

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV • EXAMINATION – SUMMER 2013

Subject Code: 142901**Date: 07-06-2013****Subject Name: Yarn Manufacturing- II****Time: 10:30am – 01:00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is differential motion? How it can be used in comber and speed frame? 0
7
- (b) Write about the different types of drafting system used in draw frame. 0
7

- Q.2** (a) Calculate production of draw frame in Kgs/ Shift from the following data 0
7
 Hank of sliver- 0.15 Number of machine- 8
 Tension draft- 1.02 Number of heads- 1
 Surface speed of front roller- 600 m/ min Efficiency- 80%
- (b) Calculate (i) Production of speed frame in Kg/ Day/ Machine 0
7
 (ii) Draft
 Flyer speed- 1100 rpm Efficiency- 87%
 Sliver hank- 0.17 T.M.- 1.4
 Roving hank- 1.62

OR

- (b) Calculate production of comber in Kgs / shift from the followings. 0
7
 Feed/nip- 0.25 inch Comber lap weight- 17 Kg
 Nips/min- 300 Comber lap length- 250 m
 Efficiency- 85% Noil %- 10%

- Q.3** (a) What is the function of builder motion? Write in detail about the reversal of the bobbin rail movement. 0
7
- (b) What is the function of speed frame? Draw the passage of material in speed frame. 0
7

OR

- Q.3** (a) Explain the cone drive transmission mechanism in speed frame. 0
7
- (b) Write in detail about the spindle. 0
7

- Q.4** (a) What are the objects of draw frame? Draw the passage of material through draw frame. 0
7
- (b) Describe the following terms: 1. Drafting wave 2. Stick- slip phenomenon 0
7

OR

- Q.4** (a) Describe the suction systems in the drafting arrangement of draw frame. 0
7
- (b) What is the function of autoleveller in draw frame? Explain the working of autoleveller based on open loop principle. 0
7

- Q.5** (a) Write in detail about the modern development in comber. **0**
7
- (b) Explain the sliver lap machine in detail. **0**
7
- OR**
- Q.5** (a) Explain the following terms: 1. top comb 2. waste removal system **0**
7
- (b) What is forward feed and backward feed in comber? Explain forward feed **0**
in detail. **7**
