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PRESIDENCY UNIVERSITY BENGALURU

 SCHOOL OF ENGINEERING

 END TERM EXAMINATION – JULY 2024

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| **Semester :II SEM**  | **Date :** |
| **Course Code :MEC 5009** | **Time :** |
| **Course Name :CREATIVITY IN DESIGN** | **Max Marks :100** |
| **Program : M. Tech PDD** | **Weightage :** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

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| **PART A** |
|  **ANSWER ANY 4 QUESTIONS 4Q X 5M=20M** |
| 1 | What is Design by Evolution? Give one suitable example and explain the disadvantages of evolutionary design | (CO 1) | [Knowledge] |
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| 2 | With a neat sketch explain clearance Fit | (CO1) | [Knowledge] |
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| 3 | Define the following terms:(i) Adaptive design (ii) Variant design | (CO1) | [Knowledge] |
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| 4 | Define the following terms: Creative design, (iv) Configuration design  | CO 2) | [Knowledge] |
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| 5 | Explain the three basic design problems faced by Industrial Designer | (CO 2) | [Knowledge] |
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| 6 | What is Meant by optimal design? It is feasible design (Or) does it have an objective function subject to constraints? Give an example. | (CO 3) | [Knowledge] |
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| **PART B** |
|  **ANSWER ANY 5 QUESTIONS 5Q X 10M=50M** |
| 7 | Give Siddal’s classification of design approaches | (CO 3) | [Comprehension] |
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| 8 | Explain optimization methods | (CO 3) | [Comprehension] |
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| 9 | Explain Optimization by differential calculus | CO 3) | [Comprehension] |
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| 10 | Using Morris Asimov’s Philosopy with neat Flow chart explain the stages of Phase-I Feasibility Study | (CO 3) | [Comprehension] |
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| 11 | With a neat sketch explain different types of fits | (CO 3) | [Comprehension] |
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| 12 | With a neat sketch Explain morphology of design. | (CO 3) | [Comprehension] |
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| 13 | With a suitable example explain Euler's relationship | (CO 3) | [Comprehension] |
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| **PART C** |
|  **ANSWER ANY 2 QUESTIONS 2Q X 15M=30M** |
| 14 |  | (CO 4) | [Application] |
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| 15 | With a neat sketch explain FEA approach for cantilever beam with end loading. | (CO 4) | [Application] |
|  |
| 16 | What are qualifying design concepts & test programs for products? | (CO 4) | [Application] |