		Paper / Subject Code: 42671 / Al and DS II	
Paper / Subject Code: 42671 / All and DS-II BE TH Sem VII CBCGS (R-20) (Cascheme) All DS-II INSTRUCTIONS: (1) Question 1 is compulsory. Max. Marks: 80			
Time: 3 Hours 3 Mac Market 200			
	DINOC	CTIONS:	Jak: Marks: 80
(1) Question 1 is compulsory.			
(2) Attempt any three from the remaining questions. (3) Draw neat diagrams wherever necessary.			
(5)	Diaw	near diagrams wherever necessary.	" (S) (S)
Q.	1		5 marks each
	(a)	From above given probability distribution find P (Cavity Toothach	
		Toothache 🚓 ¬ Toothac	1
		Cauth Catch Catch Catch C	- Catch
		Cavity 0.108 0.012 0.072 0.072 0.016 0.144	0.008
	(b)	Explain the Centroid method of Defuzzification with a suitable diagr	- Catch 0008 0.576 am? (2)
CNN	(e)	Describe Deep Learning concept with an example	ann:
	(d)	Describe in detail Holdout method and Random subsampling?	
Q:	5		10 marks each
~	(a)	How to improve the classification accuracy of class-Imbalanced data	10 marks each
	1	suitable examples.	. Explant with
	(b) Q	Define Cognitive Computing, Draw a neat diagram of elements of the	e cognitive
	600	system and explain the elements.	10 marks each Explain with e cognitive
Service Constitution of the Constitution of th	12 pm		
7	(a)	Explain the components of CNN architecture,	10 marks each
C. Mary	(b) <	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	for Multi modal
201	D'	applications, S	453
Constitution of the consti	PUC, -	applications, Consider two fuzzy sets. [0.2 - 0.3 0.4 0.5]	10 marks each
Last S	5 (a)	Consider two fuzzy sets.	10 marks each
342	, 8	$A = \{0.2 + 0.3 + 0.4 + 0.5\}$	
955	C	what is Multi modal application? Explain the Data Science applications. Consider two fuzzy sets. $A = \left\{ \frac{0.2 + 0.3}{1 + 2} + \frac{0.4 + 0.5}{3} + \frac{0.5}{4} \right\}$ $D = \left\{ \frac{0.1 + 0.2 + 0.2 + 0.2 + 0.4}{3} + \frac{0.5}{4} \right\}$	
200	500	n (10.1 0.2\(0.2 0.1)	
(2) 3°	p'	\$\langle \begin{picture} \text{3} + \frac{1}{2} \\ \text{3} + \frac{1}{2} \\ \text{5} \\ \text{5} \\ \text{5} \\ \text{5} \\ \text{5} \\ \text{5} \\ \text{6} \\ \text{7} \\ \text{8} \\ \text{7} \\ \text{7} \\ \text{8} \\ \text{7} \\ \text{7} \\ \text{8} \\ \text{7} \\ \	
Service Distriction of the Control o	9.	Find the algebraic sum, algebraic product, bounded sum, and bour	nded difference of
	200	the given fuzzy sets and also describe properties of fuzzy sets.	ided difference of
OF STATE OF	(b)	Illustrate inferencing in Bayesian Belief Network with an example.	
0°	9	The state of the s	40
E 3	(a) <	List steps in building a typical cognitive application. Explain the sa	10 marks each
See "See.	8	application.	ine for realineare
and Co	(b)	Illustrate the autoencoder with architecture diagram.	
15 0 d			
2 X	(a)	Calculate Accuracy Precision Recall Sensitivity and Specificity	10 marks each
6 9	150	example.	for the following
, Om	2	Actual Class Cancer-yes Cancer-no	
39	5	Predicted Class	
Chisto Og	,	Cancer=no 140 CN 0560 TN	
Sep.	(b)	List steps in building a typical cognitive application. Explain the sal application. Illustrate the autoencoder with architecture diagram. Calculate Accuracy, Precision, Recall, Sensitivity and Specificity example. Actual Class Cancer=yes Cancer=no Predicted Class Cancer=yes 90 TP 210 FP Cancer=no 140 FN 9560 TN Write a short note on-Trends in Data Science.	
John 157	03	Page 1 of 1	STATE OF STA
3	0	5	17