Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course: Project & Financial Management **Semester: VII**
Program: B.Tech. – Electrical Engg **Time: 03 hrs.**
Course Code: FINC4001 **Max. Marks: 100**
Instructions: All the questions are to be attended. The corresponding marks are mentioned.

SECTION A
(5Q x 4M = 20Marks)

S. No.		Marks	CO
Q 1	Differentiate between a Project and Operations	04	CO1
Q 2	Describe the "Scope Management"	04	CO1
Q 3	Explain the key resources required for a project	04	CO1
Q 4	Illustrate the features of a GANTT chart	04	CO2
Q 5	Describe the types of WBS	04	CO2

SECTION B
(4Q x 10M = 40 Marks)

Q 6 The details of activities for a project is given below:

a) Draw a PERT
b) Find out the duration of the project

Activity	Immediate Predecessors	Time (days)
A	-	2
B	A	2
C	B	4
D	C	6
E	C	3
F	C	5
G	D, E, F	9

10 (5+5) CO2

		H	G	8			
Q 7	An agency is implementing Energy efficiency measures in municipal water pumping under ESCO route. The investment is Rs. 6 crores. Present annual bill is Rs. 4 Crores. The expected savings are 20%. (Cost of power = Rs.4/kwh, Annual maintenance cost -10% of investment) The expected CDM revenues would be Rs. 50 Lakhs/year. Calculate IRR for this project after including the CDM benefit					10	CO3
Q 8	Describe the features of shared saving and Guaranteed saving in performance contracting.					10	CO4
Q 9	Compare various type of Measurement and Verification (M & V) techniques used for evaluation of an ESCO project. Which one is most suitable for the M&V of ESCO project of Replacement of existing fluorescent tube lights of block 3 of UPES with the LED lights.					10	CO4
SECTION-C (2Q x 20M = 40 Marks)							
Q 10	It is proposed to install at the beginning of the year a heat recovery equipment in a food processing industry. The capital cost of the equipment is Rs 20,000/-. The savings accrued by the unit are constant and Rs 5,000/- annually. The discount rate is 25%. (i) Calculate the Net Present Value (NPV) for 5 years. (ii) Is the investment recovered after 5 years? Explain! (iii) Is the investment recovered after 7 years? Explain! (iv) Estimate the IRR for this investment after 7 years if the salvage value of the equipment is Rs 2,000 at the end of 7th year.					20 (5+5+5+5)	CO3
Q 11	Illustrate the format of DPR developed by PVsyst for a roof top Solar PV system					20	CO5