Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Business Modelling with Spreadsheet   Semester: 1
Program: MBA BA   Time: 03 Hours
Course code: DSBA7001   Max. Marks: 100

	SECTION A		**(20 Marks)**

1.	Each question in section A is a multiple-choice question with four answer choices. Read each question and choose the one best answer.	Marks	CO
i)	Which of the formula is guaranteed to return the phrase "You win!" if the value in cell B6 is 29? a) =IF(OR(B6=29,C6=10),"You win!", "Try again!") b) =IF(AND(B6=29,C6=10),"You win!", "Try again!") c) =IF(B6=29, "Try again!" ,"You win!") d) None of the above	2	CO1
ii)	Using the same data as Q 1.i) , Which is the best formula to return the phrase "You win!" if both cell B6 equals 29 and cell C6 equals 10? a) =IF(B6=29,IF(C6=10,"You win!", "Try again!"), "Try again!") b) =IF(OR(B6=29,C6=10),"You win!", "Try again!") c) =IF(AND(B6=29,C6=10),"You win!", "Try again!") d) None of the above	2	CO1
iii)	Using the same data as Q 1.i) , Which formula returns the value of cell C5 if this value is greater than 5? a) IF(C5>5,C5,0) b) IF(C5=5,C5,0) c) Both a and b d) None of the above	2	CO1

iv)	How do you display current date in MS Excel?
	    a) **Date ( )**
	    b) **Today ( )**
	    c) **Now ( )**
	    d) **Time ( )**
		2	CO1

v)	How do you wrap the text in a cell?
	    a) **Format cells font**
	    b) **Format cells protection**
	    c) **Format cells number**
	    d) **Format cells alignment**
		2	CO1

vi)	What does COUNTA () function do?
	    a) **Counts cells having alphabets**
	    b) **Counts empty cells**
	    c) **Counts cells having number**
	    d) **Counts non-empty cells**
		2	CO1

vii)	A circular reference is
	    a) **Geometric modeling tool**
	    b) **A cell that points to a drawing object**
	    c) **A formula that either directly or indirectly depends on itself**
	    d) **Always erroneous**
		2	CO1

viii)	Which of the following is not true regarding Conditional Formatting?
	    a) **You can add more than one condition to check**
	    b) **You can set condition to look for Bold and apply Italics on them**
	    c) **You can apply Font border and pattern formats that meets the specified conditions**
	    d) **You can delete any condition from Conditional Formatting dialog box if it is not required**
		2	CO1

ix)	Where can you change automatic or manual calculation mode in Excel?
	    a) **Double CAL indicator on status bar**
	    b) **Go to File > Options > Formulas > Calculation Option – and mark the corresponding radio button**
	    c) **Both of above**
	    d) **None of above**
		2	CO1

x)	The Name box on to the left of formula bar
	    a) **Shows the name of workbook currently working on**
	    b) **Shows the name of worksheet currently working on**
	    c) **Shows the name of cell or range currently working on**
	    d) **None of above**
		2	CO1

SECTION B		(20 Marks)

This section has 4 Questions of 5 marks each.

These questions are short answer type.

All the questions are compulsory.

2.	Write a short note on wildcard characters in excel with example.	5	CO1, CO2
3.	If I order up to 500 units of a product, I pay $3.00 per unit. If I order from 501 through 1,200 units, I pay $2.70 per unit. If I order from 1,201 through 2,000 units, I pay $2.30 per unit. If I order more than 2,000 units, I pay $2.00 per unit. Write a formula that expresses the purchase cost as a function of the number of units purchased.	5	CO1, CO2
4.	What do you understand by Cell reference in Excel explain with example.	5	CO1, CO2
5.	Write argument and Use with example for following function: 1. CONCATENATE 2. REPLACE 3. WORKDAY 4. DATEDIF 5. PMT	5	CO1, CO2

SECTION-C		(30 Marks)

This section has 3 Questions of 10 marks each, out of which first 2 Questions are compulsory.

Questions 8 has internal choice to attempt any one.

6.	After earning an MBA, a student will begin working at an $80,000-per-year job on September 1, 2005. He expects to receive a 5 percent raise each year until he retires on September 1, 2035. If the cost of capital is 8 percent a year, determine the total present value of his before tax earnings.	10	CO3
7.	Write a formula to identify tax rates for income 2000, 24000, 60000. Given	10	CO3

Income Level	Tax rate
0-20000	10%
20000-40000	20%
40000-80000	25%
80000-100000	30%

8.	We want to pay off our mortgage in 15 years. The annual interest rate is 6 percent. The bank told us we can afford monthly payments of $2,000. How much can we borrow?	10	CO3

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OR

A computer manufacturing plant produces mice, keyboards, and video game joysticks. The per-unit profit, per-unit labor usage, monthly demand, and per-unit machine-time usage are given in the following table

	Mice	Keyboards	Joysticks
Profit/per unit	₹ 80	₹ 110	₹ 90
Labour usage/unit	0.2 hours	0.3 hours	0.24 hours
Machine time/unit	0.04 hours	0.055 hours	0.04 hours
Monthly demand	15000	29000	11000

Each month, a total of 13,000 labor hours and 3,000 hours of machine time are available. How can the manufacturer maximize its monthly profit contribution from the plant?

SECTION-D	**(30 Marks)**

This section has 2 Questions of 15 marks each, out of which Question 9 is compulsory and Question 10 has internal choice to attempt any one.

9.	Bank XYZ processes checks seven days a week. The number of workers needed each day of the week to process checks is 17,13,15,17,9,9,12 from monday to sunday. All bank employees work five consecutive days. Suppose Bank XYZ had 22 employees and that the goal was to schedule employees so that they would have the maximum number of weekend days off. How should the workers be scheduled?	15	CO4

10.	Create best, worst, and most likely scenarios for a firm's sales of an automobile model by varying the values of Year 1 sales, annual sales growth, and Year 1 sales price. Use Excel Scenario manager.	15	CO4

Create best, worst, and most likely scenarios for a firm's sales of an automobile model by varying the values of Year 1 sales, annual sales growth, and Year 1 sales price. Use Excel Scenario manager.

	Year 1 sales	Annual sales growth	Year 1 sales Price
Best case	₹ 20,000.00	20%	₹ 10.00
Most likely case	₹ 10,000.00	10%	₹ 7.50
worst case	₹ 5,000.00	2%	₹ 5.00

OR

For building a new house. The amount of money needed to borrow (with a 15-year repayment period) depends on the selling price of current house. The annual interest rate at the time of closing is unknown. Determine how monthly payments will depend on the amount borrowed and the annual interest rate? Use Sensitivity analysis Data Table.