

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech (APM)/SEM-6/APM-604/2011**

**2011**

**KNITWEAR TECHNOLOGY**

Time Allotted : 3 Hours

Full Marks : 70

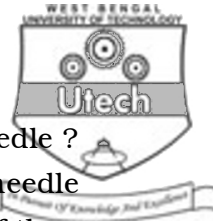
*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$ 
  - i) The two sides of which weft knitted fabric are not identical ?
    - a) Single jersey
    - b) Rib
    - c) Interlock
    - d) None of these.
  - ii) Stitch density is
    - a) No. of wales in unit length
    - b) No. courses in unit length
    - c) No. of loops in unit area
    - d) Sum of wales and courses in unit length.
  - iii) To produce any design on a weft knitting machine, use of which type of cam is compulsory ?
    - a) Knit cam
    - b) Tuck cam
    - c) Miss cam
    - d) None of these.



- iv) Which needle is termed as self-acting needle ?
- a) Bearded needle                      b) Latch needle  
c) Compound needle                    d) None of these.
- v) Flat knitting machines are generally used to produce
- a) Single jersey structure  
b) Rib structure  
c) Interlock structure  
d) None of these.
- vi) The extensibility of which weft knitted fabric is maximum ?
- a) Single jersey                          b) Rib  
c) Interlock                                d) Fleece.
- vii) A rough surfaced fabric of wool with a heavy nap, loosely woven tweed fabric with a saggy texture is
- a) Cheviot                                 b) Chinchilla  
c) Fleece                                    d) Merino.
- viii) Machine used for slitting the tubular knitted fabric before dye is
- a) Lazer cutting machine  
b) Vertical cutting machine  
c) Swatch cutting machine  
d) Sample cutting machine.
- ix) Knitted or circular knitting machine is classified under the category
- a) Single jersey and double jersey  
b) Plain web machine  
c) Rib machine  
d) All of these.
- x) Basic techniques of integral knitting are
- a) Tubular knitting and running on  
b) Wale shaping and course shaping  
c) Casting of and change of stitch type  
d) All of these.



**GROUP – B**  
**( Short Answer Type Questions )**

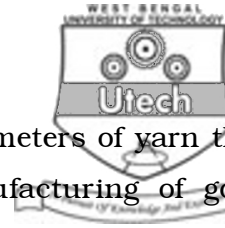
Answer any *three* of the following.  $3 \times 5 = 15$

2. Classify the knitting machines from all possible different angles.
3. Two yarn feeders are required to produce one course of a basic interlock structure. Explain.
4. Compare weft knitted fabrics with woven fabrics.
5. What is spirality and how does it appear in knitted fabrics ? How can this be reduced ?
6. Write short notes on any *two* of the following :
  - a) Seams used in sweaters
  - b) Steam press
  - c) Body form steam press.
7. State some common sewing defects and their remedies.

**GROUP – C**  
**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

8. a) Explain the different stages of loop formation cycle of a weft knitting machine using latch needle. 10  
b) What are the different kinds of stitches in weft knitting and how are they formed ? 5
9. a) Calculate the production of a single jersey weft knitting machine in kilogram per shift of 8 hours from the following data : 5  
Diameter of machine – 30 inches  
Machine gauge – 24  
No. of feeders – 96  
Machine speed – 30 rpm  
Stitch length – 2.5 mm  
Yarn used – 20s combed yarn  
Machine efficiency – 85%



- b) What are the important quality parameters of yarn that should be considered for the manufacturing of good quality knitted fabric ? How do they affect the quality of knitted fabric and also the performance of knitting machine ? 10
10. a) What is GSM and which parameters of weft knitted fabric are required to calculate the GSM ? Calculate the GSM of a weft knitted fabric considering the relevant data of your choice. 5
- b) Mention 5 each of frequently occurred fabric defects which appear on a weft knitted fabric due to yarn faults and problems of knitting machines. Discuss on how they appear and their remedial measures. 3 + 7
11. Elaborate on fully fashioned sweaters, its knitting procedure and production sequence. 8 + 7
12. What are the types of yarns used for winter garments ? Mention the quality requirements of fabrics for winter garments. 8 + 7
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