



## **INFORMATION BROCHURE**

**FOR ADMISSION TO THE FIVE YEAR'S EVENING PROGRAMMES FOR  
BACHELOR'S DEGREE IN CIVIL / ELECTRICAL / MECHANICAL ENGINEERING  
UNDER  
FACULTY OF ENGINEERING & TECHNOLOGY (FET)  
FOR THE SESSION 2021-22**

**JADAVPURUNIVERSITY  
KOLKATA – 700 032**

## INFORMATION BROCHURE FOR ADMISSION TO UG DEGREE PROGRAMMES

### FACULTY OF ENGINEERING & TECHNOLOGY

#### 1. **GENERAL INFORMATION FOR APPLICANTS:**

The Information Brochure is for admission to the Five Year's Evening Programmes for Bachelor's Degree in Civil / Electrical / Mechanical Engineering under Faculty of Engineering & Technology (FET), Jadavpur University for the session 2021-22. All the programmes are 10-semester evening programmes with the classes to be conducted from 6:00pm to 9:00pm from Monday to Friday and 2:00pm to 5:00pm on Saturday. Field works / Academic Tours of Civil Engineering to be conducted on Sundays as and when stipulated in the curriculum.

#### 2. **ELIGIBILITY CRITERIA:**

A]

The candidates must have Passed Diploma Examination from the UGC recognised Indian University or Government / Statutory Body in the same branch to which he/she opts for application with at least 60% marks or equivalent grade point in aggregate for general category and 45% for SC, ST, OBC-A, OBC-B, PwD candidates.

In case final result is published in the Grade Point system only, then the same must be converted to equivalent percentage marks. Conversion of Grade Point to Percentage of Marks, if required, should be done by the applicant during filling up of the form using, either –

- a) The conversion formula of the concerned board/university, if any such is available, OR
- b) By the AICTE advised formula, as Percentage marks =  $(\text{Grade Point} - 0.75) \times 10$  when Grade Point is in a scale of 10.

In case, the Grade Point is not in a scale of 10, the obtained Grade Point is to be converted to Grade Point in a scale of 10 in a pro rata basis.

B]

Final year students may also apply, but their admission (if selected) will not be processed unless they submit their final result by the 30<sup>th</sup> November 2021.

#### 3. **RESERVATION OF SEATS:**

##### **SC / ST / OBC-A / OBC-B Reservation:**

Reservation of Seats for Scheduled Cast (SC), Scheduled Tribe (ST), Other Backward Class (Category A) (OBC-A) and Other Backward Class (Category B) (OBC-B) are as per Government of West Bengal Circular No. 267-Edn (U)/1U-89/13 dated 04.03.14 read with the West Bengal State Higher Educational Institutions (Reservation in Admission) Act 2013 (West Bengal Act X of 2013) gazetted on 30th April 2013 and the West Bengal State Higher Educational Institutions (Reservation in Admission) Rules 2013 gazetted on 4th January 2014. OBC Certificates should have proper validation of Non Creamy Layer criteria conforming to Government of West Bengal Memorandum No. 1204-SBCW/MR-67/10 dated 27-07-2015.

The candidate shall have to furnish copies of valid SC/ST/OBC-A/OBC-B certificate in his/her name issued by the competent authority as listed in Annexure-A. OBC Certificates must have the category A/B mentioned without which the certificate will be considered as invalid.

##### **Reservation for Person with Disability (PwD):**

Reservation of seats following the Rights of Persons with Disabilities Act, 2016, gazetted on 28 December 2016, Government of West Bengal letter No. 65-Edn(U)/1U-89/13 dated 16.01.2014 and notification No. 526-Edn (U)/1U-137/14 Date: 29.05.2015 is available for Persons with Disability (PwD) with 40% to 70% disabilities of a) Locomotor disability; b) Visual Impairment;

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c) Hearing impairment; and d) Speech and language disability, subject to the condition that the candidate can carry out all activities related to theory and practical work as applicable to B.E programmes without any special concession and exemption.

The candidate shall have to furnish copies of valid PwD certificate in his/her name issued by the competent authority as listed in Annexure-B

#### **Important Note**

As per circular no. BC-16014/1/82-SC dt. 06/08/1984 & BCD-I, D.O.12017/11/89-SCD (R.CELL) dt. 08/01/1990 and letter no. 1510-SCW dt. 31/05/2007 of the Government of West Bengal, candidates, with reservation certificates of SC / ST / OBC-A / OBC-B / PwD category issued by any State other than West Bengal, are not entitled for SC / ST / OBC(A) / OBC(B) / PwD reserved seats in Educational Institutions in West Bengal.

#### **4. ENTRANCE EXAMINATION AND PREPARATION OF MERIT LIST**

##### **Entrance Examination:**

Entrance examination will be conducted at **Kolkata, Siliguri and Durgapore** centre in physical mode. **Exam method:** MCQ based questions & OMR based evaluation.

Calculator, Electronic gadgets, Mobile or, any Digital device will not be allowed in the examination hall.

**Syllabus** for the entrance examination: the details are provided below.

##### **Merit List:**

Merit List will be prepared on the basis of the performance in the Entrance Examination.

The modalities of entrance examination will be published / informed in due time.

In case of any tie in the merit list prepared on the basis of the above criteria, the following parameter may be used in the given order to break such tie.

- Percentage aggregate marks of secondary or equivalent examination (in case of the mark sheet having the marks in grade system, it MUST be converted to equivalent percentage marks by using the formula of the respective board)
- Date of Birth (Person born earlier will get higher preference)

#### **5. DOCUMENT VERIFICATION AND ADMISSION:**

Scanned copies of the following documents (150 dpi colour in pdf format) are to be mandatorily uploaded along with the application. The maximum size of the uploaded file should not exceed 500KB. In case any such is of multiple pages the same should be scanned as a single pdf. **All scanned documents should be properly legible. Illegible supporting document may lead to cancellation of the candidature without any further communication.**

- a) Valid Photo ID card issued by the Government or ID card of last attending College.
- b) Admit-card / Certificate of Secondary (or equivalent) Examination for Date of Birth Proof  
Mark sheet of Secondary or equivalent (Class-X) Examination
- (c) Mark-sheet of Higher Secondary or equivalent (Class-XII) Examination, if applicable
- (d) Final Mark-sheet of Diploma in Engineering Examination.
- (e) Mark sheets of last five semesters in case the result of the sixth semester is not published.
- (f) Valid SC / ST / OBC(A) / OBC (B) Certificate issued by the Government of West Bengal

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in case 'candidate category' is SC / ST / OBC(A) / OBC (B) respectively

- (g) Valid PwD (Person with Disability) Certificate issued by the competent authority in case 'PwD category' is 'Yes'
- (h) **Recent** Passport Photograph of the candidate (same as used for online application)
- (i) Signature of the candidate
- (j) Admit card of Entrance Examination duly signed by the Invigilator.
- (k) Diploma mark sheets of appearing candidates are to be submitted by 30<sup>th</sup> November 2021.

- a. **Provisional merit list will be published on the basis of marks obtained in the entrance test and candidates will be invited for participating in admission procedure (off line) according to provisional merit list.**
- b. Provisional admission will be offered after verification of relevant original documents only in the admission procedure (offline). During the admission procedure the original of the following documents will be checked for verification of relevant verified.
  - i. Family Income Certificate from the competent authority
  - ii. 5 (five) copies of passport size photograph with full frontal view (same as used for online application)And self-attested copies of -
  - iii. Admit-card / Certificate of Secondary (or equivalent) Examination for Date of Birth Proof
  - iv. Mark sheet of Secondary or equivalent (Class-X) Examination
  - v. Mark-sheet and Certificate of Higher Secondary or equivalent (Class-XII) Examination, if applicable
  - vi. Final Mark-sheet and Certificate of Diploma in Engineering Examination
  - vii. Valid SC / ST / OBC(A) / OBC (B) Certificate issued by the Government of West Bengal in case 'candidate category' is SC / ST / OBC(A) / OBC (B)
  - viii. Valid PwD (Person with Disability) Certificate issued by the competent authority in case 'PwD category' is 'Yes'
  - ix. Admit card of Entrance Examination duly signed by the Invigilator.
  - x. Diploma mark sheets of appearing candidates are to be submitted by 30<sup>th</sup> November 2021.
- c. **If at any point of time it is found that the candidate have not fulfilled any of the required criteria or have suppressed any information/document or have submitted wrong information/document, his/her admission as well as studentship may be cancelled without any communication.**
- d. After successful submission of the application, the applicant must take a printout of the form and this has to be provided as documentary evidence for all subsequent communication, if any.

**6. FEES:**

There is **NO Application Fee** for admission to UG programmes of FET of Jadavpur University. The candidates found eligible for admission need to pay Rs. 3860.00 (Rupees Three Thousand Eight Hundred and Sixty only) as Admission Fee and charges for the First Year of study.

**7. IMPORTANT INFORMATION:**

**The admission process is completely off-line. The candidates must visit the University for the admission purpose.**

All information regarding the admission will be notified online and through the designated admission portal which may be accessed by the following link, which is provided in the university website also – <https://jeedec.formflix.com/>

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Individual communication with the candidates, if required, will be made through their e-mail id registered during application.

The admission schedule will follow the chart as given in Annexure–E. In case of any unavoidable change, the same will be notified on admission portal only.

An incomplete application may be rejected without any communication.

Any wrong information furnished or suppression of information, if detected at any point of time, may lead to cancellation of the application or admission without any correspondence.

Submission of application or fulfillment of eligibility criteria or rank in the merit list to be published does not confer any right of the applicant to be considered for admission.

The Admission Committee reserves the right of not selecting any candidate who is found ineligible after verification of original document or physically unfit or otherwise unsuitable. The decision of the competent authority of the university in the matter of admission is final and binding.

For any query and/or grievances mails may be sent to the following helpdesk email id with the subject matter “**Query regarding Admission to 5-Year Evening UG Degree Programme**”.

Communication of any other form including telephone or mails sent to any other address or with different subject heading will not be entertained.

**Helpdesk email – [dpsnr@gmail.com](mailto:dpsnr@gmail.com)**

All J.U. courses are non-residential. Hostel seats are not guaranteed.

#### 8. Seat Matrix for 5-Year Evening UG Degree Programmes:

Course	General	OBC- A	OBC- B	SC	S T	Total
Civil Engg.	29	5	4	12	3	53
Electrical Engg.	29	5	4	12	3	53
Mechanical Engg.	29	5	4	12	3	53

#### **Annexure – A: List of competent authorities to issue SC / ST / OBC-A / OBC-B certificates**

**SC/ST Certificates** are to be issued by any of the following authorities

- i. Sub-Divisional Officers for all districts except Kolkata
- ii. District Welfare Officer, Kolkata & Ex-Officio Joint Director, B.C.W. in case of Kolkata Municipal Area as defined in clause (9) of Section 2 of K.M.C Act, 1980

**OBC-A / OBC-B Certificate** issuing authority for candidates claiming under such reserve category of seats

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are as per Notification vide No. 374(71)-TW/EC/MR-103/94 dated 27/7/1994, read with Memorandum No. 1204-SBCW/MR-67/10 dated 27/7/2015 issued by Backward Classes Welfare Department, Govt. of W.B. –

- i. The Sub-Divisional Officer of a Sub-Division in a District.
- ii. In Kolkata by such an officer as the State Government by modification authorizes. Accordingly, the District Welfare Officer, Kolkata and Ex-officio Joint Director, BCW has been notified to act as the certificate issuing authority in respect of Kolkata covering the jurisdiction of the Kolkata Municipal Corporation

**Annexure – B: List of competent authorities to issue PwD certificates**

PwD certificates are to be issued by any of the following authorities –  
Officer-in-Charge / Head of Department / Head of the institute of Sub-Divisional Hospitals, District Hospitals, Govt. Medical Colleges run by the Govt. of West Bengal.

**Annexure – C: Tentative schedule of the Admission Process**

[The schedule may be changed under unavoidable circumstances and will be notified online]

Sl. No.	Activity	Date
01	Opening of online Application form on Admission Portal	16 <sup>th</sup> August 2021
02	Last date of online submission of Application Form	25 <sup>th</sup> August 2021
03	Publication of the list of applicants submitting the application form	26 <sup>th</sup> august
04	Grievances, if any, regarding missing of application, with documentary evidence of submission	Before 27 <sup>th</sup> August (5 p.m)
05	Issuance of Admit Card for Entrance examination	30 <sup>th</sup> August 2021
06	Date of Entrance examination	05 <sup>th</sup> September 2021
07	Publication of Provisional Merit List and notification for Physical verification–cum- Provisional Admission	8 <sup>th</sup> September 2021
08	Physical verification–cum- Provisional Admission	15 <sup>th</sup> September 2021, 16 <sup>th</sup> September 2021 & 20 <sup>th</sup> September 2021
14	Date of Commencement of classes	27 <sup>th</sup> September 2021

## Syllabus

- The syllabus is different for different branches of engineering.
- The detailed syllabus of different branches are given below:

### A] Electrical Engineering

**Electrical Circuit & Network :** Basic Concepts, Series and Parallel AC circuits, Series and Parallel resonance, AC and DC circuits analysis, Network Theorems, Transient in DC Circuit, Laplace Transform, Two port network

**Electrical Machines:** Mechanism of Electro-Mechanical energy conversion, DC Generator and Motor, Single phase Transformer, Three phase Transformer, Auto transformer, Scott Connection, Open Delta Connection, Three-Phase Induction Motor, Alternator, Synchronous Motor, Single phase motors, Special Motor.

**Transmission and Distribution of Power:** Basics of Power Transmission, Layout, Transmission Line Components, Transmission Line Parameters, Underground Cables, Performance of Transmission Line, Extra High Voltage Transmission, Components of Distribution System, Substations.

**Switchgear and Protection:** Necessity & functions, Circuit interrupting devices, Circuit breakers, Auto-reclosing, Protective Relaying, Over current relay, Directional Relay, Distance Protection Scheme, Differential Relay, Static over current relays, Generator protection, Transformer protection, Protection of Busbar & transmission line, Over voltage Protection.

**Electrical Measuring Instruments:** Fundamentals and Basic Requirements, Measurement of single phase and three phase Current, Voltage, Power and Energy, Measurement of Resistance, Single phase and three phase Power Factor Meter, Digital Multimeter, Sychroscope. Instrument Transformer: CT and PT.

**Electrical Measurement & Control:** Transducers: Types, Classification, Transducer for measurement of Temperature, Pressure, Velocity, Speed, displacement; Capacitive and Piezoelectric transducer, load cell, Tachometer, Electromagnetic and turbine flow meter; Signal conditioning: Concept, AC and DC signal conditioning, Instrumentation Amplifier, Filters, Digital instruments and Display Devices; Pilot Devices: Push Button, Limit Switch, Float Switch, Electromagnetic Relay, Pressure switch, Thermostats plugging switch, Proximity switch; Control System: Classification, Feedback control system, idea on stability, Control system components, Concept of transfer function, poles and zeroes, transfer function of first & second order system, time response characteristics of first and second order system to unit step excitation, Block diagram representation of control system, Stability concept, ON/OFF, P, PI, PD, PID controller.

**Utilization, Traction, Heating and Drives:** Illumination: Terms Used in Illumination, Laws of Illumination, Different types of lamps, Electric Heating, Resistance Heating, Arc Heating, Induction Heating, Dielectric Heating, Electric Welding, Electric Drives, Electric Traction, Traction Mechanics, Traction Motors, Economic Aspects of Utilising Electrical Energy

**Power Plant Engineering:** Basics of Power Generation, Thermal Power Stations, Nuclear Power Stations, Hydro Power Stations, Diesel Electric Power Stations, Gas Turbine Power Plants, Non-Conventional Energy Sources, Solar Energy, Wind Energy, Economics of Power Generation, Interconnected Power Systems.

**Basic Electronics:** Semiconductor Diode, Zener Diode, Rectifiers & Filters, Bipolar Junction Transistor (BJT), Field effect transistor (JFET), Unijunction transistor (UJT), Biasing of BJT, Regulated Power Supply, Small Signal Amplifiers.

**Power Electronics & Drives:** Thyristor (SCR), Switching & Timer Circuits, AC to DC Converter, Inverter, DC Chopper, DC & AC Drives, Uninterrupted power supply.

**Applied and Digital Electronics:** Power Amplifiers, FET Amplifier, Operational Amplifier, Feedback Amplifiers & Oscillators, Boolean Algebra & Combinational Logic Circuits, Sequential Logic Circuits, Data Converters & Memory Devices.

**Microprocessor and microcontroller:** Microprocessor Basics, Microprocessor Programming, Application of microprocessor, Microcontroller Basics, 8051 addressing modes and instructions, 8051 interrupts, Application.

## **B| CIVIL ENGINEERING**

### **Civil Engineering**

#### **Part – A**

- Applied Mechanics
- the principle of virtual work
- Use of simple column formula.
- The solution of determinate trusses.
- Fluid Mechanic

#### **Part – B**

- General Civil Engineering
- Planning and Construction
- Sanitary Engineering
- Irrigation
- Soil Mechanics
- Roads and Railways

## **C| Mechanical Engineering**

### **Mechanical Engineering**

- Applied Mechanics and Machine Design
- Fluid Mechanics, Fluid Machines & Thermal Engineering

### **Production Engineering**

The syllabus for production engineering is:

- Operational features of basic machine tools
- Cutting tools
- Theory of metal cutting
- Press Work
- Iron-Carbon equilibrium diagram – heat treatment of steel
- Industrial Management
- Principles of Jigs and Fixtures