B. TECH.
THEORY EXAMINATION (SEM–VI) 2016-17
PRODUCT DEVELOMENT & DESIGN

Time : 3 Hours   *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1.   **Attempt all parts of the following:**   **10 x 2 = 20**
   (a)   Define product plan.
   (b)   Define productivity.
   (c)   What are technology based developments?
   (d)   What is economic feasibility?
   (e)   How aesthetics is important?
   (f)   What is morphology?
   (g)   Define utility index.
   (h)   Define reliability.
   (i)   What is MTBF?
   (j)   What is the use of Bath tub curve?

SECTION – B

2.   **Attempt any five of the following questions:**   **5 x 10 = 50**
   (a)   What influence has the design of a product upon the process of manufacturing?
   (b)   What are the requirements of a good design?
   (c)   What are the consequences of not using ergonomics?
   (d)   What is brain storming? Explain.
   (e)   Explain the procedure for calculating Break -even point.
   (f)   Discuss the procedure for assessing design reliability.
   (g)   What are the three stages of the creative design route? Explain with example.
   (h)   A need statement by a local government was that "community needs water". Analyse this need statement.

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**
3   Discuss new methods of design with example.
4   An automatic floor washer that will scrub, rinse and dry the floor is to be designed. Draw a function matrix and expand the most promising box.
5   Explain the techniques of decision making.