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| **DIT UNIVERSITY DEHRADUN**   |  |  | | --- | --- | | **B.TECH (CSE)** | **(MID TERM EXAMINATION, ODD SEM 2023-24 (SEM V)** | | | | | | | | | | | | | |
| **Roll No.** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Subject Name: Product Design & Development** | | | | | | | | | | | | |

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| **Time: 2 Hours** | **Total Marks: 50** |
| **Note: All questions are compulsory. No student is allowed to leave the examination hall before the completion of the exam.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  | | --- | --- | --- | | **Q.1)** | **Attempt all Parts :** | | |  | **(a)** | Define the product and product development. | |  | **(b)** | Describe clearly the characteristics of a successful product development. | |  | **(c)** | List out briefly the major challenges of product development. | |  | **(d)** | Explain design morphology. | |  |  | **[4 x 2.5= 10]** | |  | | | | **Q.2)** | **Attempt all Parts :** | | |  | (a) | Define the product planning process and list out its various steps. | |  | (b) | State the difference between the product vision statement and the product mission statement. | |  | (c) | Define the term concept generation and define its relevance in the product development process. | |  | (d) | Describe the term product specifications. | |  |  | **[4 x 2.5= 10]** | |  | | | | **Q.3)** | **Attempt any Two Parts :** | | |  | (a) | What is product life-cycle? Explain in detail the various phases of product life-cycle with the help of a sketch. | |  | (b) | Describe in detail the generic product development process. | |  | (c) | Describe the various phases of product development-planning for products. | |  |  | **[2 x 5= 10]** | |  | | | | **Q.4)** | **Attempt any Two Parts :** | | |  | **(a)** | Explain in detail the various steps involved in the concept generation process using an example. | |  | **(b)** | Describe the technique used to co-ordinate the technology development along with the product planning. | |  | **(c)** | Describe the three methods commonly used for gathering raw data from customers. | |  |  | **[2 x 5= 10]** | |  | | | | **Q.5)** | **Attempt any Two Parts :** | | |  | **(a)** | List a set of metrics corresponding to the need that a pen write smoothly. | |  | **(b)** | With the help of a block diagram describe the concept development process showing the stages of the target specifications and final specifications. | |  | **(c)** | Describe briefly all the five steps of the concept generation method. | |  |  | **[2 x 5= 10]** | | **-----END OF PAPER ----** | | | | |