Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End term Examination, Jan 2021

Course: Business Modelling with Spreadsheets — **Semester: I**
Programme: MBA(Business Analytics) — **Time: 03 hrs**
Max. Marks: 100 — **Course Code: DSBA7001**

SECTION A

Each Question will carry 5 Marks

S. No.		Marks	CO
	Select the most appropriate	**(5x6)**	
Q 1.	The formula to add the number in cell A3 with the number in cell A4 is a. sum (A3 + A4) b. sum (A3:A4) c. sum (A3; A4) d. =avg (A3: A4)		**CO1**
Q 2.	When a new Spreadsheet is opened, at the top of window you've a ..... a. Menu bar b. Object bar c. Formula bar d. Function bar		**CO1**
Q 3.	A continuous group of cells in a worksheet is called as ..... a. Grid b. Range c. Function d. Address		**CO1**
Q 4.	The function used to find the square root of a number is……. a. SQT b. SQR c. SQRT d. SRQT		**CO1**

Q 5.	An empty row can be inserted in a worksheet using .... a. Insert cells down icon b. Insert columns c. Insert rows d. Insert cells right icon		**CO1**
Q 6.	The power of the spread sheet lies in the fact that the cells can contain _____ a. Formulea b.Data c. Numbers d. Strings		**CO1**
	SECTION B		
	Each question will carry 10 marks	**(10x5)**	
Q 7.	A trading company of Delhi is considering expansion of its activities & planning to open a marketing office at Kolkata to boost the sales in West Bengal region. It is to be decided whether to operate from the existing office at Delhi & cover the area by frequent travelling or else establishing the office at Kolkata. The connected pay-offs & probabilities of two alternatives are as under:		**CO2**

Alternatives	States of Nature	Probability	Pay-off(Rs Lakhs)
A. Operate from Delhi	(i)Increase in demand by 30%	0.7	20
	(ii)No appreciable change	0.3	15
B. Open office at Kolkata	(i)Increase in demand by 30%	0.6	30
	(ii)No appreciable change	0.4	-7

Q 8.	Prepare a grade card based on marks obtained by students. The maximum marks in each subject is 100: **Name / QM / Marketing / HR** Aman 65 45 39 Rishi 67 48 49 Rohit 78 58 47 Ayush 76 63 72 Ajay 58 40 56 Ajit 78 55 63 Raman 82 90 90 Sakshi 61 71 58 Himani 48 60 61 Saurbh 36 42 23		**CO2**
Q 9.	The following data relate to advertisement expenditure(in lakh of rupees) and their corresponding sales(in crores of rupees). Advertisement Exp(in lakh): 40, 50, 38, 60, 65, 50, 35 Sales(in lakh): 38, 60, 55, 70, 60, 48, 30 Draw the regression model.		**CO3**
Q 10.	. In a certain game, player A has three possible courses of action L, M and N, while B has two possible choices P and Q. Payments to be made according to the choice made. **Choices / Payments** L,P — A pays B Rs 3 L,Q — B pays A Rs 3 M,P — A pays B Rs 2 M,Q — B pays A Rs 4 N,P — B pays A Rs 2 N,Q — B pays A Rs 3 Find saddle point,best strategy for each player and also value of game.		**CO3**

Q 11.	A company wants to purchase a machine for which it have two alternatives of two different machines "A" and "B" from the data given below for its selection: Cost of capital(r) : 12% Initial cost of equipment "A": Rs.12,000 Initial cost of equipment "B": Rs.20,500 **Years** / **Cash inflow (CF) after tax**: **Machine-A**, **Machine-B** **CF 1**: 3560, 1870 **CF 2**: 3890, 2400 **CF 3**: 2465, 7650 **CF 4**: 4530, 3540 **CF 5**: 5670, 8320 **Sum**: 20115, 23780 Which machine should the company purchase on the basis of present value method?		**CO3**
	SECTION-C		
	Each Question carries 20 Marks	**(20x1)**	
Q 12.	A firm produces three products. These products are processed on three different machines. The time required to manufacture one unit of each of the three products and the daily capacity of the three machines are given in the table below: Machine / Time per unit (Minutes): Product 1, Product 2, Product 3 / Machine Capacity (minutes/day) M_1: 2, 3, 2, 440 M_2: 4, -, 3, 470 M_3: 2, 5, -, 430 It is required to determine the daily number of units to be manufactured for each product. The profit per unit for product 1, 2 and 3 is Rs. 4, Rs.3 and Rs.6 respectively. It is assumed that all the amounts produced are consumed in the market. Formulate the mathematical (L.P.) model that will maximise the daily profit.Find product quantity for each product and overall profit using solver.		**CO4**