|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Roll No |  |  |  |  |  |  |  |  |  |  |  |



PRESIDENCY UNIVERSITY BENGALURU

SCHOOL OF ENGINEERING

END TERM EXAMINATION – JULY 2024

|  |  |
| --- | --- |
| **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.*

|  |  |  |  |
| --- | --- | --- | --- |
| **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] |
|  | | | |
| 2 | With a neat sketch explain clearance Fit | (CO1) | [Knowledge] |
|  | | | |
| 3 | Define the following terms:  (i) Adaptive design (ii) Variant design | (CO1) | [Knowledge] |
|  | | | |
| 4 | Define the following terms:  Creative design, (iv) Configuration design | CO 2) | [Knowledge] |
|  | | | |
| 5 | Explain the three basic design problems faced by Industrial Designer | (CO 2) | [Knowledge] |
|  | | | |
| 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] |
|  | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART B** | | | |
| **ANSWER ANY 5 QUESTIONS 5Q X 10M=50M** | | | |
| 7 | Give Siddal’s classification of design approaches | (CO 3) | [Comprehension] |
|  | | | |
| 8 | Explain optimization methods | (CO 3) | [Comprehension] |
|  | | | |
| 9 | Explain Optimization by differential calculus | CO 3) | [Comprehension] |
|  | | | |
| 10 | Using Morris Asimov’s Philosopy with neat Flow chart explain the stages of Phase-I Feasibility Study | (CO 3) | [Comprehension] |
|  | | | |
| 11 | With a neat sketch explain different types of fits | (CO 3) | [Comprehension] |
|  | | | |
| 12 | With a neat sketch Explain morphology of design. | (CO 3) | [Comprehension] |
|  |  |  |  |
| 13 | With a suitable example explain Euler's relationship | (CO 3) | [Comprehension] |
|  | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART C** | | | |
| **ANSWER ANY 2 QUESTIONS 2Q X 15M=30M** | | | |
| 14 |  | (CO 4) | [Application] |
|  | | | |
| 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] |