

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MTECH (EXECUTIVE)
BRANCH: CS

SEMESTER : II
SESSION : SP/2022

SUBJECT: CS636 EVOLUTIONARY COMPUTING

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) How Evolutionary Algorithm is different from Conventional Techniques? Explain with different verticals. [5]
- Q.1(b) What is Fitness Function? Design two fitness function for any two applications and discuss the impact of your design. [5]
- Q.2(a) Show the basic steps of Genetic Algorithm to solve any problem of your choice. [5]
- Q.2(b) To stop the flow of Program using Genetic Algorithm, what criterions may you follow? State the conditions of each criterion. [5]
- Q.3(a) Differentiate between Island Genetic Algorithms and Niching Genetic Algorithms. [5]
- Q.3(b) State and explain Generic Competitive Coevolutionary Algorithm with some example. [5]
- Q.4(a) Give some real-life examples of Multi-objective Problems. What is Goal Programming Method? [5]
- Q.4(b) Use GA for the given function to solve: $2p + 2q + 3r - 3s = 60$. Find the value of p, q, r, and s that satisfy the given equation. Show each step clearly (along with underlying assumptions if any). [5]
- Q.5 State any implementation using Genetic Based machine Learning approach [10]

::::::20/07/2022::::::