

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER– IV EXAMINATION – SUMMER 2026****Subject Code:3142901****Date:19-05-2026****Subject Name: Yarn Manufacture II****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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| Q.1 | (a) What are the objectives of Speed frame? | 03 |
| | (b) Define the following terms: (i) Drafting, and (ii) Doubling. | 04 |
| | (c) Draw a sketch to illustrate the various parts of the Comber and discuss the function of each part in the Comber. | 07 |
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| Q.2 | (a) What are the objectives of Comber? | 03 |
| | (b) Discuss the construction of the circular comb with a suitable figure. | 04 |
| | (c) With a suitable sketch explain the passage of material on Draw frame. | 07 |
| | OR | |
| | (c) With a suitable sketch explain the working principle of Speed frame. | 07 |
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| Q.3 | (a) What are the objectives of Draw frame? | 03 |
| | (b) What is the drafting wave? How can it be prevented from generating in the sliver? | 04 |
| | (c) What are the functions of autoleveller? With a suitable sketch explain any one type of autoleveller used in the Draw frame. | 07 |
| | OR | |
| Q.3 | (a) Discuss about the construction and working of the top rollers in roller drafting system. | 03 |
| | (b) With a suitable sketch explain the 3 over 4 roller drafting system used in Draw frame. | 04 |
| | (c) Discuss about the modern developments in the Draw frame. | 07 |
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| Q.4 | (a) Discuss the construction of top comb with a suitable figure. | 03 |
| | (b) Discuss the influence of the feed stock on the combing quality. | 04 |
| | (c) Explain the steps involved in the combing cycle of a Rectilinear Comber, providing suitable sketches to illustrate each step. | 07 |
| | OR | |
| Q.4 | (a) Why even number of machines are used between Card and Comber? | 03 |
| | (b) With a suitable sketch explain the working of the Super lap former. | 04 |
| | (c) What is the forward feed and backward feed in the Comber? Discuss the effects of forward feed and backward feed in to the quality of sliver. | 07 |
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| Q.5 | (a) What is the function of the pressure arm in Speed frame? How does it affect the roving tension on the bobbin. | 03 |
| | (b) Discuss the function of the condenser and spacer. | 04 |
| | (c) With suitable sketches explain the bobbin building mechanism in Speed frame. | 07 |
| | OR | |
| Q.5 | (a) Discuss the advantages and disadvantages of using long and short aprons in drafting system. | 03 |
| | (b) Draw sketches to illustrate the different types of flyers. | 04 |
| | (c) Discuss the modern advancements in Speed frame. | 07 |
