Date: 23.12.2013  Marks : 100  Time: 2 to 5 pm

Instructions:
1. Attempt six questions out of which Q.1 is compulsory
2. Answer each next main question on new page
3. Figure to the right indicate full marks
4. Illustrate your answer with sketches and flow chart wherever necessary
5. Use of non-programmable electronic pocket calculator permissible.
6. Mobile and any other communication devices are not allowed in exam hall.
7. Assume suitable data wherever necessary.

Q.1. a. Static whether the following statements are true or false, giving reasons:
   i. The process of separating cotton seeds from the fibre is known as plucking.
   ii. Blow Room individualises the cotton fibres.
   iii. Ring frames have rotors as the twisting elements.
   iv. Stripping is the process of sharpening the card wires.

   (08)

b. Explain the following statements, (Any Three) and give reasons.
   i. Blending cotton with manmade fibres improves the yarn quality.
   ii. Doubling improves the quality of the yarn.
   iii. On Speed Frames the speed of the bobbin and the traverse rate of the bobbin rail are reduced with the increase in bobbin diameter.
   iv. On modern cards the doffing is not done by doffer combs.

   (12)

Q.2. a. Explain the basic principles employed in opening and cleaning at the Blow Room.

   (07)

b. Describe the changes required at the Blow Room for processing manmade fibres.

   (06)

c. Explain the terms Trash, Waste and Cleaning Efficiency.

   (03)

Q.3. a. Describe the working of the pre-carding region of the card.

   (06)

b. Describe the working of the post-carding region of the card.

   (06)

c. The average weight of 5m wrappings of a card sliver is 4gms. Find its Hank.

The % Trash in the lap on the card is 1.6. If the % Trash in the card sliver is 0.16
Find the cleaning efficiency of the card.

   (04)

Q.4. Write notes on ANY TWO of the following:
   i. Rings and traveller- Construction and developments.
   ii. Principles of twisting and winding on ring frames.
   iii. Doubling Machine — Construction and working.

   (16)

Q.5. a. Describe the combing cycle and explain the principle of working of the comber.

   (10)

b. Describe the types of loading on the drafting system of the Draw Frames.

   (06)

Q.6. a. Describe briefly the working of the builder mechanism on the Speed Frame.

   (11)

b. The particulars of a Speed Frame are given below.

   Sliver Hank (N_s) 0.14²  Flyer speed (rpm) 1100
   Roving Hank (N_r) 1.1  Efficiency (%) 90
   T.M 1.1

   Find the draft, twist and production/spindle/shift.

   (05)

Q.7. a. Describe the construction and working of the Rotor Spinning machine.

   (11)

b. Compare the properties of ring spun and rotor spun yarns, giving reasons for the differences.

   (05)

Q.8. Write notes on ANY TWO of the following:
   i. Modern Draw Frames
   ii. Comber lap preparation objects and methods.
   iii. Winding Machines — Objects and working.

   (16)