21718

3 Hours / 70 Marks   Seat No.

Instructions :   (1)   All Questions are *compulsory.*

(2)   Illustrate your answers with neat sketches wherever necessary.

(3)   Figures to the right indicate full marks.

(4)   Assume suitable data, if necessary.

(5)   Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1.   **Attempt any FIVE of the following :**   **10**

(a)   Define polyester and polyamide (nylon) fibres.

(b)   Name states where extra long staple cotton is grown in India.

(c)   Classify textile yarns.

(d)   Give process flow chart for combed yarn manufacturing.

(e)   State the objects of cotton mixing.

(f)   State two uses of air in blow room and name machines used for them.

(g)   List two objects of calendaring of lap at blow room scutcher.

2. **Attempt any THREE of the following :** 12

   (a) Draw different types of feed clamping devices to feed cotton to beaters in blow room. State one advantage of each type.

   (b) Classify textile fibres depending on their source of origin.

   (c) Describe double roller ginning machine with sketch.

   (d) Explain raw material factors that affect intensity of opening in blow room.

3. **Attempt any THREE of the following :** 12

   (a) List the general considerations regarding opening and cleaning of cotton in blow room line.

   (b) Explain the machine factors that influence intensity of opening in blow room.

   (c) Explain with help of sketch lap building mechanism in blow room.

   (d) Suggest grid bar inclination and settings to increase waste % with the help of sketch.

4. **Attempt any THREE of the following :** 12

   (a) Define cleaning efficiency and cleaning resistance. Find cleaning efficiency of blow room if trash in feed cotton is 4% and trash in delivered lap is 1.2%.

   (b) Compare use of conveyor belts, lattices and spiked lattice in transportation of material in blow room.

   (c) Compare advantages of conventional mixing methods with automatic mixing machine.

   (d) State and describe a propener machine to clean trashy cotton justifying your selection.

   (e) Describe automatic bale opener with sketch.

5. **Attempt any TWO of the following :** 12

    (a) Arrange the following fibres in ascending order of

        (i) Strength

        (ii) Moisture regain

        (iii) Density

        Cotton, wool, polyester, nylon, silk.

    (b) Compare saw ginning with roller ginning and list the defects in ginning.

    (c) Compare carded and combed process.

6. **Attempt any TWO of the following :** 12

    (a) Raw material contains metal, foreign fibres select and describe the machine to eliminate them with help of sketch.

    (b) Describe cleanomat with sketch with features of fine cleaner.

    (c) Calculate production of a scutcher in kg/8 hrs. from the following particulars :

        (i) Lap roller diameter = 9″

        (ii) Lap roller rpm = 10

        (iii) Hank of lap delivered = 0.0016

        (iv) Efficiency = 85%

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