

Name:	
Enrolment No:	

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

Program: BTech Mechanical Engineering	Semester: VII
Subject/Course: Engineering Eco. & Financial Mgmt	Max. Marks: 100
Course Code: MECH4030P	Duration: 3 Hours
No. of pages: 2	

SECTION A

- 1. Each Question will carry 4 marks**
2. Instruction: Attempt all questions

		Marks	CO
Q1	Name the 2 indices by which inflation of a country is calculated	4	CO1
Q2	What are the 2 types of methods by which depreciation is calculated	4	CO1
Q3	In MS Excel for installment calculation we use the formula =PMT(X,Y, pv,[fv],type). What is X & Y ?	4	CO1
Q4	What is the full form of EBDITA and formula of EBDITA?	4	CO1
Q5	What is Inflation?	4	CO1

SECTION B

Attempt all Questions

Q1	<p>At a rate of 8%, what is the present value of the following cash flow stream? \$0 at Time 0; \$100 at the end of Year 1; \$300 at the end of Year 2; \$0 at the end of Year 3; and \$500 at the end of Year 4?</p> <p>Or</p> <p>The GoI to sell you a bond for Rs. 800. No payments will be made until the bond matures 10 years from now, at which time it will be redeemed for Rs 1,870. What interest rate would you earn if you bought this bond at the offer price?</p>	10	CO2
Q2	What are the factors that influences Aggregate Demand of an economy and the relationship between the factors and Aggregate Demand?	10	CO2

Q3	What are the significant characteristics of a project? What are the financing vehicles that can help in financing a project?	10	CO2
Q4	You have a chance to buy an annuity that pays Rs. 1500 at the end of each year for 4 years. You could earn 8% on your money in other investments with equal risk. What is the most you should pay for the annuity?	10	CO2
SECTION-C			
<p>1. Each Question carries 10 Marks.</p> <p>2. Instruction: Write long answer.</p>			
Q1	<p>The initial investment outlay for a capital investment project consists of Rs. 100 lakhs for Plant and Machinery and Rs. 40 lakhs for Working Capital. Other details are summarized below:</p> <p>Sales : 1 lakh units of output/year for years 1 to 5</p> <p>Selling Price : Rs. 120 per unit of output</p> <p>Variable Cost : Rs. 60 per unit of output</p> <p>Fixed Overheads (excluding Depreciation) : Rs. 15 lakh per year for years 1 to 5</p> <p>Rate of Depreciation on Plant & Machinery : 25% on WDV at the end of year 5</p> <p>Salvage Value of Plant and Machinery : Equal to the WDV at the end of year 5</p> <p>Tax Rate : 40%</p> <p>Time horizon : 5 years</p> <p>Post-tax cut off rate : 12%</p> <p>i. Indicate the financial viability of the project by calculating the Net Present Value.</p>	20	CO3
Q2	<p>You have a chance to buy an annuity that pays Rs. 1500 at the end of each year for 4 years. You could earn 8% on your money in other investments with equal risk. What is the most you should pay for the annuity?</p> <p>Or</p> <p>A firm's 2021 sales were Rs. 5 million. If sales grow at 6.5% per year, how large will they be 10 years later, in 2031, in millions?</p>	20	CO3