Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May, 2020

Course: Financing Energy Sector Project FINC3006 **Semester: VI**

Program: BA-Economics (With Specialization in Energy Economics)

Time: 03 hrs. **Max. Marks: 100**

Instructions: This question paper is divided into four sections A, B, C and D. Section A has 30 marks; Section B has 50 marks each, and Section C 20 marks.

SECTION A

S. No.		Marks	CO1
Q 1	**Answer the True and False Statement with reasons:**		
a.	Non-recourse financing is an important tool for corporate financing	**05**	
b	Time value of money signifies that the value of a unit of money remains unchanged during different time periods. (True or False with reason)	**05**	
c.	Return of portfolio is simply weighted average of returns on individual securities in the portfolio multiplied by their corresponding proportions (weights) in the portfolio.	**05**	
d.	Working capital from business operations can be determined from profit and loss account.	**05**	
g.	Public Utilities consist only two characteristics	**05**	
i.	Risk Register is a Risk Identification techniques	**05**	

SECTION B

Q.2	**Short Answer Questions. Attempt Any Five Questions.**	**Marks**	**CO2, CO3**
a.	Two Price Setting Approaches	**10**	
b.	Discuss the different phases of Life Cycle Cost Model.	**10**	
c.	Difference between corporate finance and project finance.	**10**	
d.	Discuss the credit rating methodology for renewable energy project.	**10**	
e.	You are requested to help the company in decision making for the purchase of a machine by using Accounting Rate of Return, Payback Period, Net Present Value, Profitability Index, and Internal Rate of Return.	**10**	
f.	Discuss how energy sector can leverage its financing opportunities during Pandemic scenario.	**10**	

SECTION-C

Q	**Read the case carefully and Answer the questions that follow:**	**Marks**	**CO4**
	Case A: Efficient Stoves to Protect Pandas by WWF, China (Reward-based) The WWF-China Giant Panda Program (GPP) Team targeted to raise USD 50,000 via a crowdfunding platform to build 100 highly energy efficient cook stoves for local households in a village nearby Giant Panda habitat in Sichuan Province of China. The project aimed to reduce the non-renewable biomass consumption by local households, by improving the efficiency of the cook stoves, saving surrounding forest areas and reducing CO2 emissions. A conventional cook stove used approximately 30 tons of		

	firewood every year per household. The deforestation and forest degradation caused by massive firewood harvesting have destroyed panda habitats, leading to the ecological biodiversity loss of the Giant Panda nature conservation areas. Being replaced with efficient stoves, wood consumption could be halved and air quality in homes was improved. This project also got Golden Standard credit in a Voluntary Emission Reduction scheme to offset carbon from the stoves. By the end of the campaign, the GPP team had raised USD 2,439 from 91 funders who were offered rewards such as Panda e-cards, Panda drawing, or Panda album etc. Since this was a scalable project, the building stoves were proportional to the fund that was raised from crowdfunding. **Case B: "A Flame Called Hope" by WWF Nepal (Donation-based)** The Gold Standard Biogas Voluntary Emission Reduction (VER) Scheme dubbed as 'A Flame Called Hope' by WWF Nepal was aimed at raising USD 100,000 to provide access to clean and alternate biogas energy for 150 households in a village in Nepal's Terai. Deforestation in the Terai Arc Landscape has become worse due to the rising demand for timber for daily use as fuel. The affordable and highly effective technology turned animal and human waste into biogas (a clean cooking gas) as a better alternative to wood. One biogas unit saves approximately 4 tons of CO2 equivalent emissions. The Gold Standard Biogas VER Project was also a carbon-financing project that contributes to emissions reductions, bringing financial benefits to local communities. The carbon credit sale further sustained the implementation of the biogas project. By the end of the campaign, the WWF Nepal had raised USD 2,626 from 66 funders who received social recognition and thank-you cards as rewards. **Case C: Pay-As-You-Go Solar Energy, Tanzania (Lending-based)** Via a crowdfunding platform with 91 investors USD$15,000 loan has been raised to enable the production and sale of 1,000 Solar Home Systems to small-scale businesses and their families in Mwanza, Tanzania. More than 1/3 of the production costs were covered by raised loan. The target customers were small stall or shop owners who cannot afford connection to the electric grid. The "Pay-As-You-Go" photovoltaic technology enables users to pay cash-in hand for the use of clean energy in an affordable manner. The investors received quarterly payment in fixed annual interest rate of 3.5% over a 12-month term. It is expected to improve the living of 4,000 people benefiting from solar energy annually. The household energy savings is estimated at USD$5,000 for the first year and USD$75,000 the second to the fifth year. The project would displace kerosene as the main lighting fuel and is slated to achieve an emission reduction of 100,000 kg of CO2 annually.		
a.	Discuss various crowdfunding models for RE projects financing and compare the given cases.	**10**	
b.	Highlight possible limitations of crowdfunding.	**10**	