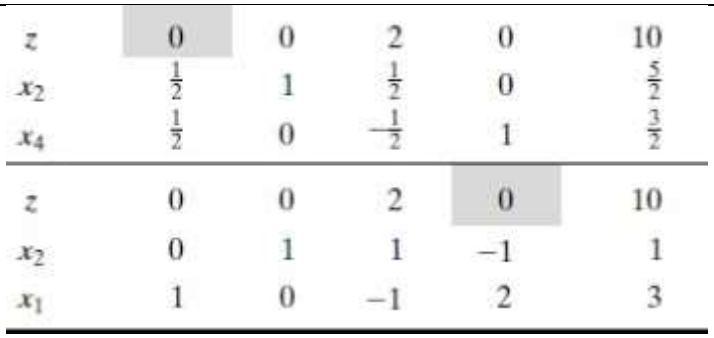
T.Y. BMS subject: Operations research

Q 1	The value of objective function maximum under linear constraint a) At the centre of feasible region b) At (0,0) c) At a vertex of feasible region The vertex which is of maximum distance from origin (0,0)	
2	The maximum value of z= 10x + 6y subjected to the constraints $3x+y \leq 12$, $2x+5y \leq 34$ $x, y \geq 0$ a) 56 b) 65 c) 55 d) 66	
3	Feasible region is the set of points which satisfy- a) The objective function b) All of the given constraint c) Some of the given constraints Only one constraint	
4	The half plane represented by 4x + 3y > 14 contains the point a) (0,0) b) (2,2) c) (3,4) (1,1)	
5	While solving a LP model graphically, the area bounded by the constraints is called a) Feasible region b) Infeasible region c) Unbounded region None of these	
6	The true statement for the graph of inequations $3x+2y \leq 6$ and $6x+4y \geq 20$, is A Both graphs are disjoint B. Both do not contain origin C. Both contain point (1, 1) D. None of these	
7	When artificial variables appear in the optimal solution, we say the problem is A . Degenerated B. Unbounded C .Infeasible D . none of these	
8	maximzation simplex problem solution is optimum if Δij row a should be positive b should be negative c should be negative or zero d should be zero	

9	 Solution is A Degeneracy **B** unboundedness **C** infeasibility D none of these	
10	The Z_j row in a simplex table for maximization represents A profit per unit. B gross profit. C constraints D net profit	
11	if there are n workers and n jobs there would be a n! solution b (n-1)! Solution c (n!)n solution d n solution	
12	the assignment problem a required that only one activity be assigned to each resources b is special case of transportation problem c can be used to minimize objective function d all of the above	
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14	an assignment problem is considered as particular case of transportation problem a. no. of rows equal s column c. rim condiions are1 B b. all xij=0 or1 c. d.all of the above c.	
15	PERT analysis is based on A. Optimistic time B. Pessimistic time C. Most likely time D. All the above.	
16	The earliest start time rule A) Compares the activities starting time for an activity successor. B) Compares the activities end time for an activity predecessor.	

z	0	0	2	0	10
x_2	$\frac{1}{2}$	1	$\frac{1}{2}$	0	$\frac{5}{2}$
x_4	$\frac{1}{2}$	0	$-\frac{1}{2}$	1	$\frac{3}{2}$
z	0	0	2	0	10
x_2	0	1	1	−1	1
x_1	1	0	−1	2	3

	C) Directs when a project can start. D) Regulates when a project must begin.	
17	**PERT analysis is based on** A. optimistic time B. pessimistic time C. most likely time D. all the above.	
18	**While scheduling a project by C.P.M.** A. a project is divided into various activities B. required time for each activity is established C. sequence of various activities is made according to their importance D. All the above.	
19	**An event is indicated on the network by a number enclosed in** A. a circle B. a square C. a triangle D. all the abov	
20	**If TL is the latest allowable event occurrence time, total activity slack(s), is equal to** A. LST-EST B. LFT- EFT C. TL-EFT D. all the above.	
21	The full form of PERT is _____ a) Program Evaluation and Rate Technology b) Program Evaluation and Robot Technique c) Program Evaluation and Robot Technology d) Program Evaluation and Review Technique	
22	The full form of CPM is _____ a) Critical Path Method b) Control Path Method c) Critical Plan Management d) Control Path Management	
23	. The shortest possible time in which an activity can be achieved under ideal circumstances is known as _____ a) Pessimistic time estimate b) Optimistic time estimate c) Expected time estimate d) The most likely time estimate	
24	The difference between the maximum time available and the actual time needed to perform an activity is known as _____ a) Free float b) Independent float c) Total float d) Half float	
25	Which of the following is not a phase of project management? a) Project planning b) Project scheduling	

	c) Project controlling d) Project being	
26	_____ is a mathematical technique used to solve the problem of allocating limited resource among the competing activities A. Linear Programming problem B. Assignment Problem C. Replacement Problem D. Non linear Programming Problem	
27	Operations Research approach is _____. A. multi-disciplinary B. scientific C. intuitive D. collect essential data	
28	A feasible solution to a linear programming problem _____. A. must satisfy all the constraints of the problem simultaneously B. need not satisfy all of the constraints, only some of them C. must be a corner point of the feasible region. D. must optimize the value of the objective function	
29	To proceed with the Modified Distribution method algorithm for solving an transportation problem, the number of dummy allocations need to be added are_____. A. n B. n-1 C. 2n-1 D. n-2	
30	A set of feasible solution to a Linear Programming Problem is _____ A. convex B. polygon C. triangle D. bold	

31	The solution to a transportation problem with m-sources and n-destinations is feasible if the numbers of allocations are _____. A. m+n B. mn C. m-n D. m+n-1	
32	The allocation cells in the transportation table will be called _____ cell A. occupied B. unoccupied C. no D. finite	
33	To resolve degeneracy at the initial solution, a very small quantity is allocated in _____ cell A. occupied B. unoccupied C. no D. finite	
34	When the sum of gains of one player is equal to the sum of losses to another player in a game, this situation is known as _____. A. two-person game B. two-person zero-sum game C. zero-sum game D. non-zero-sum game	
35	The transportation problem is balanced, if _____. A. total demand and total supply are equal and the number of sources equals the number of destinations. B. none of the routes is prohibited C. total demand equals total supply irrespective of the number of sources and destinations D. number of sources matches with number of destinations	

36	An alternative optimal solution to a minimization transportation problem exists whenever opportunity cost corresponding to unused route of transportation is: A. Positive & greater than zero B. Positive with at least one equal to zero C. Negative with at least one equal to zero D. None of the above	
37	In game theory, the outcome or consequence of a strategy is referred to as the A. payoff. B. penalty. C. reward. D. end-game strategy.	
38	_____is the process of determining which job to start first and in what order other jobs should be processed on the machine or in work centre A. Job sequencing B. Priority Rules C. Batch Production D. None of these	
39	What is saddle point? A. Equilibrium Point B. Balance Growth Point C. Imbalanced Growth Point D. Unstable Equilibrium Point	
40	The _____ strategy minimizes the maximum loss in a game. A. minimum B. maximum C. Mixed D. minimax	
41	Game theory is concerned with A. predicting the results of bets placed on games like roulette. B. the choice of an optimal strategy in conflict situations. C. utility maximization by firms in perfectly competitive markets. D. the migration patterns of caribou in Alaska	
42	When a saddle point is present a _____ strategy exits A. Pure B. Mix C. Optimal	

	D. Zerosum	
43	An order for a transportation which has 6 rows and 4 columns, not to be degenerate, how much must be the allocated cells in the matrix A. 6 B. 9 C. 15 D. 24	
44	In sequencing the time involved in moving jobs from one machine to another is _____ A. negligible B. positive number C. significant D. None of them	
45	_____time is a time on a machine for which the machine does not have a job to process A. Idle B. Elapsed C. Processing D. None of the above	
46	_____order refers to the order in which machines are required for completing the job A. Processing B. Sequencing C. Assigning D. None of the above	
47	Pure Strategy games are normally solved by _____ method A. Saddle Point B. Minimax C. Maximin D. None of the above	
48	In a transportation problem, we must make the number of _____ and _____ equal. A. destinations; sources B. units supplied; units demanded C. columns; rows D. warehouses; suppliers	
49	_____ operation is carried out on a machine at a time A. Two B. at least one C. only one D. None of them	
50	What is meant by 'Payoffs' in Game Theory? A. Outcome of a game when different alternatives are adopted by players B. No. of players involved in a game C. Value of a game D. Strategies used by players	
