Sanjay Ghodawat University, Kolhapur

2020-21

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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: Friday,04.06.2021	**End Semester Examination**	**Time:2 Hrs. Max Marks:50**

Instructions: 1) All Questions are compulsory.

		Marks	Bloom's Level	CO
Q.1	**Answer/Solve the following (any Two)**–			
a)	Write product mission statement for the following	8`	3	UE 404.1.1



Figure 1: Treadmill for Pets

b)	Generate minimum four concept sketches for the sub problem "prevent fraying of end of rope" as part of a system for cutting lengths of nylon rope from a spool	8	3	UE 404.1.2
c)	Propose a set of selection criteria and its weightage for the choice of a battery technology used in a laptop.	8	3	UE 404.1.2

Q.2 **Answer/Solve the following (any two)** –

a) Explain the concept of Value Engineering? Suggest suitable measures used to increase the value for the product as shown in figure 2. 8 4 UE 404.1.3



Figure 2: Study chair

b) "QFD is a technique to translate voice of the customer in to successful product design". Justify the statement 8 4 UE 404.1.3

Construct the house of quality for the air cooler as shown in figure 3 below. Assume the necessary data required in completing all the sections of the house of quality.



Figure 3: Air Cooler

c)	Is product teardown and experimentation ethical? Illustrate with at least four examples.	8	3	UE 404.1.3

Q.3 Answer/Solve the following (any two)

a)	State and explain the principles of aesthetic design? Suggest minimum five ways to improve the aesthetic aspects for the product as shown in figure 4	9	3	UE 404.1.4



Figure 4: Luggage Bag

b)	What are the different aspects of an ergonomic design? Howare theergonomics aspects used in new product design? Recommend the parameters to be considered in an ergonomic design of automobile car seat?	9	3	UE 404.1.4
c)	Explain in brief considerations of design for sustainability in new products. Support your answer with at least three examples	9	3	UE 404.1.4

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