KUMARAGURU
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B.E/B.TECH DEGREE EXAMINATIONS: APRIL /MAY 2024

(Regulation 2018)

Sixth Semester

FASHION TECHNOLOGY

U18FTT6003**:** Industrial Engineering in Apparel Industry

COURSE OUTCOMES

CO1: Acquire broad knowledge of the various industrial engineering methods and tools associated with manufacturing systems and human factors

CO2: Demonstrate modern industrial engineering methods and scientific solutions to apparel manufacturing towards economic, environmental, and societal context

CO3: Perform as industry leaders in the global marketplace, capable of successfully planning, controlling, and implementing large-scale projects

CO4: Understand and apply the principles of science, technology, engineering, and math involving industry-relevant problem

CO5: Acquire skills to investigate, experiment and solve problem in context with productivity improvement and material handling

CO6: Acquire skills to implement IE techniques in sewing floor of any apparel manufacturing firm

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

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Classify productivity in the context of the apparel industry.	CO1	[K_2]
2.	How would you define work study within the realm of industrial operations?	CO1	[K_L]
3.	Apply your understanding by proposing specific measures to enhance safety in a textile manufacturing	CO2	[K3]
4.	How do humidity control measures contribute to optimizing productivity in garment production?	CO2	[K_4]
5.	Outline the objectives of using a Multiple Activity Chart in process analysis.	CO3	[K_2]
6.	Evaluate significance of process chart in analyzing and optimizing workflow efficiency.	CO3	[K_5]
7.	Identify the types of equipment frequently employed in work measurement procedures, illustrating their role in optimizing productivity and efficiency.	CO4	[K3]
8.	SAM determination is significant to make line balancing in Garment production. Justify	CO4	[K4}
9.	Implementation of work study techniques in the cutting process minimize material wastage. How?	CO5	[K_L]

10.	Offer two examples demonstrating the application of work study principles in packing operations.		CO6	[K6]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks) (Answer not more than 400 words)

11.	a)	Elucidate the concept of productivity in the context of the garment industry. Discuss the different types of productivity and the various measures used to assess productivity levels.	8	CO1	[K$_L$]
	b)	Discuss how industrial engineers contribute to process and quality improvement and cost reduction within garment manufacturing facilities. Provide specific examples.	8	CO1	[K3]
12.	a)	Brief out the significances of Ergonomics in Garment Manufacturing industries. And give the impact of poor ergonomics.	8	CO2	[K$_L$]
	b)	Explain the typical difficulties encountered in material handling during apparel production and discuss effective strategies for overcoming these challenges.	8	CO2	[3$_L$]
13.	a)	Explain the principles of motion economy and discuss their impact on improving efficiency and minimizing undesirable motion in the workplace	8	CO3	[K3]
	b)	Explain the key significances of Flow process chart, multiple activity chart of garment production line.	8	CO3	[K2]
14.	a)	How does the method study be used to make continuous improvement in the garment industry? What are some of the key objectives and benefits of applying this method study approach	8	CO4	[K$_L$]
	b)	Explain the steps in making time study in manufacturing men's formal full sleeve shirt.	8	CO4	[K2]
15.	a)	Analyze how Predetermined motion time standards(PMTS) impact on the improving efficiency and reducing waste in garment production line.	8	CO5	[K5]
	b)	Prepare a spreading and cutting department work-study plan for new women's garment style.	8	CO5	[K6]
16.	a)	Determine the SAM of Men's trouser with the following particulars. Total cycle time:2400 seconds, Operator Performance rating: 86%, Personal Allowance: 5%, Fatigue and Machine Allowances: 9%. No of Trousers: 1500. Line efficiency : 76%	8	CO4	[K5]
	b)	Explain how scientific method of training improves productivity in apparel manufacturing.	8	CO6	[K6]

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