

17459

16117

3 Hours / 100 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 TEN of the following:** **20**
- a) List down various methods of manufacturing fabric.
 - b) State the function of sinker.
 - c) Draw notation (loop diagram) and needle arrangement of 2×2 rib structure.
 - d) Draw notation of cross tuck.
 - e) Give formula for G.S.M.
 - f) Define tightness factor.
 - g) What is the function of chain links.
 - h) Distinguish between under lap and over lap with help of diagram.
 - i) What is the function of presser on tricot machine.

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- j) State objective of fabric spreading.
- k) Define 'course' and 'wales'.
- l) Define the "stitch length".
- m) Draw lapping diagram for following chain notation 1-0/2-3/.
- n) Draw diagrammatic notation of double pique.
- o) Draw diagrammatic notation Punto-di-roma.

2. Attempt any FOUR of the following: 16

- a) Compare properties of knitted fabric with woven fabric.
- b) Draw diagram of a latch needle and label the parts. Why this needle is called as self acting needle?
- c) Draw diagram of 1×1 rib structure. Briefly explain properties of rib.
- d) How tuck stitch is produced? Draw diagram of tuck stitch interlacement.
- e) Describe the concept of stripper with the help of an example.
- f) What is laddering?

3. Attempt any FOUR of the following: 16

- a) Classify weft knitting machines into various categories.
- b) Describe knitting action for single jersey machine.
- c) Draw symbolic diagram of interlock structure. Describe needle arrangement for this structure.
- d) Describe the concept of design, needle order and cam order with the help of a suitable example.
- e) What is stitch length? How it affects the properties of fabric.
- f) Describe the procedure adopted for maintaining quality of knit fabric.

4. Attempt any FOUR of the following:**16**

- a) Define:
 - (i) Needle loop
 - (ii) Face loop
 - (iii) Back loop
 - (iv) Course length
- b) Describe characteristic features of single jersey fabric.
- c) Draw loop diagram of purl structure comment on the type of needle and machine required to knit this structure.
- d) Draw diagrammatic notation of:
 - (i) Ottoman rib
 - (ii) Texi pique
- e) Describe the concept of Relanit technique.
- f) Calculate the circular weft knitting machine having 20 feeders, running at 25 rpm is knitting fabric with stitch length equal to 0.15 inch with 756 needles in machine. The efficiency of the machine is 84% and count of yarn knitted is 18^S fabric is knitted with 24 courses per inch. Calculate the production in yard and pounds per hour.

5. Attempt any TWO of the following:**16**

- a) Describe knitting cycle on Raschel warp knitting machine with the help of a neat diagram.
- b) Draw lapping movement and chain notation of following single bar structures:
 - (i) Chain or pillar stitch - open lap and closed lap
 - (ii) Tricot lap - open lap and closed lap
- c)
 - (i) Describe in brief production of sample knit garment.
 - (ii) What is the function of a positive feeder? Explain working of any one with the help of a neat diagram.

6. Attempt any TWO of the following:**16**

- a) Classify flat knitting machines into different categories and describe the passage of yarn on flat knitting machine with the help of a neat diagram.
 - b) Enlist various objectives of cutting department. List down various machines used for cutting. Describe any one in detail.
 - c) (i) Compare properties of rib knitted fabric with interlock knit fabric.
(ii) If the sample analysis shows that the single jersey structure has 30 courses per inch, 24 wales per inch, length of yarn for 50 stitches is 8.75 inches and the count of yarn is 20^S Ne cotton, find the weight in grams per square yard.
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