GHRCEM WAGHOLI PUNE

DEPARTMENT OF AI & AIML

TY AI

QUESTION BANK FOR CAE II

SUBJECT: SOFT COMPUTING

Sr no	Question	Unit	BL	CO	PO
1	Explain Fuzzy logic with suitable diagram and example.	III	3	3	1
2	Find the power set and cardinality of the given set, X= {2,4,6,8,10,12}. Also find cardinality of power set	III	5	3	2
3	Consider the given fuzzy set, A = {0.3/x1 + 0.7/x2 + 1/x3} & B={0.4/y1 + 0.9/y2 } Perform Cartesian product over these given fuzzy set.	III	5	3	2
4	Explain classical set with different operations performed on classical set with venn diagram.	III	3	3	1
5	Explain fuzzy set with different operations performed on fuzzy set with suitable diagram.	III	3	3	1
6	Consider the given fuzzy set, A={1/2 + 0.3/4 + 0.5/6 + 0.2/8} & B = {0.5/2 + 0.4/4 + 0.1/6 + 1/8} Perform Union, Intersection, Difference and Complement	III	5	3	2
7	Two fuzzy relation are given by $R = \begin{matrix} & y_1 & y_2 \\ \end{matrix}$ $\begin{bmatrix} 0.6 & 0.3 \\ 0.2 & 0.9 \end{bmatrix}$ and $S = \begin{matrix} & z_1 & z_2 & z_3 \\ \end{matrix}$ $\begin{bmatrix} 1 & 0.5 & 0.3 \\ 0.8 & 0.4 & 0.7 \end{bmatrix}$ Obtain fuzzy relation T as composition between the fuzzy relation using max min Product composition.	III	5	3	2
8	Two fuzzy relation are given by $R = \begin{matrix} & y_1 & y_2 \\ \end{matrix}$ $\begin{bmatrix} 0.6 & 0.3 \\ 0.2 & 0.9 \end{bmatrix}$ and $S = \begin{matrix} & z_1 & z_2 & z_3 \\ \end{matrix}$ $\begin{bmatrix} 1 & 0.5 & 0.3 \\ 0.8 & 0.4 & 0.7 \end{bmatrix}$ Obtain fuzzy relation T as composition between the fuzzy relation using max Product composition.	III	5	3	2
9	Illustrate composition with suitable example	III	4	3	2
10	Illustrate binary relation and relation matrix with suitable example	III	4	3	2
11	Determine λ cut set from the given fuzzy set S1 = {0/0 + 0.5/20 + 0.65/40 + 0.85/60 + 1/80 + 1.0/100} and S2 = {0/0 + 0.45/20 + 0.6/40 + 0.8/60 + 0.95/80 + 1.0/100} Express the following for λ = 0.5 (a) S1∩S2 (b)S1US2 (c)S1~	IV	4	4	2

	(d) S2~ (e) (S1US2)~ (f) (S1∩S2)~				
12	Define fuzzification and defuzzification. List the different methods of membership value of assignment.	IV	1	4	2
13	Define fuzzification and defuzzification. List the different methods of defuzzification.	IV	1	4	2
14	Describe features of membership function with suitable diagram	IV	1	4	2
15	Explain different membership function with suitable diagram.	IV	1	4	2
16	Using your own intuition and definition of universe of discourse plot fuzzy membership functions for “weights of people”	IV	2	4	2
17	Illustrate Max membership principle and centroid method of defuzzification with suitable diagram	IV	4	4	2
18	Illustrate center of largest area and first of maxima of defuzzification with suitable diagram	IV	4	4	2
19	Illustrate center of min max membership and center of sum of defuzzification with suitable diagram	IV	4	4	2
20	Illustrate intuition and inference of fuzzification	IV	4	4	2

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SUBJECT INCHARGE **HOD**