

22670

23242

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
- (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) State objects of layout preparation.
- b) List specific units to measure production in yarn dyeing.
- c) State norms for water quality used in textile processing.
- d) Define the term 'Unit' used in electrical energy calculation.
- e) Calculate the quantity of salt in kg, if required concentration is 40 gpl in jigger dyeing for 2 thousand meters of cotton fabric.
- f) Calculate quantity of softner required in finishing, if weight of fabric is 2500 kg and percentage expression is 90%.
- g) State the importance of material handling.

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- 2. Attempt any THREE of the following:** **12**
- a) State and justify production norms for jigger dyeing machine.
 - b) Calculate consumption of water per day for three winch dyeing machines.
M/C capacity : 250 kg each
MLR : 1:15
Time for one batch : 6 hrs
 - c) Calculate electrical energy consumption per month for three jet dyeing machines having capacity of 150 kg for disperse dyeing.
 - d) Explain the importance of lighting in textile processing.
- 3. Attempt any THREE of the following:** **12**
- a) Explain the importance of water conservation in textile processing.
 - b) Calculate production of stenter per day if it is used as
For heat setting - 25 mts/min for 10 hrs
For chemical finish - 30 mts/min for 8 hrs
For dyeing - 45 mts/min for 6 hrs.
 - c) Calculate the quantity of steam required for one batch in 150 kg capacity jigger dyeing machine used for cotton dyeing with reactive dye with H brand dyes.
 - d) Calculate cost of chemicals and auxiliaries required in peroxide bleaching on jumbo jigger machine.
- 4. Attempt any THREE of the following:** **12**
- a) Describe parameters to be considered during selection of location for modern process house.
 - b) Calculate number of jet dyeing machines required of 100 kg capacity for dyeing 20,000 mts/day of disperse dyeing by HTHP method.
 - c) Suggest methods for energy conservation in pretreatment and dyeing department.
 - d) Explain steps to calculate chemical consumption in finishing department.
 - e) Suggest precautionary measures to reduce accidents in textile industry.

- 5. Attempt any TWO of the following:** **12**
- a) With neat sketch describe features of modern process house construction with single storage and multistorage capacity.
- b) Calculate number of jigger dyeing machines required for 100% cotton fabric dyeing.
Fabric : 1,00,000 mts/day (100% cotton)
Jigger capacity : 125 kg
Linear density of fabric : 180 gms/mts
Dyes : Reactive
- c) Describe methods to reuse water in textile processing.
- 6. Attempt any TWO of the following:** **12**
- a) Calculate water consumption per kg for scouring and peroxide bleaching of 100% cotton fabric in kier machine.
- b) Calculate cost of steam per meter for
Quality - 100 % cotton
Quantity - 70,000 mts
Linear density - 5 mts/kg
Process - VS reactive dyeing on winch machine.
- c) Describe method to calculate cost of dyes, chemicals and auxiliaries for printing 100% cotton fabric on rotary printing machine with reactive dyes.
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