Sanjay Ghodawat University, Kolhapur

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2020-21

EXM/P/09/00

Year and Program: Final Year B Tech.	**School of Technology**	**Department: Aeronautical, Computer Science & Engineering, Electrical & Electronics Engineering**
Course Code: UE 404.1	**Course Title: Design Thinking**	**Semester : VIII**
Day and Date:	**End Semester Examination**	**Time:2 Hrs.** **Max Marks:50**

Instructions: 1) All Questions are compulsory.

Q.1		**Answer/Solve the following (any Two)**–	**Marks**	**Bloom's Level**	**CO**
	a)	What are the different sources to be used for generating new ideas of a product? Explain any two innovative ideas generated using these sources.	8`	3	UE 404.1.1
	b)	State the components of product mission and Write the product mission statement in standard format in tabular form for the following product as shown in Figure 1.  **Figure 1: Solae Electric Iron**	8	3	UE 404.1.2

	c)	List the types of product architectures. Suggest a suitable architecture for the following product as shown in figure 2. Justify your answer.  **Figure 2: Digital Photo Copier**	8	3	UE 404.1.2
Q.2		**Answer/Solve the following (any two) –**			
	a)	Comment on 'QFD is a technique to translate voice of the customer in to successful product design' Construct the house of quality for the laptop as shown in Figure 3. Assume the necessary data required in completing all the sections of the house of quality.  **Figure 2: Laptop**	8	4	UE 404.1.3

	b)	Explain in brief the steps involved in product design process with suitable example.	8	4	UE 404.1.3
	c)	Describe the value engineering Concept. What are the different methods to increase the value of a bicycle as shown in figure 4?  **Figure 4: Bicycle**	8	3	UE 404.1.3
Q.3		**Answer/Solve the following (any two)**			
	a)	Illustarte the consideration of DFMA in product design phase. State its advantages.	9	3	40 4.1
	b)	State at least two examples for the following aesthetic aspects of product design? i. Symmetry ii. Contrast iii. Continuity iv. Balance v. Styling	9	3	UE 404.1.4
	c)	Why is Ergonomics important in design? Which are the ergonomics aspects used in the design of office chair as shown in figure 5?  **Figure 5 : Office chair**	9	3	UE 404.1.4

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