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Question Paper Code	12273
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Eighth Semester

Electronics and Instrumentation Engineering

(Common to Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Information Technology & Artificial Intelligence and Data Science)

20EIEL902 – PRODUCT DEVELOPMENT PROCESS

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. Define brainstorming. | 2,K1,CO1 |
| 2. Differentiate generic and customized products. | 2,K2,CO1 |
| 3. What is a unified model and why it is needed in product development? | 2,K2,CO2 |
| 4. How to create a Proof of Concept? | 2,K2,CO2 |
| 5. What are the steps integration testing? | 2,K1,CO3 |
| 6. List four major debugging tools. | 2,K1,CO3 |
| 7. Why retrospectives are important in agile development? | 2,K2,CO4 |
| 8. Mention the role of artifacts in agile scrum. | 2,K1,CO4 |
| 9. How DevOps played a vital role in software development? | 2,K2,CO5 |
| 10. Compare Saas Vs Paas. | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

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|--|-----------|
| 11. a) Outline the necessity of the marketing research in product development and detail its various parameters. | 13,K2,CO1 |
| OR | |
| b) Illustrate the various process involved in product development life cycle. | 13,K2,CO1 |
| 12. a) Elucidate the need of concept and document design in product development. | 13,K2,CO2 |
| OR | |
| b) Summarize the design patterns and coding standards followed while developing a product. | 13,K2,CO2 |

13. a) Classify and detail the various types of testing need to be carried out after the development of product. *13,K2,CO3*

OR

- b) Compare debugging and testing tools and interpret the necessity of it in validating the product. *13,K2,CO3*

14. a) Demonstrate the role of agile development in software development and explain the key principles and concepts encircling it. *13,K2,CO4*

OR

- b) Show the role of Scrum in agile frameworks and elaborate its types. *13,K2,CO4*

15. a) Classify Static and dynamic code analysis tools and detail its type and use. *13,K2,CO5*

OR

- b) Illustrate different deployment tools and platform that will be used extensively for software delivery. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Build a new smart home device that aims to enhance energy efficiency and user convenience and propose a detailed product design and development plan. *15,K3,CO2*

OR

- b) Imagine you are leading a team tasked with designing a technology - based solution to address a prevalent social issue like access to quality education. Develop a detailed plan for the product design and development. *15,K3,CO2*