JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech. VIII Semester (CSE)

COURSE CODE (CREDITS): 21B1WMA831 (3) MAX. MARKS: 15

COURSE NAME: SOFT COMUPTING & OPTIMIZATION TECHNIQUES

COURSE INSTRUCTOR: RKB* MAX. TIME: 1 Hour

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***Note:*** *(a) All questions are compulsory.*
*(b) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems*
*(c) Use of calculator is allowed*

| Q.No | Question | CO | Marks |
|---|---|---|---|
| Q1 | Let P = "Approximately 4 = {0.7/3 + 1 /4 + 0.6/5} and Q = "Approximately 7 = {0.8/6 + 1/7 + 0.9/8}.<br><br>Determine the fuzzy sum and multiplication of P and Q. | CO-1 | 3 |
| Q2 | Draw the basic diagram for the concept of computing and write their important characteristics. | CO-1 | 3 |
| Q3 | Write the basic tools of soft computing techniques and give their example, where these tools can be used. | CO-1 | 3 |
| Q4 | Let the universe Z={1,2,3,…,12} and fuzzy set D of Z be D={(1,0),(2,0.2),(3,0.6),(4,1.0),(5,0.8),(6,0.4),(7,0.1),(8,0)}. Find the **support** and **crossover points** of D. | CO-1 | 3 |
| Q5 | Let X = {1, 2, 3, 4, 5} and fuzzy set A = {(1, 0.7), (2, 0.3), (3, 0.5), (4, 0.9), (5, 0.6)}. Find the strong α cut set for α = 0.3, 0.5 and 0.9. Also, find the level set of A. | CO-1 | 3 |



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