. Panda)
Under Secretary to the Government of India
Tele. No. 24369059

To

1. Secretary of all Ministries/Department.
2. Secretary, UPSC, Shahjahan Road, New Delhi.
3. Chairman, SSC, Block No.12, CGO Complex, Lodhi Road, New Delhi-110003.
4. Chairman, University Grants Commission with a request to issue necessary instructions to all universities including Deemed Universities for compliance.
5. Chairman, Railway Board
6. All National Institutes and RCI under administrative control of Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of SJ&E, New Delhi

Copy for information to: CCPD, Sarojini Bhawan, Bhagwan Dass Road, New Delhi

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APPENDIX- I

Certificate regarding physical limitation in an examinee to write

This is to certify that, I have examined Mr/Ms/Mrs _____ (name of the candidate with disability), a person with _____ (nature and percentage of disability as mentioned in the certificate of disability), S/o/D/o _____, a resident of _____ (Village/District/State) and to state that he/she has physical limitation which hampers his/her writing capabilities owing to his/her disability.

Signature

Chief Medical Officer/Civil Surgeon/ Medical Superintendent of a Government health care institution

Name & Designation.

Name of Government Hospital/Health Care Centre with Seal

Place:

Date:

Note:

Certificate should be given by a specialist of the relevant stream/disability (eg. Visual impairment – Ophthalmologist, Lcomotor disability – Prthopaedic specialist/PMR).

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APPENDIX- II

Letter of Undertaking for Using Own Scribe

I _____, a candidate with _____ (name of the disability) appearing for the _____ (name of the examination) bearing Roll No. _____ . at _____ (name of the centre) in the District _____, _____ (name of the State). My qualification is _____.

I do hereby state that _____ (name of the scribe) will provide the service of scribe/reader/lab assistant for the undersigned for taking the aforesaid examination.

I do hereby undertake that his qualification is _____. In case, subsequently it is found that his qualification is not as declared by the undersigned and is beyond my qualification, I shall forfeit my right to the post and claims relating thereto.

(Signature of the candidate with Disability)

Place:

Date:

F. No. 34-02/2015-DD-III (pt)
Government of India
Ministry of Social Justice & Empowerment
Department of Empowerment of of Persons with Disabilities (Divyangjan)
***

Pt. Deendayal Antyodaya Bhawan,
C.G.O. Complex, New Delhi -110003
Dated the 8th February, 2019

Corrigendum

Sub:- Guidelines for conducting written examination for Persons with Benchmark Disabilities

This Department's O.M. No.34-02/2015-DD.III dated 29/08/2018 prescribing the guidelines for conducting written examination for persons with disabilities is amended as under:

Para XII on page 3 of the above guidelines may be substituted with the following-

"The word "extra time or additional time" that is being currently used should be changed to "compensatory time" and the same should not be less than 20 minutes per hour of examination for persons who are allowed use of scribe/reader/lab assistant. All the candidates with benchmark disabilities who are eligible for availing the facility of scribe in terms of guidelines IV may be allowed additional time of minimum of one hour for examination of 3 hours duration whether they use the facility of scribe or not. In case the duration of the examination is less than an hour, then the duration of additional time should be allowed on pro-rata basis. Additional time should not be less than 5 minutes and should be in the multiple of 5"

(K.V.S. Rao)
Director
Tele. No. 24369054

To

1. Secretary of all Ministries/Department.
2. Secretary, UPSC, Shahjahan Road, New Delhi.
3. Chairman, SSC, Block No.12, CGO Complex, Lodhi Road, New Delhi-110003.
4. Chairman, University Grants Commission with a request to issue necessary instructions to all universities including Deemed Universities for compliance.
5. Chairman, Railway Board
6. All National Institutes and RCI under administrative control of Department of Empowerment of Persons with Disabilities (Divyangjan), Ministry of SJ&E, New Delhi

Copy for information to: CCPD, Sarojini Bhawan, Bhagwan Dass Road, New Delhi

CONTACT ADDRESSES OF JAM OFFICES

Institute	Website	E-mail	Phone/Fax
IISc Bangalore	https://jam.iisc.ac.in	jam@iisc.ac.in	(080) 22932392/23601227
IIT Bombay	https://www.jam.iitb.ac.in	jam@iitb.ac.in	(022) 25767022
IIT Delhi	http://jam.iitd.ac.in	jam@admin.iitd.ac.in	(011) 26591749
IIT Guwahati	https://www.iitg.ac.in/gate-jam	jam@iitg.ac.in	(0361) 2582751/2582755
IIT Kanpur	https://jam.iitk.ac.in	jam@iitk.ac.in	(0512) 2597412
IIT Kharagpur	https://gateoffice.iitkgp.ac.in/jam/	jam@adm.iitkgp.ac.in	(03222) 282091/282095
IIT Madras	http://jam.iitm.ac.in	jam@iitm.ac.in	(044) 22578200/22578204
IIT Roorkee (Organizing Institute)	https://jam.iitr.ac.in	jam@iitr.ac.in	(01332) 284531

IMPORTANT NOTE

In all matters concerning JAM 2022, the decision of the Organizing Institute, JAM 2022 will be final and binding on all the applicants.

Although JAM 2022 is held at different centres across the country, Indian Institute of Technology Roorkee is the Organizing Institute, and has the overall responsibility of conducting JAM 2022. In case of any claims or disputes arising with respect to JAM 2022, it is hereby made absolutely clear that the Nainital High Court (Nainital, Uttarakhand) alone shall have the exclusive jurisdiction to entertain and settle any such disputes and claims.

Any individual/organization claiming to sell/distribute JAM papers in the name of IITs/IISc will be subjected to appropriate legal actions.

Information contained in this brochure is correct as on **August 09, 2021**. There may be changes in future due to unavoidable reasons. As and when any change is made, it will be notified on JAM 2022 website https://jam.iitr.ac.in

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Information regarding JAM 2022 will be sent through SMS also. Hence, you are advised to keep JAM 2022 Sender ID unblocked.

Disclaimer: The health and safety of our examination participants is of utmost priority. Due to the current pandemic situation, all dates mentioned in this website may be subject to changes. At this point of time, we intend to move forward with JAM 2022 examination with the given schedule. In rare cases, it may be necessary to postpone or cancel the examination because of situations beyond our control. Biometric fingerprint capturing will be done at the time of the examination, only if the COVID-19 situation is under control.

All updates will be notified on JAM 2022 website https://jam.iitr.ac.in

Visit

https://jam.iitr.ac.in

for online application updates regarding the examination and admission process