

## **Doctoral Programs (Ph.D.): JUET, GUNA**

The Ph.D. programs are available in various specializations such as Computer Science and Engineering, Electronics and Communication Engineering, Civil Engineering, Humanities & Social Sciences, Mathematics, Chemical Engineering, Mechanical Engineering, Chemistry & Physics. The scholars are required to take up intensive research work under the guidance of a supervisor on a specific problem for a minimum duration as specified. The research work is expected to result in new findings contributing to the knowledge in the chosen field. The doctoral research program gives an opportunity to scholars to demonstrate their analytical, innovative and independent thinking leading to creativity and application of knowledge. The scholars are required to give semester end presentation of research progress regularly and publish their work. Finally, they are required to submit the thesis embodying their research findings for the awarding of the Ph.D. degree. They are also required to take part in some advanced level course work. Department wise subjects for Ph.D programmes are listed below.

### **Electronics & Communication Engineering**

Digital Signal Processing, Multi-dimensional and Multi-rate Signal Processing, Image Processing, Wavelet Analysis and Pattern Recognition, Integral Transforms, Wireless Communication, Mobile communication, Digital Communication, Multicarrier Communication Systems, Soft Computing, Neural Networks, VLSI Design, Renewable Energy, Micro-strip Antenna.

### **Computer Science & Engineering**

Network Communication, Grid Computing, Cloud Computing, Image Processing, Pattern Recognition, Image Security, Network Security, SDN, Software Engineering. Artificial Intelligence, Text mining, Big Data, Data Analytics, Computer Vision, Robotics and Motion Control. Data Science, Natural Language Processing, Blockchain, Technology Intervention in public well-being, Machine Learning. Internet of Things. Unstructured Data Handling. Neural Network and Deep Learning, Digital Image Forensics.

### **Civil Engineering**

Concrete Technology, Transportation Engineering, Geotechnical Engineering, Hydraulics & Water Resources Engineering, Advanced Construction Materials and composites.

### **Chemical Engineering**

Treatment of volatile organic compounds (VOCs), Photo catalysis, Modeling and Simulation of industrial processes, Recovery of precious metals from spent catalysts/e-waste, Process intensification studies, Enzyme recovery, Membrane processes. Chemical reaction engineering, Heterogeneous catalysis, Industrial pollution abatement, membrane processes for recovery of precious metals from industrial waste and industrial waste water treatment using low cost adsorbents.

### **Mechanical Engineering**

Dynamics of Machine Tools, Machine Design and Vibration Analysis, Condition Monitoring and Fault Diagnosis of Machine Structures, Tool Vibration Analysis of Machine Tools, Structural Analysis, Additive Manufacturing, CAD/CAM, Advanced Machining Processes, Micro-machining process, Combustion, Gasification, Experimental and Computational Fluid Dynamics, Turbulent Flows and Mixing Control, Heat and Mass Transfer, Magneto Hydro Dynamics, Electronics Cooling, Flow Through Micro-channels, Refrigeration and Air Conditioning, Renewable Energy, Utilization of Solar Energy, Solar Water Desalination, Engineering Data Analytics.

### **Physics**

Nanomaterials, energy storage devices and quantum optics.

### **Mathematics**

Fluid mechanics, Information Theory and its Applications, Fuzzy sets and logic & Fuzzy information measures.

### **Chemistry**

Novel Surfactants, Oleo chemicals, Polymer Chemistry, Environmental Sciences, Natural Products.

### **Humanities and Social Sciences**

Human resource management, economics and human behavior, women studies, e-commerce and social media, marketing, behavioral studies.

## **Ph.D. ADMISSION TEST-PROCEDURE AND SCHEDULE: 2025**

### **1. Eligibility Criteria Minimum Qualifications:**

- (a) M. Tech Degree of a University or equivalent for Ph.D. in Engineering / Technology in respective branch with 55% Aggregate Marks or CGPA not less than 5.5 on scale of 10.
- (b) Master's Degree of a University for Ph.D. in Sciences / Humanities & Social Sciences / in respective discipline or equivalent with 55% Aggregate marks or CGPA not less than 5.5 on scale of 10.
- (c) Consistently good academic record performance i.e. 55% aggregate marks or equivalent CGPA of not less than 5.5 on a scale of 10 at undergraduate and post graduate level for students admitted after PG programs at (i) to (iii) above.

### **2. Admission Procedure:** Admission for all shall be based on:

- (a) Satisfying the requirements of minimum qualifications as specified above.
- (b) Performance in Interview for those who have qualified in GATE/NET/SLET/UGC/CSIR (JRF) or equivalent national level examinations.
- (c) Performance in :
  - i) The Ph.D. Entrance Test for all those who are not qualified in any of the examinations mentioned in (b) and
  - ii) The subsequent Interview, for short-listed candidates only, based on the written test.
- (d) Entrance Test shall be qualifying with qualifying marks as 50%. The syllabus of the Entrance Test shall consist of 50% of research methodology and 50% shall be branch specific.
- (e) An interview/viva-voce to be organized where the candidate is required to discuss their research interest/area through a presentation before a duly constituted Department Research Committee. The interview/viva voce shall also consider the following aspects, viz. whether;
  - (i) the candidate possesses the competence for the proposed research;
  - (ii) the research work can be suitably undertaken at the University;
  - (iii) the proposed area of research can contribute to new/additional knowledge.

### **3. How to Apply**

- (a) Application form can be filled online through the web link of university website: <https://apply.juet.ac.in/> and application fee can be paid by Net banking/ Credit card/ Debit Card.
- (b) Download the application form from the web site <https://admission.juet.ac.in/> and send it to address given above. Application must be sent along with a Demand Draft/CTS Cheque of ₹ **1000/-** as application fee in favor of **“Jaypee University of Engineering & Technology”, payable at Guna (M.P.)**.

#### **DETAILS FOR FUND TRANSFER**

Account holder Name	JAYPEE UNIVERSITY OF ENGINEERING & TECHNOLOGY
Address	A-B ROAD, RAGHOGARH, GUNA
Bank name	<b>AXIS BANK LTD</b>
Address	GUNA (M.P.) 473001
Account type	CURRENT A/C.
Bank A/c no.	912010004617629
IFSC Code	UTIB0000679

(c) Please send Information after transfer of amount, by E-mail id to [vc.pandey@juet.ac.in](mailto:vc.pandey@juet.ac.in) as per details given below:

UTR NO. -  
AMOUNT -  
DATE -  
BANK NAME -  
STUDENT'S DETAILS -

(d) You may also obtain the application form directly from JUET, Guna by paying ₹1000/-.

(e) Application will be accepted after clearing of cheque (CTS) / Draft.

#### 4. Written Examination Procedure

- (a) Tests / Questions shall be different for each discipline of the program
- (b) Test will cover all the core / compulsory subjects in the relevant Master Level degree. Written test would aim at judging the depth of knowledge and potential to do research work of the candidates.
- (c) The syllabi for each program have been uploaded on the web site.

5. **Personal interview** shall be conducted for only for the short listed candidates (Based on written Test) except where candidate qualifies for the direct interview criteria as given in 2(b) above.

#### 6. Format of Ph.D Admission Test Question Paper

- a. Duration : 120 Minutes
- b. Maximum Marks : 100
- c. Distribution of Marks is as follows:

Section	Marks	No. of Questions	Topic to be covered
Section A	50	50 objective type questions. Each question will have four alternatives but single correct option. For each correct answer, 1 mark will be awarded and for an incorrect answer or an un-attempted question, zero marks will be awarded	Research Methodology
Section B	50	Part – 1 : 25 questions of 1 mark each with 4 alternatives Part – 2 : 5 questions of 5 marks each to be attempted out of 8 questions	Test will cover all the core/ compulsory subjects in the relevant Master Level degree. Written test would aim at judging the depth of knowledge and potential to do research work.

#### 7. Important Dates and Schedule for Examination and Interview:

- (a) **Receipt of Applications (Last Date) – 8 June 2025**
- (b) **Where to Send the Application** (Write Ph.D. Application-JUET, Guna on Envelope)

Registrar  
Jaypee University of Engineering & Technology  
A.B. Road, Raghogarh  
Guna, (M.P.)-473226  
or by email to [vikas.shukla@juet.ac.in](mailto:vikas.shukla@juet.ac.in)

(c) **Exam Schedule**

Written Test	–	05 July 2025	10.00 AM– 12.00 PM
Declaration of Result	–	05 July 2025	
Interview of shortlisted candidates and GATE qualified candidates	–	05 July 2025	

**8. Research/Teaching Assistantship:** Financial Support (₹ 37000/-per month) shall be provided to deserving full time Ph.D. students.

**9.** For any query related to admissions, applicants are advised to contact:

## Jaypee University of Engineering & Technology-Guna

A-B Road, Raghogarh

Distt. - Guna (M.P.) – 473226

Phone: +91-7544-267051, 267310-312, E Mail: [admission@juet.ac.in](mailto:admission@juet.ac.in)

**TOLL FREE ADMISSION HELPLINE NO. : 1800 121 884444**