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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute)

Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

M.TECH

FIRST YEAR (SEMESTER-II) THEORY EXAMINATION (2020-2021)

(Objective Type)

Subject Code: AMTME0216 **Max. Mks. : 40**

Subject: Optimization Techniques **Time : 70 Minutes**

General Instructions:

All questions are compulsory.

Question No- 1 to 5 are objective type question carrying 2 marks each.

Question No- 6 to 20 are also objective type/Glossary based question carrying 2 marks each.

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Type	Difficulty	Correct	Option1	Option2	Option3	Option4
1	The area bounded by all the given constraints is called ______________.		Single Choice Questions	Single Choice Questions	2	Single Choice	Brilliant	basic solution	feasible region	basic solution	non feasible region	optimum basic feasible solution
2	The method of finding an initial solution based upon opportunity costs is called __________		Single Choice Questions	Single Choice Questions	2	Single Choice	Brilliant	Vogel's approximation	the northwest corner rule	Vogel's approximation	Least Cost method	None of above
3	For any function f, a point x minimizes f if and only if 0 ∈ ∂f(x).		Single Choice Questions	Single Choice Questions	2	Single Choice	Brilliant	TRUE	TRUE	FALSE		
4	If arrivals are according to Poisson process then distribution of inter arrival times is		Single Choice Questions	Single Choice Questions	2	Single Choice	Brilliant	Exponential	Gamma	Chi-square	Exponential	Normal
5	The solution to a transportation problem with m-sources and n-destinations is feasible if the numbers of allocations are ___________		Single Choice Questions	Single Choice Questions	2	Single Choice	Brilliant	m+n-1	m+n	mn	m-n	m+n-1
6	Maximum value of a 3-d plane is to be found over a circular region. __________ if we increase the radius of the circular region.		Glossary I	Glossary I	2	Single Choice	Brilliant	Maximum value increases and minimum value goes lesser	Maximum value increases and minimum value goes lesser	(3,3,3)	Increases	
7	__________ the points on the plane x + y + z = 9 which are closest to origin.		Glossary I	Glossary I	2	Single Choice	Brilliant	(3,3,3)	Maximum value increases and minimum value goes lesser	(3,3,3)	Increases	
8	The span of a Astroid is increased along both the x and y axes equally. Then the maximum value of: z = x + y along the Astroid is__________ .		Glossary I	Glossary I	2	Single Choice	Brilliant	Increases	Maximum value increases and minimum value goes lesser	(3,3,3)	Increases	
9	The incoming variable column in the simplex algorithm is called _______.		Glossary II	Glossary II	2	Single Choice	Brilliant	Key Column	Key Column	key element	scarce resource	
10	The intersection value of key column and key row is called _______		Glossary II	Glossary II	2	Single Choice	Brilliant	key element	Key Column	key element	scarce resource	
11	A resource which is completely utilized is called_________ in simplex.		Glossary II	Glossary II	2	Single Choice	Brilliant	scarce resource	Key Column	key element	scarce resource	
12	In univariate unconstrained optimization the decision variables can be_____.		Glossary III	Glossary III	2	Single Choice	Brilliant	Continuous	Continuous	-∞	N-2	
13	If a function is strictly increasing then _____ is the minima value.		Glossary III	Glossary III	2	Single Choice	Brilliant	-∞	Continuous	-∞	N-2	

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Type	Difficulty	Correct	Option1	Option2	Option3	Option4
14	If the derivative of the objective function is a polynomial of order ‘N’ and has roots which are repeated thrice, then _____ many stationary points exist for the objective function.		Glossary III	Glossary III	2	Single Choice	Brilliant	N-2	Continuous	-∞	N-2	
15	The __________ distribution is sometimes used to describe the time between arrivals.		Glossary IV	Glossary IV	2	Single Choice	Brilliant	fundamental matrix F	fundamental matrix F	transition matrix	Poisson	
16	The _______ indicates the probability that an entity in the Markov process is in a particular state.		Glossary IV	Glossary IV	2	Single Choice	Brilliant	transition matrix	fundamental matrix F	transition matrix	Poisson	
17	The ________ determine(s) the equilibrium of a Markov process.		Glossary IV	Glossary IV	2	Single Choice	Brilliant	Poisson	fundamental matrix F	transition matrix	Poisson	
18	Successful use of the simulation approach requires both knowledge of the problem to be solved and knowledge of _________.		Glossary V	Glossary V	2	Single Choice	Brilliant	computer programming	computer programming	time-consuming, expensive	system simulation	
19	Development of a useful simulation model is often a(n) ________ and ________ task.		Glossary V	Glossary V	2	Single Choice	Brilliant	time-consuming, expensive	computer programming	time-consuming, expensive	system simulation	
20	The model used to train military personnel in urban warfare would be an example of ______.		Glossary V	Glossary V	2	Single Choice	Brilliant	system simulation	computer programming	time-consuming, expensive	system simulation	