

Total No. of Questions : 5]

SEAT No. :

PA-2564

[Total No. of Pages : 4

[5948]-304

M.C.A. (Management Faculty)

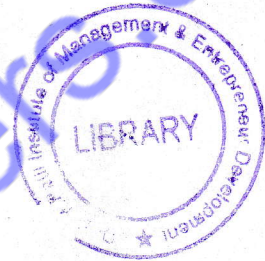
**IT - 34 : KNOWLEDGE REPRESENTATION & ARTIFICIAL
INTELLIGENCE : ML, DL
(2020 Pattern) (Semester - III)**

Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) For MCQ select appropriate choice from options given.
- 3) From Q2 to Q5 having internal choice.
- 4) Figure to right indicate full marks



Q1) MCQ

[20×½=10]

- a) The wumpus world is a cave with _____
 - i) 8
 - ii) 16
 - iii) 4
 - iv) 12
- b) Which of the following is not a limitation of AI?
 - i) High cost
 - ii) Lacking creativity
 - iii) High Accuracy
 - iv) Un employment
- c) In wumpus world the knowledge based agent start from location
 - i) Room [1, 1]
 - ii) Room [2, 2]
 - iii) Room [1, 2]
 - iv) Room [4, 4]
- d) The symbolization for a conjunction is
 - i) $p \rightarrow q$
 - ii) $p \wedge q$
 - iii) $p \vee q$
 - iv) $\sim p$
- e) What will be backward chaining algorithm return?
 - i) additional statements
 - ii) substitutes matching the query
 - iii) logical statement
 - iv) final goals
- f) Inference algorithm is complete, only if it
 - i) can drive any sentence
 - ii) can drive any sentence that is an entailed version
 - iii) is truth pre serving
 - iv) it can derive any sentence that is an entailed version and it is truth prevesing

P.T.O.

- g) Which distance metric(s) are suitable for categorical variables to find the closest neighbors
- i) Euclidean Distance ii) Manhattan Distance
 iii) Minkowski Distance iv) Hamming Distance
- h) Logistic Regression is a _____ Regression technique that is used to model data having a _____ out come
- i) Linear, Numeric ii) Linear, Binary
 iii) Non linear, Numeric iv) Non linear Binary
- i) Naive Bayes classifiers are a collection _____ of algorithms.
- i) Classification ii) Clustering
 iii) Regression iv) All
- j) Selecting data so as to assure that each class is properly represented in both the training and test data
- i) cross-validation ii) stratification
 iii) verification iv) boot strapping
- k) The most common Neural Network consist of _____ network layers
- i) 1 ii) 2
 iii) 3 iv) 4
- l) If there is only a discrete numbers of possible out comes (called categories) the process become a
- i) Regression ii) Classification
 iii) Model Tree iv) Categories
- m) RNN stands for
- i) Recurrent Neural Network ii) Recpu Neural Network
 iii) Regenerate Neural Network iv) Reverse Neural Network
- n) Weight sharing occurs in which neural network architecture?
- i) CNN ii) RNN
 iii) CNN & RNN iv) Fully connect Neural Network
- o) ANN stands for
- i) Artificial Neural Network ii) Advanced Neural Network
 iii) Arithmetic Neural Network iv) Artificial Neural Node



- p) ANN used for
- i) Pattern Recognition
 - ii) Classification
 - iii) Clustering
 - iv) All
- q) GAN stands for
- i) Generative Advert Networks
 - ii) Generative Adversarial Networks
 - iii) General Advert Networks
 - iv) General Adversarial Networks
- r) ReLU stand for
- i) Rectified Linear Unit Function
 - ii) Rectified Linear Unit Formula
 - iii) Rectified Loss Unit Function
 - iv) Reverse Linear Unit Function
- s) What are the devices that sense the physical environments
- i) Control Unit
 - ii) Sensors
 - iii) CPU
 - iv) Firmware
- t) Chat bot is based on which AI Technique
- i) Big data
 - ii) Variance
 - iii) Dispersion
 - iv) Bias

Q2) a) Why do we need Artificial Intelligence. [4]

b) Write a FOL of following statement [6]

- i) Mary Loves everyone
- ii) No one talks
- iii) Everyone Loves Everyone
- iv) Everyone Loves Everyone except himself
- v) Some one loves everyone
- vi) Some walks and someone talks.

OR

a) Explain properties of good knowledge Based system. [4]

b) Show that "If I look into the sky and I am alert then, I will see a dim star or if I am not alert then I will not see a dim star" is valid. [6]



- Q3) a)** Differentiate between supervised and un supervised learning. [4]
b) The values of independent variable x and dependent variable y are given

x	0	1	2	3	4
y	2	3	5	4	6

Find the least square regression line $y = ax + b$. estimate the value of y when x is given 10. [6]

OR

- a)** State the mathematical formulation of SVM. [5]
b) How SVM can be used for classification of Linearly separable data? [5]
- Q4) a)** Explain the use of Long Short Term Memory (LSTM). [5]
b) Why do we use pooling layers in CNN. [5]
- OR
- a)** Explain uses and application of Deep learning. [4]
b) Why we need Back propagation? Explain Back propagation algorithm. [6]

Q5) Write a short notes [10]

- a)** Application of AI
b) LSTM
c) NLP
d) Data Center
e) Training data and Testing data

OR

- a)** Listout type of AI
b) Advantage of Logistic Regression
c) Building Block of DL
d) CPU
e) Chat bot