# Question Bank

## Unit 1

Q1. Define product and state its scope

Q2. What is a design?

Q3. Explain original design, adaptive design, and variant design with examples

Q4. Differentiate between design and drafting

Q5. Write down the characteristics of a good product design

Q6. Explain Morris Asimov three phases of product design

Q7. Describe the systematic procedure in developing a product with a flow chart

Q8. What are the skill set required to evolve a new product?

## Unit 2

Q9. What are the different old design methods? Mention its merits and demerits.

Q10. Write a short note on need based development

Q11. Describe briefly Technology based development

Q12. What are the new design methods?

Q13. What do you mean by design by evolution? Plot the example of a safety razor.

Q14. Write a note on evolution of bicycle

Q15. What is the importance of physical reliability and economic feasibility of a

product?

# Unit 3

Q1. What makes Need Analysis important? Perform a need analysis for a hand dryer system in a hostel dining hall. (Assume around 300 students are there in the hostel)

Q2. What are the three phases of creative product design?

Q3. What is decision making and state its importance

Q4. What is Break even analysis? State the assumptions made for breakeven analysis

Q5. What do you understand by utility index and utility Value?

Q6. Write a note on the checklist of items before conducting need analysis

Q7. What is a design criterion? Also explain design based on different aspects (Function, Aesthetics, Ergonomics, Form, Shape, Size and Color)

Q8. Write down the need statement for Clutch, Bicycle, Television, telephone, voltage stabilizer

# Unit 4

Q9. Design a city bus body layout to commute as many passengers as possible from one point to another. Criteria of design are comfort of passenger and easy ingress and egress. Give two ideas for the design of the bus body layout.

Q10. What is Need? What are the types of need? How will you identify a need?

Q11. What is morphology of design? Explain the seven phases involved.

Q12. What is Break Even Chart? How is it constructed?

Q13. What is morphological analysis technique? Perform a morphological analysis on a cloth dryer

Q14. A factory producing only one item which it sells for ₹ 10.5/- per unit, has a fixed cost of ₹ 50,000/- and variable cost ₹ 6.50/- per unit. How many units should be

produced to break even? How many units must be produced to get a profit of ₹ 10,000/- and what would be the profit if 20,000 units are produced and sold?

Q15.   After market survey, a customer collects the following info about four telephone devices. Calculate Utility Index for each brand and suggest which telephone device is the best buy.

| Attribute of performance | Relative weightage | Limits of attributes | Limits of attributes | | | |
|---|---|---|---|---|---|---|
| | | | A | B | C | D |
| Brand | 25% | 3 (Min) | 7 | 5 | 5 | 4 |
| Feature | 15% | 2 (Min) | 5 | 3 | 4 | 3 |
| Maintenance | 10% | ₹ 200 (Max) | 50 | 100 | 100 | 150 |
| Cost | 50% | ₹ 3000 (Max) | 2600 | 2000 | 2200 | 1700 |

# Unit 5

What makes Need Analysis important? Do a need analysis for a hand dryer system in a hostel dining hall. (Assume around 300 students are there in the hostel)

Q2)     What is Ideonomics? Show various elements involved in Ideonomics. Design a city bus body layout to carry as many passengers as possible from one point to another. Use sketches and discuss.

Q3)     Design a city bus body layout to commute many passengers as possible from one point to another. Criteria of design are comfort of passenger and easy ingress and egress.

Give three ideas for the design of the bus body layout. Draw sketches and discuss on your sketches.

Q4)     Explain a) Mental Block b) Removal Block

Q5)     What is morphology of design? Explain the seven phases involved.

Q6)     a) What is Need? What are the types of need? How will you identify a need?

        b) What is need statement? Write down the need statement for Clutch, Bicycle, Television,

telephone, voltage stabilizer.

Q7)     What are the three phases of creative product design?

Q8)     What is design criteria? Also explain design based on different aspects (Function, Aesthetics,

Ergonomics, Form, Shape, Size and Colour,)