

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3172015

Date:07-01-2023

Subject Name:Industrial Design and Applied Ergonomics

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

Q.1	(a) What are the aspects of aesthetic design?	03	
	(b) Write a short note on man-machine interaction giving related sketch and example.	04	
	(c) It is said that the product design is a combination of engineering design and industrial design. Explain giving examples.	07	
Q.2	(a) What are the ergonomic risk factors? Explain anyone.	03	
	(b) What is ergonomics? State five areas (or branches) of ergonomics giving suitable example.	04	
	(c) What are the various design considerations for a product? Explain any three of them.	07	
OR			
Q.3	(a) What are the five elements of ergonomics studies? Explain any two in details giving examples.	07	
	(b) Briefly explain five forms of aesthetics giving suitable sketches and examples.	03	
	(c) What are the ergonomic considerations in the design of controls? Explain and give examples.	04	
Q.3	(a) On what factors the type and size of control device selected for a given application depend on? Explain.	07	
	OR		
	(a) State three rules for selection of displays.	03	
Q.4	(b) To be effective, controls must be accessible, identifiable and usable. Explain and give examples.	04	
	(c) Explain the types of controls. Give sketches and examples.	07	
	(a) What is the role of aesthetics in engineering products design?	03	
Q.4	(b) Briefly discuss the visual effects of line form on engineering products.	04	
	(c) Why is ergonomics important in product design? Discuss the benefits.	07	
	OR		
Q.4	(a) What is the role of ergonomics in engineering product design?	03	
	(b) Briefly discuss the visual effects of color on engineering products.	04	
	(c) What are the design considerations for work station? Explain giving suitable sketch and example.	07	
Q.5	(a) Explain concept of purpose giving examples.	03	
	(b) Write a short note on product life cycle.	04	
	(c) Explain the concept of unity. How is it applied to product design?	07	
OR			
Q.5	(a) Explain concept of style giving examples.	03	
	(b) What is a concept of order with variety? Explain.	04	
	(c) What are the seven key elements of unity? Discuss any three giving examples.	07	
