UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Project Management   Semester: VIII
Program: B. Tech. (PIE)   Time 03 hrs.
Course Code: IPEG 425   Max. Marks: 100
Instructions: Use of calculator is allowed.

SECTION A

S. No.		Marks	CO
Q 1	Define project. How they are different from operations?	4	CO1
Q 2	What type of behavioral competencies required for a project manager?	4	CO2
Q 3	Distinguish between CPM and PERT.	4	CO3
Q 4	Give full forms: PV, EV, SPI, CPI	4	CO4
Q 5	Mention the steps involved in project procurement process.	4	CO5

SECTION B

Q 6	What are the two components of business case analysis? Explain what analysis is done under these components of business case analysis. OR Discuss the importance of projects for developing countries with reference to India; also throw light on projects in various sectors.	10	CO1
Q 7	Estimate the installation cost of a plant to be constructed now of annual capacity 2500 tones at new location (location index = 120); given that the installation cost of an existing plant at a location (with location index = 200) of annual capacity 1500 tones was Rs. 100 Crores, which was constructed in 2012. [Cost index (2019) = 2200, Cost index (2012) = 1400]. Using (a) Investment per Annual ton Capacity Method (b) Six-tenth Factor Method	10	CO2
Q 8	A project consists of 12 activities whose precedence relationships and their time estimates are shown as follows:	10	CO3

ACTIVITY		A	B	C	D	E	F	G	H	I	J	K	L
Immediate predecessor(s)		-	-	-	A	A	B, E	C	C	D	F, G	H	K
Time Estimate	Optimistic (a)	4	2	5	8	4	5	5	6	7	8	2	4
	Most Likely (m)	6	3	5	10	5	6	8	8	7	10	3	5
	Pessimistic (b)	8	4	5	12	6	7	11	10	13	12	4	6

a) Draw the project network

b) Find the critical path and corresponding expected project completion time. c) What is the probability that the project will be completed in 27 weeks?	

Q 9	A simple Project involves preparation of 500 drawings, each requires equal time and efforts. The standard cost is Rs. 2000/drawing and work rate is 10 drawings / week / draftsman and total 5 draftsmen are available. At the end of Week 4, 180 drawings were prepared at the total cost of Rs. 4.5 Lakhs. **Calculate:** 1) Budgeted cost of project 2) Planned duration of project 3) PV 4) EV 5) CV 6) SV 7) CPI 8) SPI 9) Expected cost of project completion 10) Expected time of project completion	10	CO4

SECTION-C

Q 10	Mr. Sharma is planning to build a house in Dehradun. The size of the house is 1,500 sq. feet, and will cost Rs. 4,000 per sq. foot (including the plot and the construction).The activities in building the house, the precedence, the durations and the percentage of total cost are given below:		

ACTIVITY ID	DESCRIPTION	PRECEDENCE	DURATION (WEEKS)	%AGE OF TOTAL COST
A	Excavation and framing	-	4	24
B	Roof and Fireplace	A	3	8
C	Wiring roughed in	A	1	3
D	Plumbing roughed in	B,C	2	6
E	Siding on	D	2	5
F	Windows, insulation, walls, plaster and garage	E	8	17
G	Furnace	B	1	9
H	Plumbing fixtures installed	D	2	4
J	Exterior paint, light fixtures, hardware installed	F,G,H	6	10
K	Floors laid and finished	H	4	6
L	Carpet and trim installed	K	1	4
M	Interior decoration	J,L	2	4

Prepare the project network diagram, construction plan using Gantt chart and project cost baseline.		CO3	

Q 11	What do you mean by quality in project? Name some quality gurus and throw light on the contribution of any of two gurus. Briefly outline the quality management process. OR Explain the process of project risk management. What are the possible sources of risks and how it can be estimated? Discuss various risk response strategies.		CO5