

Register Number: _____



KUMARAGURU
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B.E DEGREE EXAMINATIONS: APRIL 2018

(Regulation 2014)

Eighth Semester

MECHATRONICS ENGINEERING

U14MCE502 : Textile Mechatronics

COURSE OUTCOMES:

- CO1: Explain the evolution of textile technology and manufacturing with textile fibers
- CO2: Describe various process and machines involved in spinning
- CO3: Explain various process and machines involved in weaving
- CO4: Explain various stages of automation scopes in spinning and weaving
- CO5: Explain role of computers in automated textile manufacturing

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match the following:

CO1 [K₁]

List 1		List 2	
A	Blow room	i	Quality yarn
B	Carding	ii	Continuous process
C	Combing	iii	Air flow
D	Ring frame	iv	intermix

	A	B	C	D
a	ii	iii	iv	i
b	iii	iv	i	ii
c	iii	i	iv	ii
d	ii	iv	i	iii

Answer any FIVE Questions:-
PART C (5 x 14 = 70 Marks)
(Answer not more than 300 words)

Q. No. 21 is Compulsory

(Use appropriate sketch wherever necessary)

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|-----|--|---------------------------|
| 21. | Explain with suitable block diagram the various stages of spinning process used in textile industries. | CO2 [K ₂] |
| 22. | i) Describe the working of Auto leveler in draw frame with suitable diagram. | (7) CO2 [K ₂] |
| | ii) List out the various applications of automation in textile industries. | (7) CO1 [K ₂] |
| 23. | i) Explain about the process variables in weaving process. | (7) CO3 [K ₂] |
| | ii) Explain the process flow of Dyeing process with suitable sketch. | (7) CO3 [K ₂] |
| 24. | Explain the Machinery material flow and its variation control with suitable diagram. | CO4 [K ₃] |
| 25. | Describe with suitable sketch the working of data acquisition system in spinning. | CO4 [K ₂] |
| 26. | Illustrate the operation in sizing machine with a block diagram and explain any four sub systems used in modern warping machine. | CO4 [K ₂] |
| 27. | i) Explain the various applications of CAD/CAM textile industries. | (7) CO5 [K ₂] |
| | ii) Describe the use of Robotics in textile machineries. | (7) CO5 [K ₂] |
