Register Number:……..

KUMARAGURU
college of technology
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B.TECH DEGREE EXAMINATIONS: MAY 2017

(Regulation 2014)

Sixth Semester

TEXTILE TECHNOLOGY

U14TXT604:Process Control in Textile Industry

COURSE OUTCOMES

CO1: Outline the various fiber quality characteristics and fiber quality indices
CO2: Analyze and interpret the defects occur in the spinning process
CO3: Evaluate yarn realization, waste% ,Invisible loss and cleaning efficiency
CO4: Solve the productivity calculations
CO5: Explain and interpret the problems relevant to process control in the spinning and weaving process

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Matching type item with multiple choice code CO2 [K_3]

List I	List II
A. FQI for finer counts	i. 5
B. Blow room Cleaning efficiency	ii. 85
C. Carding Cleaning efficiency	iii. 95
D. Blow room waste %	iv. 45

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

2. Uniformity ratio is the ratio of_____ CO1 [K_1]

a) 2.5% Span length and 50% Span length
b) 50% Span length and 2.5% Span length
c) Mean length and Upper half mean length
d) Upper half mean length and Mean length

3. The length of lap fed per combing cycle in mm and speed in npm in cotton combing is____ CO5 [K_3]

a) 6&400 b) 6&4000

c) 0.6&40 d) 60&4000

4. The purpose of using autolevellers is to reduce_____ CO4 [K_2]

a) Fibre orientation in yarn b) Yarn faults

c) Yarn strength d) Yarn count CV%

5. Assertion (A): The main purpose of mixing a large number of bale is to get consistent yarn quality CO4 [K_1]

Reason (R): Influences the intensity of opening in blow room machine

a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false d) A is false but R is true

6. If 8 card slivers each having CV% of 8 is doubled, what is the CV% of the resultant draw frame sliver? CO2 [K_3]

a) 0.282 b) 2.82

c) 28.2 d) 282

7. Sequence of operations in combing machine _____ CO5 [K_2]

a) Feeding -Combing-Detaching -Nipping b) Feeding –Nipping-Combing-Detaching

c) Nipping-Combing-Detaching- Feeding d) Combing-Detaching- Feeding –Nipping

8. Index of Blend Irregularity (IBI) for perfect blending is _____ CO1 [K_2]

a) 0 b) >1

c) α d) 1

9. Assertion (A): The yarn realization % for combed yarn is lower than carded yarn CO3 [K_2]

Reason (R): Removal of short fibers in comber

a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false d) A is false but R is true

10. In warping , the winding tension should be_____ % of single yarn strength CO5 [K_2]

a) 0.5 b) 5

c) 15 d) 25

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11.	Define fiber quality index.	CO1	[K_1]
12.	Analyze the method of fiber rupture in blowroom.	CO1	[K_4]
13.	Recognize the yarn realization % for carded and combed yarn.	CO3	[K_1]
14.	List the types of soft wastes collected in spinning industry.	CO3	[K_1]
15.	How to calculate the machine productivity index?	CO4	[K_2]
16.	Define HOK and OHS.	CO4	[K_1]
17.	Relate U and CV%.	CO5	[K_3]
18.	Name the method of classification of yarn faults.	CO2	[K_1]
19.	List the causes and remedial measures for end breaks in winding.	CO2	[K_2]
20.	Analyze the factors to be considered for control of hard waste in warping.	CO5	[K_4]

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

Q.No. 21 is Compulsory

21.	Analyse the factors influencing the cleanability of fibers in blow room and calculate the cleaning efficiency of the second cleaner, if the blow room has three cleaners in series. The overall cleaning efficiency of the blow room is 60%. If the cleaning efficiencies of the first and third cleaners are 30% and 25% respectively and trash % in feed cotton is 5%.	CO3	[K_2]
22.	Describe the types of hard waste and indicate the methods of control of hard waste in ringframe and cone winding.	CO3	[K_2]
23.	How to improve and assess the nep removal efficiency in carding and combing machine? Explain.	CO2	[K_1]
24.	Describe the importance of RH% in various spinning departments in the industry with standard norms.	CO4	[K_2]
25.	Explain the effect of roller setting, spacer, top arm pressure and top roller cots on yarn quality.	CO5	[K_1]
26.	Describe the factors to be considered for improving the quality of the warping beams and productivity in warping.	CO4	[K_2]
27.	Explain the various factors to be considered for control of hard waste in loom and improving loom efficiency.	CO5	[K_1]

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