

**Shortlisting Criteria/Cut-off for Ph.D. Admission for Autumn Semester
2026-27 in Department of Paper & Packaging Technology**

As per **Common Minimum Eligibility Criteria and Minimum Educational Qualification** for Ph.D. Admission mentioned in the Information Brochure (Autumn Semester 2026-27).

1. Candidates without **GATE/GPAT/JRF/NET** are not considered (Not applicable to candidates in ISERS/P-ISIRS/P-ISERS/Part-Time/SAKUNTALA/ISSERS).
2. Applications are screened based on Master's degree marks.
3. In case of those candidates who have only Bachelor's Degree is screened based on their marks.

Cut-off for Full-Time Candidates: -

Sr. No.	Educational Qualification	General	Gen-EWS/OBC	SC/ST/PwD
1.	Master's Degree	7 CGPA or 70% Marks	6.30 CGPA or 63% Marks	5.5 CGPA or 55% Marks
2.	B. Tech. Degree	Minimum CGPA of 7.50 on a 10-point scale or 75% marks.		

Cut-off for Part-Time Candidates: -

Sr. No.	Educational Qualification	General	Gen-EWS/OBC	SC/ST/PwD
1.	Master's Degree	6.0 CGPA or 60% Marks	6.0 CGPA or 60% Marks	5.5 CGPA or 55% Marks
2.	Bachelor's Degree	All categories: Bachelor's degree with minimum CGPA 8.0/80% marks required.		

Note: For Full-Time Candidates with fellowship, vacancies are not available for General & General-EWS Category Applicants.



(Prof. Vibhore Rastogi)
DRC Chairman
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(Prof. K.K. Gaikwad)
Head of Department



Prof Kirtiraj K. Gaikwad
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NOTIFICATION

Written test and/ or interview for Ph.D. admission (Autumn Semester) 2026-27 in the Department of Paper & Packaging Technology.

The schedule for written test and / or interview is as under:

Venue, Date & Time of Interview
Venue: Committee Room, Adjacent to Head office, Department of Paper & Packaging Technology, Ground Floor, IIT Roorkee, Saharanpur Campus, Saharanpur, Pin-247001, Uttar Pradesh Date of interview: 05 th June 2026 (Friday) Reporting Time: 08.30 A.M. Time of Interview: 10:00 A.M. onwards.

Important Instructions:

- The candidates are required to prepare a power point presentation of 7 slides based on the following:
 - First two slides: Major achievements through education (% Marks from Secondary to UG/PG Level), awards, research, etc.**
 - Next three slides: Research project works at bachelor and master degree level, if any.**
 - Next two slides: Research work/plan you would like to explore in future, if any.**
 - In the interview, you would be first allowed to present your power point presentation for 10 minutes (maximum time), and total interview time would be for 20 minutes (maximum time).**
- Candidates possessing a valid research fellowship (CSIR/UGC JRF/INSPIRE/DBT/ICMR, etc.) must bring a self-attested copy of the fellowship certificate at the time of the interview.
- A copy of project/dissertation and published research articles, if any, may be submitted during the interview.
- Candidates must bring a valid category certificate / Experience Certificate / NOC, if applicable.
- Candidates claiming industrial experience must produce a documentary proof of annual turnover of the company.
- Original documents/testimonials must be produced at the time of the interview for verification.
- No request for change in interview date and/or time will be entertained under any circumstances.

15/5/26
13/5/26

 Prof Kirtiraj K. Galkwad
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List of Shortlisted candidates for the Written test/Interview

S. No.	Departmental Application No.	Name of the Candidate
1.	PPDA26011673	SHRADDHA GUPTA
2.	PPDA26011903	SHIKHA SONI
3.	PPDA26000644	ANUSHIKHA
4.	PPDA26003735	ATIKANT
5.	PPDA26012043	AMIT AMAR
6.	PPDA26013221	ARTI
7.	PPDA26007025	PARUL
8.	PPDA26005327	AKASH VERMA
9.	PPDA26013258	TARUN DARBARI
10.	PPDA26003912	ARTI TOPWAL
11.	PPDA26004413	AJAY VERMA
12.	PPDA26014860	PRERNA MADAN SABLE
13.	PPDA26013990	AARTI SHARMA
14.	PPDA26013371	SANJAY BHARTI

15/5/2026
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Head of the Department
Paper & Packaging Technology



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Paper Technology Syllabus

Introduction to Pulp and Paper Manufacturing: Importance of paper, definitions of pulp, paper and paperboard. Plant fibers, plant kingdom, plant body and organization of fibers and other cells in plant. Structure of softwoods, hardwoods and non-woods. Ultrastructure of cell wall. Distribution of wood constituents, cellulose, hemi-cellulose, lignin, extractives, and inorganic components.

Pulping: Preparation of fibrous raw material. Overview of alkaline pulping, kraft and soda pulping, standard terminologies. Classification of mechanical pulping process. Semichemical and Chemimechanical Pulping. Pulping of Non-woods. Washing, screening, cleaning and bleaching of pulp. Preparations of stock for paper making.

Papermaking: Surface and colloid chemistry interactions, fiber water systems, thermodynamics of cellulose water system. Electrokinetic behavior of stock, charge determination, zeta potential. Refining and its effect on pulp and paper properties. Sizing, strength additives and fillers. Wet end of paper machine. Wet pressing, drying and calendaring of paper.

Paper Properties: Physical properties. Mechanical Properties. Optical Properties. Resistance properties.

Nanotechnological Advancements in Papermaking: Introduction to nanomaterials, synthesis of nanocellulose, surface modification, interfacial phenomena, wetting, applications in papermaking.

Chemical recovery Process

Kraft and Soda recovery cycles, various terms associated with chemical Process, Importance and methods of black liquor oxidation and desilication, Multiple effect evaporators (MEE), Green liquor treatment and clarification, slaking and causticizing reactions, causticization equilibrium, Process description, lime kiln, variables affecting lime mud reburning, production of lignin derivatives from black liquor


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Packaging Syllabus

Packaging Materials: Classification of the materials used for packaging. Major packaging materials for ex. Plastic, Glass, Aluminium, Paper, Wood etc.- their properties and types. Different packaging forms such as bag, pouch, blister, strip, tubes, cans, boxes and cartons- their manufacturing process and specific applications.

Packaging Production: Manufacturing and fabrication processes. Fundamentals behind Injection, Blow, Rotational, Compression molding, Thermoforming, Extrusion, Lamination, Carton making, Vacuum metalizing, Electro less and Electrolytic plating and differences between them, their specific applications.

Deteriorative reaction in Foods: Enzymatic reaction, Chemical reaction, Physical changes, Biological changes; Intrinsic and extrinsic factor controlling rate of deteriorative.

Food package systems related to specific products and processes Product composition: problems and packaging solutions, shelf life considerations, and packaging lines; Relationship between the storage life of packaged food products and the gas, moisture, and organic vapor permeability of packages in various environments.

Chemical, physical and microbiological changes that affect quality of produce: meat, and seafood, and their relationship to packaging and distribution (cold chain). Packaging and preservation technologies to extend shelf life of perishable food; Packaging materials used for the foods such as flesh foods, horticultural products, dairy products; Criteria for selection of packaging materials for the flesh foods, horticultural products, dairy products.

Shelf Life of Food: Shelf life determination, Predicting microbial shelf life, Accelerated Shelf life testing (ASLT), Determining shelf life from the customer side, Shelf life device.

Printing Technology: Methods of image separation, major Printing processes and differences between them. Graphic reproduction-half tone printing, reproduction of continuous tones and reproduction of coloured images. Colour measurement, Printing inks-colorants, vehicles and additives, drying and properties. Digital printing and digital image processing


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