SCHOOL OF INFORMATION TECHNOLOGY & ENGINEERING
QUIZ – 3 (DIGITAL ASSIGNMENT)

ITA6004 - SOFT COMPUTING

Name of the student: KAMRAN ANSARI **Duration:10 minutes**

Register number: 22MCA0223 **Slot / Date :D2/ 6/6/2023**

Mark your answers in the table given below:

Question	1	2	3	4	5	6	7	8	9	10
	A	A	D	C	B	C	C	D	A	B

1. The truth values of traditional set theory is _____ and that of fuzzy set is _____

a) Either 0 or 1, between 0 & 1
b) Between 0 & 1, either 0 or 1
c) Between 0 & 1, between 0 & 1, where 0 and 1 inclusive
d) Either 0 or 1, either 0 or 1

2. The room temperature is hot. Here the hot (use of linguistic variable is used) can be represented by _____

a) Fuzzy Set
b) Crisp Set
c) Fuzzy & Crisp Set
d) None of the mentioned

3. The height h(A) of a fuzzy set A is defined as

h(A) = sup A(x)

a. h(A) = 0
b. h(A) <0
c. h(A)=1
d. h(A)<1

4. A _____ point of a fuzzy set A is a point x ∈ X at which μA(x) = 0.5

a. Core
b. Support
c. Cross-over
d. α - cut

5. Consider a fuzzy set old as defined below

Old = {(20, 0.1), (30, 0.2), (40, 0.4), (50, 0.6), (60, 0.8), (70, 1), (80, 1)}

Then the alpha-cut for alpha = 0.4 for the set old will be

a. {(40,0.4)}
b. {40,50, 60, 70, 80}
c. {(20, 0.1), (30, 0.2)}
d. {(20, 0), (30, 0), (40, 1), (50,1), (60, 1), (70, 1), (80, 1)}

6. if A = { 0.5/2, 0.3/3, 0.4/4} then A^c is

a. { 0.5/2, 1/3, 4/4}
b. {0.5/2, 0.7/3, 0.4/4}
c. {0.5/2, 0.7/3, 0.6/4}
d. None of the above

7. In Lamda-cut method the value of ⍰ **can be**
(a) Greater than 10
(b) Between 1 and 10
(c) Between 0 and 1
(d) Any value

8. Which of the following is not a centroid method?
(a) Centre of gravity method (CoG)
(b) Centre of sum method (CoS)
(c) Centre of area method (CoA)
(d) Centre of Mass (CoM)

9. Defuzzification is done to obtain

(a) Crisp output
(b) The best rule to follow
(c) Precise fuzzy value
(d) None of the above

10. For a fuzzy relation R

$$R = \begin{bmatrix} 0.7 & 0.2 & 0.3 \\ 0.9 & 0.5 & 1 \\ 0.8 & 0.3 & 0.7 \end{bmatrix}$$ λ -cut relation for λ =0.8 is

a) $\begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix}$ b) $\begin{bmatrix} 0 & 0 & 0 \\ 1 & 0 & 1 \\ 1 & 0 & 0 \end{bmatrix}$ c) $\begin{bmatrix} 0 & 0 & 0 \\ 1 & 0 & 1 \\ 0 & 0 & 0 \end{bmatrix}$ d) $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix}$