

Code: 150-5201

TEXT

THIAGARAJAR POLYTECHNIC COLLEGE, SALEM

(Autonomous)

Reg. No.

October/November 2019 Examinations

DIPLOMA IN TEXTILE TECHNOLOGY

Fibre Science and Technology

Year/Sem: II / III (ODD-II)

Max. Marks : 75

Time : 3 hr.

**PART-A**

(5 x 2 = 10 Marks)

**Note: (i) Answer any FIVE questions out of which question No.8 is compulsory.**

**(ii) All questions carry equal marks.**

- 1 Define Textile Fibres.
- 2 Define Polymer.
- 3 Mention the names of any two important Cotton varieties grown in India.
- 4 Mention the names of any two natural Cellulic fibres.
- 5 Mention any two types of Silk.
- 6 Mention any two Grading systems of Wool.
- 7 Mention the names of any two manufactures of Viscose Rayon.
- 8 Mention any two uses of Nylon fibre.

**PART-B**

(5 x 3 = 15 Marks)

**Note: (i) Answer any FIVE questions out of which question No. 16 is compulsory.**

**(ii) All questions carry equal marks.**

- 9 Give a short note on the properties required for a Textile fibres.
- 10 Write short notes on Filament Yarns.
- 11 Mention the uses of Jute.
- 12 Give short notes on Bamboo fibres.
- 13 Briefly explain about Dupion Silk.
- 14 Mention any three uses of Wool.
- 15 Briefly explain about Wet Spinning.
- 16 Briefly explain about any one method of Texturising.

**PART-C**

(5 x 10 = 50 Marks)

**Note: (i) Answer all the questions choosing either sub-division (A) or sub-division (B) of each question. (ii) All questions carry equal marks.**

- 17 A Discuss in detail about the classification of Textile fibres with regard to Origin and Chemical Nature. 10  
(OR)  
B Discuss in detail about UDY, POY, FOY, Dope dyed and Delustured fibres. 10
- 18 A Discuss in detail about the steps involved in the extraction of Jute fibres from the plant. 10  
(OR)  
B Explain in detail about the physical structure of Cotton. Also mention any four cotton producing countries. 10
- 19 A Discuss the Physical and Chemical properties of Wool. 10  
(OR)  
B Explain the Life cycle of Silk in detail. 10
- 20 A Discuss in detail about the production of Lyocell fibres. Also discuss about their properties. 10  
(OR)  
B Discuss in detail about the Process flow and the sequence of manufacture of Viscose Rayon. 10
- 21 A With necessary sketches, discuss in detail about the manufacture of Polyester staple fibres. 10  
(OR)  
B Discuss in details about the manufacture of Nylon 6 filaments with necessary sketches. 10

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TEXT

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October/November 2019 Examinations

DIPLOMA IN TEXTILE TECHNOLOGY

Yarn Manufacture-I

Year/Sem: II /III (ODD-II)

Max. Marks : 75

Time : 3 hr.

**PART-A**

(5 x 2 = 10 Marks)

**Note: (i) Answer any FIVE questions out of which question No.8 is compulsory.**

**(ii) All questions carry equal marks.**

- 1 What are the objects of ginning?
- 2 Define contamination.
- 3 What is the object of condenser?
- 4 What is grinding?
- 5 Mention about the fibre arrangement in card sliver.
- 6 What is Chute feed?
- 7 Find the actual draft, if mechanical draft is 98 and waste is 6%.
- 8 What are the causes of Drafting wave?

**PART-B**

(5 x 3 = 15 Marks)

**Note: (i) Answer any FIVE questions out of which question No. 16 is compulsory.**

**(ii) All questions carry equal marks.**

- 9 What are the fibre properties should be considered for blending?
- 10 Write the working principle of opening and cleaning.
- 11 Write any three defects occur in blowroom.
- 12 What are the significances of AWES?
- 13 What are the objects of carding?
- 14 Why Autoleveller is needed in carding?
- 15 Write short note on IGS.
- 16 List any two defects in Draw Frame sliver.

**PART-C**

(5 x 10 = 50 Marks)

**Note: (i) Answer all the questions choosing either sub-division (A) or sub-division (B) of each question.(ii) All questions carry equal marks.**

- 17 A Explain the working of Multi Mixer with suitable diagram. 10  
(OR)  
B Describe the working of Blendomat with a proper sketch. 10
- 18 A Explain the working of ERM cleaner with suitable sketch. 10  
(OR)  
B Write about any three modern development in blowroom . 10
- 19 A Explain the passage of material through HP card with neat sketch. 10  
(OR)  
B Write the card settings recommended for fine and medium count. 10
- 20 A Explain the latest developments in cylinder region. 10  
(OR)  
B Calculate the production in carding machine in Kg per shift of 8 hours with the following particulars. 10  
Doffer Speed - 18 rpm    Doffer Dia - 27"    Machines stoppage time - 25 mins  
Hank of sliver - 0.134    Tension Draft - 1.3    No.of Cards -10.
- 21 A Explain the 3/3 pressure bar drafting system. 10  
(OR)  
B Explain about the salient features of modern drawframe. 10

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DIPLOMA IN TEXTILE TECHNOLOGY

Fabric Manufacture-I

Year/Sem: II / III (ODD-II)

Max. Marks : 75

Time : 3 hr.

**PART-A**

(5 x 2 = 10 Marks)

**Note: (i) Answer any FIVE questions out of which question No.8 is compulsory.**

**(ii) All questions carry equal marks.**

- 1 What are the objects of winding?
- 2 List any two objects of Rewinding of weft yarn.
- 3 Define Tex yarn numbering system.
- 4 What are the different controls in sizing machine?
- 5 What is mean by single end sizing?
- 6 What is mean by Positive and Negative Shedding?
- 7 What are the objects of Reed?
- 8 Compare Loose Reed with Fast Reed motion.

**PART-B**

(5 x 3 = 15 Marks)

**Note: (i) Answer any FIVE questions out of which question No. 16 is compulsory.**

**(ii) All questions carry equal marks.**

- 9 Define Angle of wind and Number of wind.
- 10 State any three objects of Tensioners.
- 11 Define Ne and Denier yarn numbering system.
- 12 List any three types of sizing ingredients and give their functions.
- 13 What are the factors affecting the size pick-up?
- 14 Write the advantages and disadvantages of Negative Shedding.
- 15 List the methods of altering the Picking force in Cone over picking motion.
- 16 Compare Side weft fork motion with center weft fork motion.

**PART-C**

(5 x 10 = 50 Marks)

**Note: (i) Answer all the questions choosing either sub-division (A) or sub-division (B) of each question. (ii) All questions carry equal marks.**

- 17 A Describe with a neat sketch the passage of yarn through a Precision winding machine. 10  
(OR)  
B What are the different types of defects in Pirns? Give their causes and remedies. 10
- 18 A Explain with a neat diagram the passage of yarn through a High speed warping machine. 10  
(OR)  
B The calculated production of a high speed sizing machine is 100 YPM. If the efficiency of the machine is 75%. Calculate  
i. The actual production /day of 8 Hrs  
ii. The total length of yarn, if the total ends are 3250 and  
iii. The total weight of sized warp, if it is sized to 10% and the count of unsized yarn is 40S 10
- 19 A List the different types of sizing ingredients used in size mixing and give their functions. 10  
(OR)  
B Explain with a neat diagram the Passage of warp through a Multi cylinder sizing machine. 10
- 20 A Describe with a neat sketch the construction and working of counter shaft arrangement. 10  
(OR)  
B Explain with a neat diagram the construction and working of crank arm beat-up motion. 10
- 21 A Draw the diagram and explain the construction and working of centre weft fork motion. 10  
(OR)  
B What are the objects of temples? With a suitable sketches explain the construction of different types of temples. 10