INFORMATION BROCHURE

JAM 2021

Joint Admission test for Masters

February 14, 2021 (Sunday)

ADMISSION TO

M.Sc. (Two years), Masters in Economics (Two years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, and other Post-Bachelors Degree Programmes at

INDIAN INSTITUTES OF TECHNOLOGY

• BHILAI • BHUBANESWAR • BOMBAY • DELHI • DHANBAD • GANDHINAGAR • GUWAHATI • HYDERABAD • INDORE • JODHPUR • KANPUR • KHARAGPUR • MADRAS • MANDI • PALAKKAD • PATNA • ROORKEE • ROPAR • TIRUPATI • VARANASI and

Integrated Ph.D. Programmes at

INDIAN INSTITUTE OF SCIENCE, BANGALORE

JAM 2021

http://jam.iisc.ac.in

INDIAN
INSTITUTE
OF SCIENCE
BANGALORE

JAM 2021: Highlights

IISc Bangalore is the Organizing Institute for JAM 2021.
JAM 2021 Examination will be conducted ONLINE only as a Computer Based Test (CBT) for all Test Papers.
JAM 2021 will have seven Test Papers, namely, (i) Biotechnology (BT), (ii) Chemistry (CY), (iii) Economics (EN), (iv) Geology (GG), (v) Mathematics (MA), (vi) Mathematical Sciences (MS), and (vii) Physics (PH). Economics (EN) paper is added newly this year.
All the seven Test Papers of JAM 2021 will be of entirely objective type, with three different patterns of questions, namely (i) Multiple Choice Questions (MCQ), (ii) Multiple Select Questions (MSQ), and (iii) Numerical Answer Type (NAT) questions.
Applications will be accepted ONLINE only through JAM 2021 website.
No hardcopies of documents are to be sent to the Organizing Institute. The applicable documents are to be uploaded online to the application website only.
No hardcopy of the JAM 2021 scorecard will be sent to the JAM 2021 qualified candidates by the Organizing Institute. It can only be downloaded from JAM 2021 website within a specified period.
NO additional requirements, such as suitability test or interview, are needed for admission to the masters programmes under JAM.
Integrated Ph.D. programmes in Physical Sciences, Chemical Sciences, Mathematical Sciences and Biological Sciences at IISc Bangalore will use the JAM results to shortlist candidates for the final selection.

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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 Bangalore and IITs are well-known, the world over, for quality education in engineering, science, management, social sciences and research in frontier areas. The aim of these institutes is to build a sound foundation of knowledge, pursue excellence and enhance creativity in an intellectually stimulating environment. The current pace of advancement of technology needs a coherent backup of basic science education and research. The vibrant academic ambience and research infrastructure at IISc Bangalore 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 a close and continuous interface between the faculty and the students. A number of financial assistantships are available to SC/ST and other deserving and 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 Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree, and other Post-Bachelor Degree Programmes at the IITs and Integrated Ph.D. Degree Programmes at the 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 paper Economics (EN) is added and the purview of JAM is extended to social sciences to provide admissions to Masters Programmes in **Economics** at the IITs. and to reflect this, the name of the exam is changed to **Joint Admission test for Masters (JAM)** from 2021.

The M.Sc. (Two Years), Masters in Economics (Two Years), 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 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 a 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 2021 is open to all nationals (Indian/Foreign). Candidates seeking admission to the academic programmes for the academic year 2021-22 covered under JAM 2021 need to appear in JAM 2021. There is no age restriction.

b) **JAM 2021 Examination will be held on February 14, 2021 (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 2021 are also eligible to appear in JAM 2021. By qualifying in JAM 2021, 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, 2021**.

f) On the basis of performance in JAM 2021, for each test paper, separate merit lists will be prepared for General (GEN), OBC Non-Creamy Layer (OBC-NCL), Economically Weaker Section (EWS), 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 2021.

h) Requests for change of category, if any, with proper documentation, should reach the **Organizing Institute** latest by **May 04, 2021**. Requests received after this date will not be accepted under any circumstances.

i) **Candidates should note that mere appearance in JAM 2021 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) In this document, the phrases 'Un-Reserved' and 'General' are used interchangeably and they mean the same.

l) With regard to the interpretation of the provisions on any matter not covered in this Information Brochure, the decision of the **Organizing Institute, JAM 2021** shall be final and applicable to all the parties concerned.

m) In all matters concerning JAM 2021, the decision of the **Organizing Institute, JAM 2021** will be final and binding on all the applicants.

n) Although JAM 2021 is held at different centres across the country, **Indian Institute of Science Bangalore** is the **Organizing Institute**, and has the overall responsibility of conducting JAM 2021. In case of any claims or disputes related to JAM 2021, it is hereby made absolutely clear that the Bangalore High Court (Bangalore, KA) 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 Years), Masters in Economics (Two Years), 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 2021.

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

ii. IIT Bhilai (IITBH): 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 and 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 more than or equal to 8.5 and having expressed their desire to continue in writing are eligible to opt for the Ph.D. Programme. The 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 less than 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 and Informatics, (iv) Biotechnology, (v) Chemistry, (vi) Mathematics, and (vii) Physics.

M.Sc.-Ph.D. Dual Degree Programmes in (i) Environmental Science and Engineering, (ii) 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 (ISM): Two-year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics and Computing, (iii) Physics; and 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 and Computing, and (iii) Physics.

ix. IIT Hyderabad (IITH): Two-year Master of Science (M.Sc.) Programmes in (i) Chemistry, (ii) Mathematics/Mathematics and 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 the second semester. Programme conversion of the eligible students is confirmed at the end of the third semester subjected 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 M.Sc.-Ph.D. Dual Degree Programme are awarded an 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 Mathematics – Data & Computational Sciences.

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, and (ii) Chemistry.

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 and 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 the number of seats available in various institutes with programme codes are listed in **Annexure-I**.

The profile of the Admitting Institutes covered under JAM 2021 can be seen at the websites of the respective institutes, as given in Table 1.

Table 1: Website Addresses

S.No.	Name of 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 technical institutes like IISc, NITs, IIEST Shibpur, SLIET Punjab and IISERs for admission to their programmes.

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

JAM 2021 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 2021 are given in **Annexure-II**, along with the names of the Test Papers and their Codes and the Institutes offering the Academic Programmes. Admission to each of the Academic Programmes shall be offered on the basis of merit in the corresponding Test Paper(s) of JAM 2021.

5. ELIGIBILITY REQUIREMENTS (ERs) FOR ADMISSION

The candidates who qualify in JAM 2021 shall have to 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.
- 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 scale on 10.
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 (MEQ) as specified by the Admitting Institute should be submitted by **September 30, 2021**.
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 a candidate is not found physically fit to pursue his/her chosen course of study, his/her admission is liable to be cancelled.

Note:

a) It is entirely the responsibility of the Candidate to prove that he/she satisfies 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 a candidate who is found to have been admitted to a course to which he/she is not entitled, being unqualified or ineligible in accordance with the rules and regulations in force.

6. PATTERN OF TEST PAPERS

The JAM 2021 Examination for all the seven test papers will be carried out 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 3 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 (MCQ) 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 (MSQ) 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 gets full credit only if he/she selects all the correct answer(s) only and no wrong answers. 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 these NAT type questions, the answer is a signed real number, which needs to be entered using the virtual numeric keypad on the monitor. No choices will be shown for NAT questions.
- In all sections, questions not attempted will result in zero marks. 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 an online virtual calculator. The candidates, therefore, should not bring any calculator with them.
- Mobile phones 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. The candidate has to write his/her 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 computer will automatically end the examination. The candidates have to be careful and submit their answers before the end of the examination.

Use of unfair means by a candidate in JAM 2021, whether detected at the time of examination, or at any other stage, will lead to the cancellation of his/her candidature as well as disqualification of the candidate from appearing in JAM in future.

The candidates are advised to visit the JAM 2021 website for more details on the pattern of questions for JAM 2021, including examples of the questions. 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 JAM 2021 Online Examination will be held on **February 14, 2021 (Sunday)** in two sessions as a Computer Based Test (CBT). The schedule for different Test Papers of JAM 2021 is given below

Table 2: JAM 2021 Examination Test Schedule

Examination Date	Session	Time	Test Papers and Codes
February 14, 2021 (Sunday)	I	Morning*	Biotechnology (BT), Mathematical Statistics (MS), and Physics (PH)
	II	Afternoon*	Chemistry (CY), Economics (EN), Geology (GG), and Mathematics (MA)

***Note: Candidates should refer to their Admit Cards for the exact time of their examination.**

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, 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 2021

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 2021 Examination is conducted in collaboration with eight zones. The names of these eight zones and the locations of Examination Cities/Towns for JAM 2021 are listed zone-wise in **Annexure- III**. Candidates must specify their first, second and third choice cities at the time of applying for the JAM 2021 examination. When the choice of the first city is made, the corresponding zone to which this city belongs will appear, and the candidate will be able to choose another city as his/her second choice only from this zone. The choice of the third city can be made from cities anywhere

in India, including cities from the same zone. However, because of operational constraints, the JAM 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 a 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 2021 through an e-mail (**jam@iisc.ac.in**), on or before **November 10, 2020.** The request for city change should be made after an online payment of ₹ 500/- on JAM-2021 portal (http://jam.iisc.ac.in) under the specific link of "Payment for city change request". Proof of this payment should be attached to the request mail for city change. **Please note that payment of ₹ 500/- is non-refundable and does not necessarily guarantee the change of the centre.** The decision of the Organizing Institute, JAM 2021, in this regard will be final.

9. CODE OF CONDUCT

All candidates appearing for the JAM 2021 Examination must strictly comply with the following Rules and Regulations:

- Candidates appearing for JAM 2021 examination must carry their Admit Card and Original Valid Photo-Identity Proof to the examination hall.
- Biometric system of verification will be used. The candidate's fingerprint will be captured before he/she takes the JAM 2021 exam. This captured data will be used for verification during the admission process. Hence, you should avoid any coating (ink, mehendi, henna, or tattoo) on your fingertips and have clean fingers on the examination day.
- A scribble pad will be provided for rough work. The candidate has to write his/her 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), smartwatches and calculators 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 summarily. In addition, appropriate legal action will be initiated against such candidates.

The 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 2021. 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 programme covered under JAM 2021 is given in **Annexure-I**. The category-wise 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.

A candidate who seeks admission under SC/ST/OBC-NCL/EWS 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 his/her 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. **The candidate will be considered in the General Category in case the OBC-NCL/EWS Certificate is not in the prescribed format or he/she has submitted an invalid certificate and no opportunity will be given to the candidate for late submission of the said 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), the benefit will be given in accordance with the Government of India guidelines 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 2021 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). The additional time would be applicable only to such candidates. Furthermore, visually challenged PwD candidates may contact the Institute Representative of JAM 2021 through the Invigilator in the examination hall for a magnified/large font question paper on the computer screen.

Note:

a) 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.

b) It is entirely the responsibility of a candidate to prove his/her 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 2021 only through the **JAM Online Application Processing System (JOAPS)** link available at the website **http://jam.iisc.ac.in.** The facility for Online Registration and Application will be available through the website **http://jam.iisc.ac.in** from **September 10, 2020**. A candidate has to first register on the JOAPS website by providing his/her **name, a valid E-mail address, a working mobile number and a password**. The candidate must give an E-mail address that he/she uses and checks frequently, as all communication to the candidate from JAM 2021 will be sent to this E-mail address. The candidate must not use someone else's E-mail address and **only one candidate can be registered with one E-mail address**. Similarly, the candidate should provide his/her 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 he/she will require it to login to the online application website. Upon successful registration, an E-mail containing the 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 2021 related communications or website operations. **Candidates are advised to keep the ID along with the password information safe and confidential**.

JOAPS 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 the JAM scorecard.
- 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 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:

- 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 2021 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 before name.

- Address for communication (including PIN code)
- Eligibility degree details
- College name and address with PIN code
- JAM paper(s)
- Choice of JAM examination cities
- High-quality image of the candidate's recent photograph conforming to the requirements specified
- High-quality image of the candidate's signature conforming to the requirements specified
- Scanned copy of the Category (SC/ST) Certificate (if applicable) in pdf format
- Scanned copy of PwD Certificate (if applicable) in pdf format
- 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

The 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. Additional help information required in filling various fields in the JOAPS portal will be made available.

Upon logging into the JAM 2021 application processing website, the candidate needs to fill in the information, such as parent/guardian's name and mobile number, city choices, the number and choice of test paper(s) that he/she wishes to appear, date of birth, gender, address for communication, category and PwD status. The candidate's application fee will get determined based on this information. The candidate should also fill his/her 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 2021 application requires that your photograph and signature are uploaded electronically at JOAPS. *Uploading photograph and signature that do not meet the specifications can result in disqualification of the application without any refund of the application fee.*

11.2 Photograph Requirements

- Please pay attention to upload only a good quality photograph. The JAM Score Card will be printed with the photograph you submit.
- The photograph must be a good match to 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 COLOR. 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 and minimum 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 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 in your photo. 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 of the photograph submitted 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 unacceptable poor-quality photographs.

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 color (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. Table 5 shows some samples of acceptable and unacceptable signatures.
- 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 100 KB.

Table 4. Sample Photographs

A. Sample Photographs - Accepted

B. Sample Photographs - Rejected

		
Not looking into camera	Improper background	Wearing colour glasses

Sample Photographs - Rejected

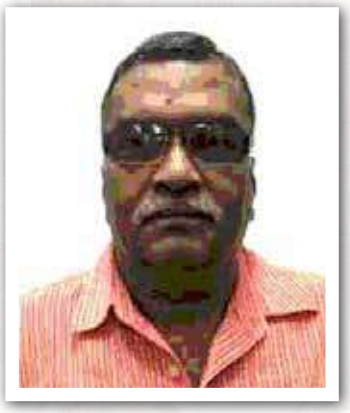
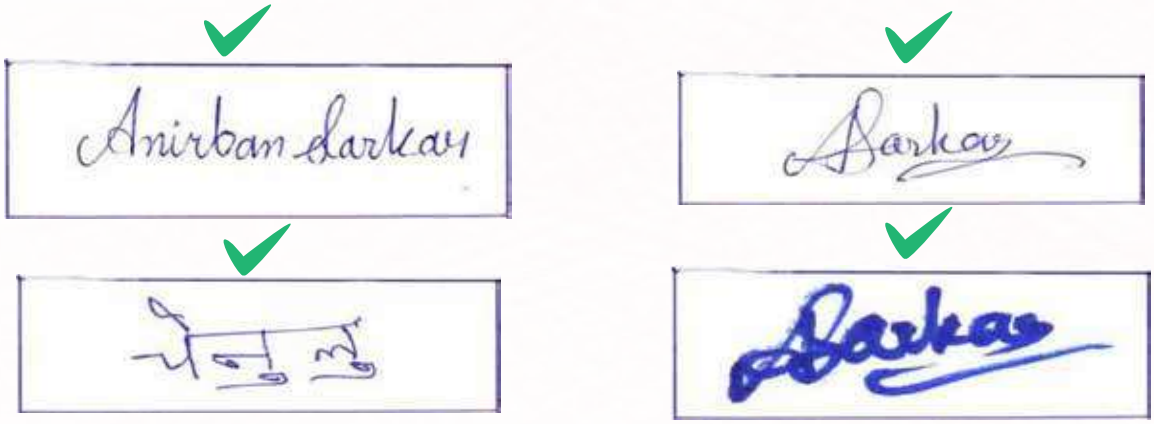
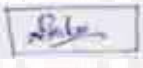
		
Smaller in size (Standard size is 3.5 cm X 4.5 cm)	Face not covering 50% area	Cropped from other photo
		
Shadow on the face	Face covered with cloth	Facial features are partially visible
		
Glare on spectacles	Improper background photo taken from a mobile	Blurred image

Table 5. Sample Signatures Acceptable Signatures



Unacceptable Signatures

 Signature is too hazy	 Signature in ALL CAPITALS
 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

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 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 upload 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.

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.

After filling in the required fields in the application form and uploading the required documents, the candidate must review his/her complete application form before the final submission and making of the payment.

The last date to complete and submit the application form is October 15, 2020.
Any application that is incomplete in any respect and does not have the required valid documents will be summarily rejected. The candidates must take care to fill in the details in the application form correctly and must upload correct and valid documents, including signatures and photographs.
The candidates are advised to visit the '**FAQ**' section on the website: **http://jam.iisc.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. The candidate will be able to make the payment using his/her net-banking account, debit or credit card until **October 15, 2020**. 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, the applicant should view his/her application by clicking the "**Save and Preview**" button. They should go through the application and ensure that there is no error in the application form and 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 presses "**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 2021. 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 the candidate desires to do so, he/she can proceed by paying the additional amount as indicated.

If a candidate has difficulty making the payment (due to internet connection or power failure, for example) or is not sure whether payment has been processed or not, then he/she should log in to JOAPS website after 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 CAN NOT be changed/rectified. Therefore, before submitting the JAM 2021 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 a candidate decides to appear in other test paper or to change test paper(s), he/she can ADD THE ADDITIONAL TEST PAPER or can change the TEST PAPER(S) before the closing date in the earlier submitted application form. In such cases the candidate has to pay an additional fee online before the closing date 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)

<table>
<tr><th rowspan="2">Group/ Category</th><th rowspan="2">Existing</th><th colspan="2">Wishes to Change</th><th colspan="2">Wishes to Add</th></tr>
<tr><th>Case</th><th>Additional Fee(₹)</th><th>Case</th><th>Additional Fee (₹)</th></tr>
<tr><td rowspan="3">Female (All Categories)/ SC/ST/PwD</td><td>One Test Paper</td><td>One Test Paper</td><td>₹ 750/-</td><td>One Test Paper</td><td>₹ 300/-</td></tr>
<tr><td>Two Test Papers</td><td>Any One Test Paper</td><td>₹ 300/-</td><td colspan="2" rowspan="2">Not Applicable</td></tr>
<tr><td></td><td>Both Papers</td><td>₹ 1050/-</td></tr>
<tr><td rowspan="3">All Others</td><td>One Test Paper</td><td>One Test Paper</td><td>₹ 1500/-</td><td>One Test Paper</td><td>₹ 600/-</td></tr>
<tr><td>Two Test Papers</td><td>Any One Test Paper</td><td>₹ 600/-</td><td colspan="2" rowspan="2">Not Applicable</td></tr>
<tr><td></td><td>Both Papers</td><td>₹ 2100/-</td></tr>
</table>

- Candidates, who have wrongly entered the Category or Gender will be allowed to change the Category or Gender with an additional fee as per Table 7. All such candidates are required to pay the additional fee on the JAM-2021 portal using his/her net-banking account, debit or credit card until October 31, 2020. 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 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 submitted for JAM 2021 Examination shall be scrutinized to verify the accuracy of the data entered by the candidate with the submitted supporting documents and for the 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 period. 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 rejection of the application 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 website from **January 05, 2021 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 2021, IISc Bangalore immediately. If a candidate is not able

to download his/her Admit Card, then the Chairperson JAM of the respective IISc/IITs (see Annexure III), under which the first choice Test City/Town of the candidate falls, may be contacted through Phone/Fax/E-mail. 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 2021 examination without a valid Admit Card, and a valid and original ID. The Admit Card should be presented to the invigilators/JAM officials for verification.

The Admit Card of JAM 2021 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 2021, if it is found later that the candidate is not eligible to appear for 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 2021, an **All India Rank (AIR)** will be assigned to all the appeared 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. The candidate with a higher ratio of positive marks to negative marks will be given a higher rank. Final tie-breaker will be the Date-of-birth of the candidates. 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 20, 2021 (Saturday)**. The results will be available on the website: **http://jam.iisc.ac.in** .
For each test paper, a Merit list will be prepared based on the All India Rank (AIR) of JAM. The number of candidates included in the 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 **Annexure-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 **Score Card (indicating the All India Rank(s) and the mark(s) obtained by the candidate)** will be available for download from the JAM 2021 website from **March 27, 2021 to July 31, 2021** for qualified candidates.

14. ADMISSION PROCEDURE

Only candidates who **qualify** in JAM 2021 (whose names appear in the Merit List) will be eligible to apply for admission to any of the Academic Programmes available at IITs (refer to **Annexures-I and II** of this Information Brochure). Candidates are advised, in their own interest, to refer to the brief profiles of the Admitting Institutes and Departments at their respective websites (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 2021-22, the following admission procedure shall be followed for all the programmes at IITs covered under JAM 2021. Candidates are also advised to refer to the JAM 2021 website for latest updates.

After JAM 2021 results are announced, a qualified candidate should apply ONLINE only using the prescribed Admission Form available at JOAPS website, irrespective of the Institute where the admission is sought. The period for submission of online Admission Form is April 15, 2021 to April 28, 2021.

NOTE to OBC-NCL/EWS Candidates: The candidates must upload a valid OBC-NCL/EWS certificate issued after March 31, 2020, in the prescribed format when they submit their application form for admission after the declaration of JAM 2021 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.

a) 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 ER and MEQ 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 28, 2021 (Wednesday).

b) The Admission Form will not be considered if it is found incomplete in any respect or if it is not accompanied by the payment and the candidate will not be considered for admission, irrespective of satisfying the ER and MEQ of any programme(s) for which the Admission Form has been submitted. Also, a candidate will be considered for admission only to the programme(s), given in his/her Admission Form.

c) 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 2021 will be prepared by the Organizing Institute and will be announced on June 16, 2021 (Wednesday) on JAM 2021 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 email id and mobile number.

d) 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.

e) 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 July 01, 2021 (Thursday) on JAM 2021 website and an intimation based on the second list, if any, will be sent to the candidates concerned by the Organizing Institute.

f) 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 (Rs. 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.

g) If seats remain vacant even after the second admission process is over, the Organizing Institute will prepare a Third and Final Admission List. This third and final list will be announced by the Organizing Institute on July 16, 2021 (Friday) on JAM 2021 website and the intimation will be sent by the Organizing Institute to the candidates concerned.

h) 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.

i) With the Third and Final Admission List, the admission process based on JAM 2021 will come to a close.

j) 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, the candidate will remain on the waiting list for all the higher preferences (if any). Qualified candidates, who are not allotted any seat in the First/Second Admission List, will remain on the waiting list in the next round of admission(s). If a qualified candidate fails to accept an admission offer, he/she will not be considered further in the admission process.

Note:

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 the order of merit and depending on the availability of seats at the Admitting Institute(s).

d) The candidate's fingerprint will be captured before he/she takes the JAM 2021 exam. This captured data will be used for verification during the admission process. Hence, candidates should avoid any coating (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)

General Biology: Taxonomy; Heredity; Genetic variation; Conservation; Principles of ecology; Evolution; Techniques in modern biology.

Biochemistry and Physiology: Carbohydrates; Proteins; Lipids; Nucleic acids; Enzymes; Vitamins; Hormones; Metabolism – Glycolysis, TCA cycle, Oxidative Phosphorylation; Photosynthesis. Nitrogen Fixation, Fertilization and Osmoregulation; Vertebrates-Nervous system; Endocrine system; Vascular system; Immune system; Digestive system and Reproductive System.

Basic Biotechnology: Tissue culture; Application of enzymes; Antigen-antibody interaction; Antibody production; Diagnostic aids.

Molecular Biology: DNA; RNA; Replication; Transcription; Translation; Proteins; Lipids and Membranes; Operon model; Gene transfer.

Cell Biology: Cell cycle; Cytoskeletal elements; Mitochondria; Endoplasmic reticulum; Chloroplast; Golgi apparatus; Signaling.

Microbiology: Isolation; Cultivation; Structural features of virus; Bacteria; Fungi; Protozoa; Pathogenic micro-organisms.

CHEMISTRY (10+2+3 level)

Atomic Structure: Bohr's theory and Schrodinger wave equation; Periodicity in properties; Chemical bonding; Properties of s, p, d and f block elements; Complex formation; Coordination compounds; Chemical equilibria; Chemical thermodynamics (first and second law); Chemical kinetics (zero, first, second and third order reactions); Photochemistry; Electrochemistry; Acid-base concepts; Stereochemistry of carbon compounds; Inductive, electromeric, conjugative effects and resonance; Chemistry of Functional Groups: 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; Mechanism of organic reactions; Soaps and detergents; Synthetic polymers; Biomolecules – amino acids, proteins, nucleic acids, lipids and carbohydrates (polysaccharides); Instrumental techniques – chromatography (TLC, HPLC), electrophoresis, UV-Vis, IR and NMR spectroscopy, mass spectrometry.

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, Circles, Conic Sections, Permutations and Combinations, Binomial Theorem, Exponential and Logarithmic Series, Mathematical Logic, Statistics, Three Dimensional Geometry, Vectors, Matrices and Determinants, Boolean Algebra, Probability, Functions, limits and Continuity, Differentiation, Application of Derivatives, Definite and Indefinite Integrals, Differential Equations.

PHYSICS (10+2 level)

Physical World and Measurement, Elementary Statics and Dynamics, Kinematics, Laws of Motion, Work, Energy and Power, Electrostatics, Current electricity, Magnetic Effects of Current and Magnetism, Electromagnetic Induction and Alternating Current, Electromagnetic waves, Optics, Dual Nature of Matter and Radiations, Atomic Nucleus, Solids and Semiconductor Devices, Principles of Communication, Motion of System of Particles and Rigid Body, Gravitation, Mechanics of Solids and Fluids, Heat and Thermodynamics, Oscillations, Waves.

15.2 CHEMISTRY (CY)

PHYSICAL CHEMISTRY

Basic Mathematical Concepts: Functions; maxima and minima; integrals; ordinary differential equations; vectors and matrices; determinants; elementary statistics and probability theory.

Atomic and Molecular Structure: Fundamental particles; Bohr's theory of hydrogen-like atom; wave-particle duality; uncertainty principle; Schrödinger's wave equation; quantum numbers; shapes of orbitals; Hund's rule and Pauli's exclusion principle; electronic configuration of simple homonuclear diatomic molecules.

Theory of Gases: Equation of state for ideal and non-ideal (van der Waals) gases; Kinetic theory of gases; Maxwell-Boltzmann distribution law; equipartition of energy.

Solid State: Crystals and crystal systems; X-rays; NaCl and KCl structures; close packing; atomic and ionic radii; radius ratio rules; lattice energy; Born-Haber cycle; isomorphism; heat capacity of solids.

Chemical Thermodynamics: Reversible and irreversible processes; first law and its application to ideal and nonideal gases; thermochemistry; second law; entropy and free energy; criteria for spontaneity.

Chemical and Phase Equilibria: Law of mass action; Kp, Kc, Kx and Kn; effect of temperature on K; ionic equilibria in solutions; pH and buffer solutions; hydrolysis; solubility product; phase equilibria– phase rule and its application to one-component and two-component systems; colligative properties.

Electrochemistry: Conductance and its applications; transport number; galvanic cells; EMF and free energy; concentration cells with and without transport; polarography; concentration cells with and without transport; Debey-Huckel-Onsager theory of strong electrolytes.

Chemical Kinetics: Reactions of various order; Arrhenius equation; collision theory; transition state theory; chain reactions – normal and branched; enzyme kinetics; photochemical processes; catalysis.

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

Spectroscopy: Beer-Lambert 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 (mono- and di-substituted cyclohexanes).

Organic Reaction Mechanism and Synthetic Applications: Chemistry of reactive intermediates (carbocations, carbanions, free radicals, carbenes, nitrenes, benzynes etc…); Hofmann-Curtius-Lossen rearrangement, Wolff rearrangement, Simmons-Smith reaction, Reimer-Tiemann reaction, Michael reaction, Darzens reaction, Wittig reaction and McMurry reaction; Pinacol-pinacolone, Favorskii, benzilic acid rearrangement, dienone-phenol rearrangement, Baeyer-Villeger reaction; oxidation and reduction reactions in organic chemistry; organometallic reagents in organic synthesis (Grignard, organolithium and organocopper); 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 1H NMR spectroscopic techniques as tools for structural elucidation.

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.

INORGANIC CHEMISTRY

Periodic Table: Periodic classification of elements and periodicity in properties; general methods of isolation and purification of elements.

Chemical Bonding and Shapes of Compounds: Types of bonding; VSEPR theory and shapes of molecules; hybridization; dipole moment; ionic solids; structure of NaCl, CsCl, diamond and graphite; lattice energy.

Main Group Elements (s and p blocks): General concepts on group relationships and gradation in properties; structure of electron deficient compounds involving main group elements.

Transition Metals (d block): Characteristics of 3d 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 having ligands with back bonding capabilities such as metal carbonyls, carbenes, nitrosyls and metallocenes; homogenous catalysis.

Bioinorganic Chemistry: Essentials and trace elements of life; basic reactions in the biological systems and the role of metal ions, especially Fe2+, Fe3+, Cu2+ and Zn2+; structure and function of hemoglobin and myoglobin and carbonic anhydrase.

Instrumental Methods of Analysis: Basic principles; instrumentations and simple applications of conductometry, potentiometry and UV-vis spectrophotometry; analysis 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 of indicators; use of organic reagents in inorganic analysis; radioactivity; nuclear reactions; applications of isotopes.

13. ECONOMICS (EN)

MICROECONOMICS

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

Production, costs with perfectly competitive markets: Technology, isoquants, production with one and more variable inputs, returns to scale, short run and long run costs, cost curves in the short run and long run, perfect competition in markets

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

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

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

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

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, investment functions- Keynesian, money demand and supply functions, production function

Business Cycles and Economic Models: 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 policy

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 policy

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

STATISTICS FOR ECONOMICS

Probability theory, Sample spaces and events, Axioms of probability and their properties, conditional probability and Bayes' rule, independent events
Random variables and probability distributions, probability distributions, expected values and functions of random variables, properties of commonly used discrete and continuous distributions
Random sampling, Density and distribution functions for jointly distributed random variables, computing expected values of jointly distributed random variables, covariance and correlation coefficients

Point and interval estimation, estimation of population parameters using methods of moments and maximum likelihood procedures, properties of estimators, confidence intervals
Hypothesis testing, distributions of test statistics, testing hypotheses related to population parame-

ters, Type I and Type II errors, the power of a test, tests for comparing parameters from two samples

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 deficit, 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 of one real variable: a. Set theory and number theory, Graphs, elementary types of functions: quadratic, polynomial, power, exponential, logarithmic, sequences and series: convergence, algebraic properties and applications, b. Continuous functions: characterisations, properties with respect to various operations and applications, c. Differentiable functions: characterisations, properties with respect to various operations and applications, d. Second and higher order derivatives: properties and applications
Single-variable optimization: Geometric properties of functions: convex functions, their characterisations and applications, local and global optima: geometric and calculus-based characterisations, and applications. **Linear algebra**: Vector spaces - algebraic and geometric properties, scalar products, norms, orthogonality, linear transformations: properties, matrix representations and elementary operations, systems of linear equations: properties of their solution sets, determinants: characterisation, properties and applications
Functions of several real variables: Geometric representations - graphs and level curves, differentiable functions: characterisations, properties with respect to various operations and applications, second order derivatives: properties and applications, the implicit function theorem, and application to comparative statics problems, homogeneous and homothetic functions: characterisations and applications
Multivariate optimization: Convex sets, geometric properties of functions: convex functions, their characterisations, properties and applications, further geometric properties of functions: quasi-convex functions, their characterisations, properties and applications, unconstrained optimisation: geometric characterisations, characterisations using calculus and applications, constrained optimi-

sation with equality constraints: geometric characterisations, Lagrange characterisation using calculus and applications, properties of value function: envelope theorem and applications
Linear programming: Graphical solution, matrix formulation, duality, economic interpretation
Integration, differential equations, and difference equations:- Definite integrals, indefinite integrals and economic applications, first order difference equations, equilibrium and its stability, first order differential equations, phase diagrams and stability

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; Formation of continents and oceans; Dating rocks and age of the Earth; Volcanism and volcanic landforms; Interior of earth; Earthquakes; Earth's magnetism and gravity, Isostasy; Elements of Plate tectonics; Orogenic cycles.
Geomorphology: Weathering and erosion; Transportation and deposition due to wind, ice, river, sea, and resulting landforms, Structurally controlled landforms.

Structural Geology: Concept of stratum; Contour; Outcrop patterns; Maps and cross sections; Dip and strike; Classification and origin of folds, faults, joints, unconformities, foliations and lineations,; shear zones. Stereographic and equal area projections of planes and lines; computation of true thickness of beds from outcrops and bore-holes.

Palaeontology: Major steps in the evolution of life forms; Fossils; their mode of preservation and utility; Morphological characters, major evolutionary trends and ages of important groups of animals – Brachiopoda, Mollusca, Trilobita, Graptolitoidea, Anthozoa, Echinodermata; Gondwana plant fossils; Elementary idea of verterbrate fossils in India.

Stratigraphy: Principles of stratigraphy; Litho-, chrono- and biostratigraphic classification; distribution and classification of the stratigraphic horizons of India from Archaean to Recent.

Mineralogy: Symmetry and forms in common crystal classes; Physical properties of minerals; Isomorphism and polymorphism, Classification of minerals; Structure of silicates; Mineralogy of common rock-forming minerals; Mode of occurrence of minerals in rocks. Transmitted polarised light microscopy and optical properties of uniaxial and biaxial minerals.

Petrology: Definition and classification of rocks; Igneous rocks-forms of igneous bodies; Crystallization from magma; classification, association and genesis of igneous rocks; Sedimentary rocks – classification, texture and structure; size and shape of sedimentary bodies. Metamorphic rocks – classification, facies, zones and texture. Characteristic mineral assemblages of pelites in the Barrovian zones and mafic rocks in common facies.

Economic Geology: Properties of common economic minerals; General processes of formation of mineral deposits; Physical characters; Mode of occurrence and distribution in India both of metallic and non-metallic mineral deposits; Coal and petroleum occurrences in India.

Applied Geology: Ground Water; Principles of Engineering Geology

15.5 MATHEMATICS (MA)

Sequences and Series of Real Numbers: Sequence of real numbers, convergence of sequences, bounded and monotone sequences, convergence criteria for sequences of real numbers, Cauchy sequences, subsequences, Bolzano-Weierstrass theorem. Series of real numbers, absolute convergence, tests of convergence for series of positive terms – comparison test, ratio test, root test; Leibniz test for convergence of alternating series.

Functions of One Real Variable: Limit, continuity, intermediate value property, differentiation, Rolle's Theorem, mean value theorem, L'Hospital rule, Taylor's theorem, maxima and minima.

Functions of Two or Three Real Variables: Limit, continuity, partial derivatives, differentiability, maxima and minima.

Integral Calculus: Integration as the inverse process of differentiation, definite integrals and their properties, fundamental theorem of 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: Ordinary differential equations of the first order of the form y'=f(x,y), Bernoulli's equation, exact differential equations, integrating factor, orthogonal trajectories, homogeneous differential equations, variable separable equations, linear differential equations of second order with constant coefficients, method of variation of parameters, Cauchy-Euler equation.

Vector Calculus: Scalar and vector fields, gradient, divergence, curl, line integrals, surface integrals, Green, Stokes and Gauss theorems.

Group Theory: Groups, subgroups, Abelian groups, non-Abelian groups, cyclic groups, permutation groups, normal subgroups, Lagrange's Theorem for finite groups, group homomorphisms and basic concepts of quotient groups.

Linear Algebra: Finite dimensional vector spaces, linear independence of vectors, basis, dimension, linear transformations, matrix representation, range space, null space, rank-nullity theorem. Rank and inverse of a matrix, determinant, solutions of systems of linear equations, consistency conditions, eigenvalues and eigenvectors for matrices, Cayley-Hamilton theorem.

Real Analysis: Interior points, limit points, open sets, closed sets, bounded sets, connected sets, compact sets, completeness of R. Power series (of real variable), Taylor's series, radius and interval of convergence, term-wise differentiation and integration of power series.

15.6 MATHEMATICAL STATISTICS (MS)

The Mathematical Statistics (MS) test paper comprises Mathematics (40% weightage) and Statistics (60% weightage).

MATHEMATICS

Sequences and Series: Convergence of sequences of real numbers, Comparison, root and ratio tests for convergence of series of real numbers.

Differential Calculus: Limits, continuity and differentiability of functions of one and two variables. Rolle's theorem, mean value theorems, Taylor's theorem, indeterminate forms, maxima and minima of functions of one and two variables.

Integral Calculus: Fundamental theorems of integral calculus. Double and triple integrals, applications of definite integrals, arc lengths, areas and volumes.

Matrices: Rank, inverse of a matrix. Systems of linear equations. Linear transformations, eigenvalues and eigenvectors. Cayley-Hamilton theorem, symmetric, skew-symmetric and orthogonal matrices.

STATISTICS

Probability: Axiomatic definition of probability and properties, conditional probability, multiplication rule. Theorem of total probability. Bayes' theorem and independence of events.

Random Variables: Probability mass function, probability density function and cumulative distribution functions, distribution of a function of a random variable. Mathematical expectation, moments and moment generating function. Chebyshev's inequality.

Standard Distributions: Binomial, negative binomial, geometric, Poisson, hypergeometric, uniform, exponential, gamma, beta and normal distributions. Poisson and normal approximations of a binomial distribution.

Joint Distributions: Joint, marginal and conditional distributions. Distribution of functions of random variables. Joint moment generating function. Product moments, correlation, simple linear regression. Independence of random variables.

Sampling Distributions: Chi-square, t and F distributions, and their properties.

Limit Theorems: Weak law of large numbers. Central limit theorem (i.i.d. with finite variance case only).

Estimation: Unbiasedness, consistency and efficiency of estimators, method of moments and method of maximum likelihood. Sufficiency, factorization theorem. Completeness, Rao-Blackwell and Lehmann-Scheffe theorems, uniformly minimum variance unbiased estimators. Rao-Cramer inequality. Confidence intervals for the parameters of univariate normal, two independent normal, and one parameter exponential distributions.

Testing of Hypotheses: Basic concepts, applications of Neyman-Pearson Lemma for testing simple and composite hypotheses. 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 2021 at Various Admitting institutes for JAM 2021 Qualified Candidates

Note: the number of seats is subject to change. OBC refers to OBC (non-Creamy Layer).

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN (non-PwD)	GEN (PwD)	EWS (non-PwD)	EWS (PwD)	OBC (non-PwD)	OBC (PwD)	SC (non-PwD)	SC (PwD)	ST (non-PwD)	ST (PwD)	Total Seats
IIT Bhilai	M.Sc. (4 semesters)	Chemistry (2801)	CY	5	0	1	0	3	0	2	0	1	0	12
		Mathematics & Computing (2802)	MA	4	0	1	0	4	0	2	0	1	0	12
		Physics (2803)	PH	5	0	1	0	3	0	2	0	1	0	12
IIT Bhubaneswar	Joint M.Sc. - PhD*	Chemistry (1901)	CY	9	1	2	1	7	0	4	0	2	0	26
		Mathematics (1902)	MA	10	0	2	0	6	1	3	0	2	0	24
		Physics (1903)	PH	9	1	3	0	7	0	4	0	2	0	26
		Geology (1904)	GG	10	0	2	0	7	0	4	0	1	1	25
		Atmosphere & Ocean Sciences (1905)	GG	9	1	2	0	6	0	4	0	2	0	24
			PH											
			MA											
			MS											
			CY											
IIT Bombay	M.Sc. (4 semesters)	Applied Geology (1201)	GG	15	0	3	1	9	1	6	0	3	0	38
		Applied Geophysics (1202)	PH	7	1	2	0	5	0	3	0	2	0	20
		Applied Statistics & Informatics (1203)	MS	18	1	5	0	13	0	7	0	3	1	48
		Biotechnology (1204)	BT	13	1	4	0	9	0	4	1	3	0	35
		Chemistry (1205)	CY	22	1	6	0	14	1	9	0	3	1	57
		Mathematics (1206)	MA	14	1	4	0	9	1	6	0	3	0	38
		Physics (1207)	PH	23	1	6	0	15	1	8	1	5	0	60
	M.Sc.-Ph.D. Dual Degree	Energy (1212)	CY	9	0	2	0	5	1	3	0	2	0	22
			MA											
			PH											
		Environmental Science and Engineering (1213)	CY	5	0	1	0	3	0	1	1	1	0	12
			PH											
			BT											
			MA											
		Operations Research (1214)	MA	6	0	2	0	4	0	1	1	1	0	15
			MS											
IIT Delhi	M.Sc. (4 semesters)	Chemistry (1301)	CY	27	1	6	1	17	1	10	0	5	0	68
		Mathematics (1302)	MA	27	1	7	0	17	1	9	1	5	0	68
		Physics (1303)	PH	26	2	7	0	17	1	10	0	4	1	68
		Economics (1304)	**EN**	**9**	**1**	**2**	**0**	**7**	**0**	**4**	**0**	**2**	**0**	**25**

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN (non-PwD)	GEN (PwD)	EWS (non-PwD)	EWS (PwD)	OBC (non-PwD)	OBC (PwD)	SC (non-PwD)	SC (PwD)	ST (non-PwD)	ST (PwD)	Total Seats
IIT (ISM) Dhanbad	M.Sc. (4 semesters)	Chemistry (2601)	CY	26	1	6	0	17	1	10	0	5	0	66
		Mathematics & Computing (2602)	MA	21	1	6	0	15	0	7	1	4	0	55
		Physics (2603)	PH	21	1	6	0	15	0	8	0	3	1	55
	M.Sc.(Tech) (6 semesters)	Applied Geology (2604)	GG	26	1	6	0	17	1	10	0	5	0	66
		Applied Geophysics (2605)	PH	22	0	6	0	15	0	7	1	4	0	55
IIT Gandhinagar	M.Sc. (4 semesters)	Chemistry (2001)	CY	9	1	3	0	6	1	4	0	2	0	26
		Mathematics (2002)	MA	14	1	4	0	10	0	6	0	2	1	38
		Physics (2003)	PH	13	1	4	0	11	0	6	0	2	1	38
IIT Guwahati	M.Sc. (4 semesters)	Chemistry (1401)	CY	23	2	6	0	16	0	9	0	3	1	60
		Mathematics & Computing (1402)	MA	23	1	5	1	15	1	9	0	5	0	60
		Physics (1403)	PH	23	1	6	0	15	1	8	1	5	0	60
IIT Hyderabad	M.Sc. (4 semesters)	Chemistry (2101)	CY	21	0	4	1	13	0	7	0	3	1	50
		Mathematics & Computing (2102)	MA	8	0	2	0	5	0	3	0	0	1	19
		Physics (2103)	PH	10	0	1	1	7	0	4	0	1	1	25
IIT Indore	M.Sc. (4 semesters)	Chemistry (2201)	CY	11	1	3	0	8	0	4	1	2	0	30
		Physics (2202)	PH	12	0	3	0	8	0	5	0	1	1	30
		Mathematics (2203)	MA	8	0	2	0	4	1	3	0	2	0	20
		Biotechnology (2204)	BT	6	0	2	0	4	0	2	0	1	0	15
		Astronomy (2205)	PH	5	1	2	0	4	0	2	0	1	0	15
IIT Jodhpur	M.Sc. (4 semesters)	Chemistry (2401)	CY	14	1	4	0	10	0	6	0	3	0	38
		Mathematics (2402)	MA	6	1	2	0	6	0	4	0	1	0	20
		Physics (2403)	PH	14	1	4	0	10	0	6	0	3	0	38
	M.Sc.-M.Tech Dual Degree	Mathematics-Data & Computational Sciences (2404)	MA	4	0	1	0	2	0	2	0	1	0	10
		Physics and Materials Engineering (2405)	PH	8	0	1	0	3	0	1	0	0	0	13
IIT Kanpur	M.Sc. (4 semesters)	Chemistry (1501)	CY	19	1	5	0	13	0	7	0	3	1	49
		Mathematics (1502)	MA	18	2	5	0	12	1	7	0	4	0	49
		Physics (1503)	PH	14	1	4	0	10	0	6	0	2	1	38
		Statistics (1504)	MS	24	1	5	1	16	1	9	0	5	0	62
	M.Sc.-Ph.D. Dual Degree	Physics (1505)	PH	8	0	2	0	5	0	2	1	2	0	20

Institute	Programme	Discipline (Code)	JAM Paper Code	GEN (non-PwD)	GEN (PwD)	EWS (non-PwD)	EWS (PwD)	OBC (non-PwD)	OBC (PwD)	SC (non-PwD)	SC (PwD)	ST (non-PwD)	ST (PwD)	Total Seats
IIT Kharagpur	Joint M.Sc. - PhD*	Chemistry (1601)	CY	22	1	6	0	14	1	8	1	4	0	57
		Geology (1602)	GG	14	1	4	0	9	1	6	0	3	0	38
		Mathematics (1603)	MA	15	0	4	0	9	1	5	1	3	0	38
		Physics (1604)	PH	23	1	6	0	15	1	9	0	3	1	59
		Geophysics (1605)	GG	6	0	2	0	4	0	2	0	0	1	15
			PH	6	0	2	0	4	0	1	1	1	0	15
		Medical Physics (1606)	PH	3	1	1	0	3	0	2	0	1	0	11
		Nuclear Medicine (1607)	CY	3	1	1	0	3	0	2	0	1	0	11
		Molecular Medical Microbiology (1608)	BT	4	1	1	0	3	0	2	0	1	0	12
IIT Madras	M.Sc. (4 semesters)	Chemistry (1701)	CY	25	2	2	0	16	0	8	1	4	0	58
		Mathematics (1702)	MA	19	1	2	0	11	1	6	0	3	0	43
		Physics (1703)	PH	21	1	1	1	13	0	7	0	4	0	48
IIT Mandi	M.Sc. (4 semesters)	Chemistry (3101)	CY	20	0	5	0	13	0	7	0	4	0	49
		Applied Mathematics (3102)	MA	20	0	5	0	14	0	6	1	3	1	50
IIT Palakkad	M.Sc. (4 semesters)	Chemistry (2901)	CY	10	0	2	0	7	1	4	0	2	0	26
		Physics (2902)	PH	10	0	2	1	7	0	4	0	2	0	26
		Mathematics (2903)	MA	10	0	2	0	7	0	4	1	2	0	26
IIT Patna	M.Sc. (4 semesters)	Chemistry (2501)	CY	10	1	2	0	7	0	4	0	1	0	25
		Mathematics (2502)	MA	10	0	2	0	6	1	4	0	2	0	25
		Physics (2503)	PH	10	1	3	0	6	0	3	0	2	0	25
IIT Roorkee	M.Sc. (4 semesters)**	Applied Geology (1801)	GG	8	0	2	0	4	1	3	0	1	0	19
		Chemistry (1802)	CY	17	1	4	0	11	1	7	0	3	0	44
		Economics (1803)	EN	13	0	3	0	9	0	4	1	2	1	33
		Mathematics (1804)	MA	15	0	4	0	10	0	5	1	2	1	38
		Physics (1805)	PH	11	1	3	0	8	1	4	0	2	0	30
IT Ropar	M.Sc. (4 semesters)	Mathematics (2301)	MA	9	1	3	0	6	0	4	0	1	1	25
		Chemistry (2302)	CY	10	0	3	0	6	1	3	0	2	0	25
		Physics (2303)	PH	10	0	2	0	7	0	3	1	2	0	25
IIT Tirupati	M.Sc. (4 semesters)	Mathematics & Statistics (3001)	MA	7	0	1	0	3	1	2	0	1	0	15
		Chemistry (3002)	CY	6	1	1	0	4	0	2	0	1	0	15
		Physics (3003)	PH	7	0	1	0	4	0	2	0	1	0	15
IIT (BHU) Varanasi	M.Sc. (4 semesters)	Chemistry (2701)	CY	9	1	2	0	6	1	4	0	2	0	25
		Physics (2702)	PH	10	0	3	0	7	0	3	0	1	1	25

*Note:

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

(b) A student 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 he/she have secured a minimum CGPA of 8 at the end of the third semester clearing the prescribed credit requirements.

** Note:

If PwD candidate is not available, the seat will be allotted to the candidate in the respective category.

16. Result Sharing Institutes

For programmes listed in Table 8, admissions will not be directly based on the JAM 2021 score. However, to get admitted into these programmes, candidates qualified in JAM 2021 can apply separately to the Institutes concerned.

Table 8: Result 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
5	M.Sc.- Ph.D. Dual Degree in Energy	IIT Bombay	CY, MA, PH

CCMN 2021 (Counselling Body for Admission to NITs and CFTIs) will admit candidates through qualified JAM 2021 scores. Refer to web page of CCMN-2021 (http://www.ccmn.in) for further information about these Institutes.

Annexure-II:

Test Papers and their Codes, corresponding Academic Programmes offered by the Admitting Institutes and their Minimum Educational Qualifications for Admission

Test Paper (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	IITI, IITB	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 and Engineering	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

Chemistry (CY)	M.Sc. Chemistry	IITI, IITR	Chemistry for three years/six semesters	No Restrictions
		IITB, IITD, IITG, IITGN, IITH, IITJ, IITK, IITM, IITP, IITRPR, IITISM, IITBHU, IITBhilai, IITPKD, IITMandi	Chemistry for three years/six semesters	Mathematics
	Joint M.Sc.- Ph.D. in Chemistry	IITBBS, IITKGP		
	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 and Engineering	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

Test Paper (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, IITR	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
Geology (GG)	M.Sc. Applied Geology	IITB, IITR	Geology for three years/ six semesters and any two subjects among Mathematics, Physics, Chemistry and Biological Science	Mathematics
	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	
	Joint M.Sc.- Ph.D. in Geology	IITKGP, IITBBS		
	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

Mathematics (MA)	M.Sc. in Economics	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
	M.Sc. Mathematics	IITB, IITD, IITGN, IITI, IITJ,IITK, IITM, IITP, IITPKD, IITR, IITRPR	Mathematics for at least two years/four semesters	
	M.Sc. Mathematics/ Mathematics and Computing	IITH, IITISM		
	M.Sc.-M.Tech. Dual Degree in Mathematics-Data and Computational Sciences	IITJ		
	M.Sc. Mathematics and Computing	IITG, IITBhilai		
	M.Sc. Mathematics and Statistics	IITTP		
	Joint M.Sc.- Ph.D. in Mathematics	IITBBS, IITKGP	Mathematics/ Statistics as a subject for at least two years/ four semesters.	
	M.Sc.- Ph.D. Dual Degree in Operations Research	IITB		
	M.Sc. Applied Mathematics	IITMandi	Mathematics for at least two years/four semesters	Mathematics
	M.Sc.- Ph.D. Dual Degree in Environmental Science and Engineering	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.	
	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 (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		
	M.Sc. Statistics	IITK	Statistics for at least two years/four semesters	
	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	

Physics (PH)	M.Sc. Physics	IITB, IITD, IITG, IITGN, IITH, IITI, IITJ, IITK, IITM, IITISM, IITP, IITR, IITRPR, IITBHU, IITBhilai, IITPKD	Physics for at least two years/four semesters and Mathematics for at least one year/two semesters	No Restrictions
	Joint M.Sc.- Ph.D. in Physics	IITBBS, IITKGP		
	M.Sc.- Ph.D. Dual Degree in Physics	IITK		
	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	
	Joint M.Sc.- Ph.D. in Medical Physics	IITKGP	B.Sc./B.S. degree (3 yrs/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	
	M.Sc. Astronomy	IITI	Physics/ Mathematics /Computer Science Engineering, Electrical Engineering/Mechanical Engineering	
	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	
	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

Test Paper (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.- Ph.D. Dual Degree in Environmental Science and Engineering	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 (3 yrs.) with Physics as Honours/ Major/ Main/ Equivalent subject, Mathematics as a subsidiary subject for two years/four semesters and another subsidiary subject from Chemistry, Geology, Electronics, Statistics and Computer Science for one year/two semesters.	No Restrictions

* 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.)

Annexure - III:

Examination Cities/Towns for JAM 2021

1. IISc Bangalore Zone

Bengaluru
Hubballi
Hyderabad
Kannur
Kozhikode
Mangaluru
Palakkad
Thrissur

2. IIT Bombay Zone

Ahmedabad
Goa
Mumbai
Nagpur
Nanded
Nashik
Pune
Vadodara

3. IIT Delhi Zone

Faridabad
Ghaziabad
Greater NOIDA
Gurugram
Hisar
Indore
Jaipur
Jammu
Jind
Jodhpur
New Delhi

4. IIT Guwahati Zone

Agartala
Asansol - Durgapur
Dhanbad
Dibrugarh
Guwahati
Jorhat
Imphal
Kalyani
Patna
Shillong
Siliguri

5. IIT Kanpur Zone

Agra
Bareilly
Bhopal
Kanpur
Lucknow
Prayagraj (Allahabad)
Varanasi

6. IIT Kharagpur Zone

Bhubaneswar
Kharagpur
Kolkata
Raipur
Ranchi
Vijayawada
Visakhapatnam

7. IIT Madras Zone

Chennai
Coimbatore
Ernakulam
Kollam
Kottayam
Madurai
Thiruvananthapuram
Tiruchirapalli
Tirunelveli
Tirupati
Warangal

8. IIT Roorkee Zone

Dehradun
Jalandhar
Kurukshetra
Mohali
NOIDA
Moradabad
Roorkee

Annexure-IV:

AUTHORITIES WHO MAY ISSUE SC/ST/ OBC (NON-CREAMY LAYER)/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 and
iv) Sub-Divisional Officer or the area where the candidate and/or his family normally resides.

NOTE:

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 not be accepted.**

ANNEXURE-V:

PROFORMA FOR OTHER BACKWARD CLASS (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:

Seal

District Magistrate,
Deputy Commissioner, etc.

* - 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, 2020.

ANNEXURE-VI:

PROFORMA 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;
III. 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 IS 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 and
(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, 2020.

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

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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.

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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. Pannda)
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:

IMPORTANT DATES FOR JAM 2021

Commencement of ONLINE Registration and Application on JAM 2021 Website	September 10, 2020 (Thursday)
Last Date for Online Application Submission and Uploading of Documents on the Website	October 15, 2020 (Thursday)
Availability of JAM admit cards for download	January 05, 2021 (Tuesday)
Date of JAM 2021 Examination	February 14, 2021 (Sunday)
Announcement of the Results of JAM 2021	March 20, 2021 (Saturday)
Submission of Application Form for Admission on the JAM 2021 Website	April 15-28, 2021
Declaration of First Admission List	June 16, 2021 (Wednesday)
Declaration of Second Admission List	July 01, 2021 (Thursday)
Declaration of Third and Final Admission List	July 16, 2021 (Friday)
Closure of Admissions through JAM 2021	July 20, 2021 (Tuesday)

Note: Information regarding JAM 2021 will be sent through SMS also. Hence, you are advised to keep JAM 2021 Sender ID unblocked.

CONTACT ADDRESSES OF JAM OFFICES

Institute and Website	E-mail	Phone/Fax
IISc Bangalore http://jam.iisc.ac.in	jam@iisc.ac.in	(080) 22932392/23601227
IIT Bombay http://www.jam.iitb.ac.in	jam@iitb.ac.in	(022) 25767022/25722674
IIT Delhi http://jam.iitd.ac.in	jam@admin.iitd.ac.in	(011) 26591749
IIT Guwahati http://www.iitg.ac.in/gate-jam/	jam@iitg.ac.in	(0361) 2582751/2582755
IIT Kanpur http://jam.iitk.ac.in	jam@iitk.ac.in	(0512) 2597412/2590932
IIT Kharagpur http://jam.iitkgp.ac.in	jam@adm.iitkgp.ac.in	(03222) 282091/282095
IIT Madras http://jam.iitm.ac.in/	jam@iitm.ac.in	(044) 22578200/22578204
IIT Roorkee http://www.iitr.ac.in/jam	jam@iitr.ac.in	(01332) 284531/285707

IMPORTANT NOTE

In all matters concerning JAM 2021, the decision of the Organizing Institute, JAM 2021 will be final and binding on all the applicants.

Although JAM 2021 is held at different centres across the country, Indian Institute of Science, Bangalore is the Organizing Institute, and has the overall responsibility of conducting JAM 2021. In case of any claims or disputes arising with respect to JAM 2021, it is hereby made absolutely clear that the Bangalore High Court (Bangalore, KA) alone shall have the exclusive jurisdiction to entertain and settle any such disputes and claims.

BIOMETRIC FINGERPRINT CAPTURING WILL BE DONE AT THE TIME OF THE EXAMINATION, ONLY IF THE COVID-19 SITUATION IS UNDER CONTROL

Information contained in this brochure is correct as on Aug 10, 2020. There may be changes in future due to unavoidable reasons. As and when any change is made, it will be notified on

JAM 2021 website http://jam.iisc.ac.in

DISCLAIMER:

The health and safety of our examination participants is of utmost priority. Due to the current pandemic situation, all dates mentioned in this brochure may be subject to changes. At this point of time, we intend to move forward with the JAM 2021. In rare cases, it may be necessary to cancel or postpone the examination because of situations beyond our control. All updates will be notified on

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JAM 2021

Joint Admission test for Masters

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