

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering

Curriculum Scheme: Rev 2016

Examination: Third Year Semester: VI

Course Code: CSDLO6021 and Course Name: Machine Learning

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	Clustering is the type of which Machine learning
Option A:	Supervised Learning
Option B:	Semi supervised learning
Option C:	Unsupervised learning
Option D:	Reinforcement learning
Q2.	Which of the following is not type of Machine learning?
Option A:	Semi-unsupervised Learning
Option B:	Unsupervised Learning
Option C:	Supervised Learning
Option D:	Reinforcement Learning
Q3.	Which of the following is not a machine learning algorithm?
Option A:	Support Vector Graphics
Option B:	Support Vector Machine
Option C:	Random forest
Option D:	Naïve bays
Q4.	In _____ ANN, loops are allowed.
Option A:	FeedForward
Option B:	FeedBack
Option C:	Single layer perceptron
Option D:	Move ahead
Q5.	ANN means _____
Option A:	Artificial Neural Node
Option B:	Artistic Neural Networks
Option C:	Artificial Neural Networks
Option D:	Artificial Neural Numbers
Q6.	What is back propagation?
Option A:	It is another name given to the curvy function in the perception
Option B:	It is the transmission of error back through the network to adjust the inputs
Option C:	It is the transmission of error back through the network to allow weights to be adjusted so that the network can learn
Option D:	It is simple Neural Network
Q7.	Which of the following is incorrect?
Option A:	Direct search methods are useful when the optimization function is not differentiable

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Option B:	The gradient of $f(x,y)$ is the a vector pointing in the direction of the steepest slope at that point
Option C:	The Hessian is the Jacobean Matrix of second-order partial derivatives of a function.
Option D:	The second derivative of the optimization function is used to determine if we have reached an optimal point.
Q8.	One of the most powerful techniques for solving non linear programming is to transform the _____
Option A:	Data
Option B:	Problem
Option C:	Graph Bar
Option D:	Charts
Q9.	Which of the following statement is FALSE?
Option A:	Multidimensional direct search methods are similar to one-dimensional direct search methods.
Option B:	Multidimensional direct search methods do not require a twice differentiable function as an optimization function
Option C:	Genetic Algorithms belong to the family of multidimensional direct search methods.
Option D:	Enumerating all possible solutions in a search space and selecting the optimal solutions is an effective method for problems with very high dimensional solution spaces.
Q10.	Decision tree nodes are represented by _____.
Option A:	Disks
Option B:	Circles
Option C:	Square
Option D:	Triangles
Q11.	Which evaluation metrics cannot be applied to logistic regression?
Option A:	AUC-ROC
Option B:	Accuracy
Option C:	Logloss
Option D:	Mean squared error
Q12.	A residual is defined as
Option A:	$Y - Y^{\wedge}$
Option B:	Error Sum of square
Option C:	Regression sum of squares
Option D:	Type I Error
Q13.	In decision tree, each internal node denotes _____.
Option A:	Test on an attribute
Option B:	Outcome of a test
Option C:	Target variable
Option D:	Class label

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Q14.	Decision tree is a display of _____.
Option A:	An Object
Option B:	An Instance
Option C:	An Entity
Option D:	An algorithm
Q15.	Logistic regression assumes a _____.
Option A:	Linear relationship between continuous predictor variables and the outcome variable.
Option B:	Linear relationship between continuous predictor variables and the logit of the outcome variable.
Option C:	Linear relationship between continuous predictor variables.
Option D:	Linear relationship between observations.
Q16.	Logistic regression is a _____ learning algorithm
Option A:	Supervised
Option B:	Unsupervised
Option C:	Reinforcement
Option D:	Semi-Supervised
Q17.	Which of the following is finally produced by Hierarchical Clustering?
Option A:	Final estimate of cluster Centroids
Option B:	Tree showing how close things are to each other
Option C:	Assignment of each point to clusters
Option D:	Number of centroids
Q18.	The probability density function of a Markov process is
Option A:	$p(x_1, x_2, x_3, \dots, x_n) = p(x_1)p(x_2/x_1)p(x_3/x_2) \dots p(x_n/x_{n-1})$
Option B:	$p(x_1, x_2, x_3, \dots, x_n) = p(x_1)p(x_1/x_2)p(x_2/x_3) \dots p(x_{n-1}/x_n)$
Option C:	$p(x_1, x_2, x_3, \dots, x_n) = p(x_1)p(x_2)p(x_3) \dots p(x_n)$
Option D:	$p(x_1, x_2, x_3, \dots, x_n) = p(x_1)p(x_2 * x_1)p(x_3 * x_2) \dots p(x_n * x_{n-1})$
Q19.	High entropy means that the partitions in classification are
Option A:	pure
Option B:	not pure
Option C:	useful
Option D:	useless
Q20.	What is the minimum no. of variables/ features required to perform clustering?
Option A:	0
Option B:	1
Option C:	2
Option D:	3
Q21.	Which clustering algorithm suffers from the problem of convergence at local optima?

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Option A:	K- Means clustering algorithm
Option B:	Agglomerative clustering algorithm
Option C:	Hierarchical Clustering
Option D:	Diverse clustering algorithm
Q22.	If you have two classes then how many times you have to train your Support Vector Machine module
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q23.	PCA Stands for
Option A:	Principal Career Automation
Option B:	Periodic care Analysis.
Option C:	Principal Component Analysis
Option D:	Principal core Automation
Q24.	PCA is _____ method
Option A:	Supervised
Option B:	Unsupervised
Option C:	Can be both supervised and unsupervised
Option D:	Its neither supervised nor Unsupervised
Q25.	PCA is _____
Option A:	Linear
Option B:	Non linear
Option C:	Can be linear or non-linear
Option D:	Quadratic

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	C
Q2.	A
Q3.	A
Q4	B
Q5	C
Q6	C
Q7	D
Q8.	B
Q9.	D
Q10.	C
Q11.	D
Q12.	A
Q13.	A
Q14.	D
Q15.	B
Q16.	A
Q17.	B
Q18.	A
Q19.	B
Q20.	B
Q21.	A
Q22.	A
Q23.	C
Q24.	B
Q25.	A