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Name :	
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Invigilator's Signature :	

## CS/B.Tech(APM)/SEM-4/APM-403/20112011

# BASICS OF TEXTILE MANUFACTURE-II

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:

				9
			>	$10 \times 1 = 10$
i)	A lo	om is a machine havin	ig at le	east
	a)	3 motions	b)	4 motions
	c)	5 motions	d)	7 motions.
ii)	For	continuous weaving o	of the	fabric, weaving machine
	requ	uires		
	a)	shedding & picking	b)	beat-up
	c)	take-up	d)	take-up & let-off.
iii)	Con	nplicated designs like	portra	aits, landscape, etc. can
	be v	woven with the sheddir	ng of	

**Tappet** b) a) Dobby

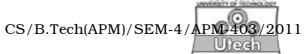
Jacquard c) d)

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None of these.

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iv)	Wef	t bar is due to differen	ice in	A
	a)	Material	b)	Colour
	c)	Count	d)	Pick spacing.
v)	Wat	er-jet loom is having a	averag	e picking speed of
	a)	44 ft/sec	b)	80 ft/sec
*	c)	100 ft/sec	d)	160 ft/sec.
vi)	Whi	ch needle is termed as	s "self-	acting" needle ?
	a)	Bearded needle	b)	Latch needle
	c)	Compound needle	d)	None of these.
vii)	On	multi-track circular	weft	knitting machines, the
	nun	nber of tracks are gene	erally	
	a)	two	b)	three
	c)	four	d)	six.
viii)	The	extensibility of w	hich	weft knitted fabric is
	max	imum ?	À.	
	a)	Single jersey	b)	Rib
	c)	Interlock	d)	Fleece.
ix)	Stite	ch density is	7	4 4
	a)	no. of wales in unit l	ength	
	b)	no. of courses in uni	t lengt	th
	c)	no. of loops in unit a	rea	
	d)	none of these.		
x)	Gui	de bars are used on		
	a)	circular weft knitting	g mach	nines
	b)	flat weft knitting mad	chines	
	c)	warp knitting machin	nes	
	d)	none of these.		



#### **GROUP - B**

### (Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$ 

- 2. What are the objects of warping and sizing?
- 3. What are the motions of a loom without any of which, weaving is not possible? Explain.
- 4. What limitations do non-woven fabrics have? What are the differences between woven and non-woven fabrics?
- 5. Show with diagram, the different parts of a latch needle and mention their functions.
- 6. Compare weft knitting and warp knitting.
- 7. Discuss any two faults of woven fabric, their causes and remedies.

#### **GROUP - C**

#### (Long Answer Type Questions)

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

- 8. a) Discuss briefly how the woven fabric is formed. 5
  - b) Show the passage of material on a loom with a schematic diagram.
  - c) Why are heald frames not required in jacquard weaving?5
- 9. a) What are the disadvantages of conventional looms? 4
  - b) What are the objectives of shuttleless looms? 4
  - c) What are the differences between water-jet loom and air-jet loom?

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10.	a)	What are the important properties of non-woven fabrics?
Ì	b)	What are the different types of chemical and thermal
		bonding used in non-woven fabrics? Discuss the
		special features of each type. 7
	c)	How are needle punched non-wovens differ from
		chemical bonded non-wovens?
11.	a)	Why has knitting industry experienced a remarkable
		growth in the recent years? 5
	b)	Explain with suitable diagram the loop forming cycle of
		a single jersey weft knitting machine using latch needle.7
	c)	Compare latch and bearded needle. 3
12.	a)	Explain the term 'needle gaiting'. How is it related to the
		double jersey weft knitting machines? 5
	b)	What are the different types of warp knitting machines
		and how do they differ ?
	c)	What would be the theoretical production in kg of a
		30 inch diameter and 90 feeder single jersey weft
		knitting machine, running at 30 rpm and producing
		plain jersey fabric of 2.5 mm stitch length using 40s
		cotton yarn?
13.	a)	What is dobby and what is jacquard? What are the
		differences between the two? 2 + 2
	b)	Discuss the working principle of any one type of dobby. 5
	c)	Discuss the working principle of any one type of
		iacmuard 6

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