(3 Hours) [Total Marks:80]

N.B. **1) Question No. 1 is compulsory.**
   2) Attempt any three questions from the remaining questions.
   3) Figures to right indicates full marks.
   4) Assume suitable data, if necessary.

Q1. Write short notes on the following (**Any Four**) **20**
   i.   Triple constraints in Project Management
   ii.   Project charter and Project sponsor
   iii. Project Management Information system
   iv.   Goldratt's critical chain methods
   v.   Project audits

Q.2 **(a)** Explain stages of team development and growth. What are the advantages of effective team and barriers to team effectiveness? **10**

(b) A project is composed of 8 activities, the time estimate for which are given below. **10**

Activity	Predecessor	Duration		
		t_o	t_m	t_p
A	-	2	4	12
B	-	10	12	26
C	A	8	9	10
D	A	10	15	20
E	A	7	7.5	11
F	B, C	9	9	9
G	D	3	3.5	7
H	E, F, G	5	5	5

Z	Probability (P)
0	0.5
0.5	0.6950
1	0.843

(i)   Draw the network diagram.
(ii) Find the critical path and expected projected duration.
(iii) Calculate the standard deviation and variance of the project.
(iv) What is the probability of completing the project on 30-week deadline?

Q.3 **(a)** Explain work breakdown structure and Gantt chart with example. **10**
(b) A project requires an initial investment of Rs. 200000 and it is expected to generate a cash flow of Rs. 10000 for 3 years. The target rate of return of the project is 12% per annum. Calculate the net present value of the project. **05**
(c) Explain non numeric project selection models. **05**

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Q.4 **(a)** Explain top down and bottom-up budgeting. **05**

(b) What is the difference between resource loading and resource leveling? **05**

(c) Describe probability and impact matrix. Explain risk response strategies for positive and negative risks. **10**

Q.5 **(a)** A project in its 20th week has an actual cost of Rs. 250,000. It was scheduled to have spent Rs. 241,000. For the work performed to date, the budgeted value is Rs. 252,000. What are the cost and schedule variances for the project? What are the SPI and CPI? **05**

(b) Describe Earned value management technique in Project Management. **05**

(c) Explain Project Procurement Management. What is the difference between contracting and outsourcing? **10**

Q.6 **(a)** Explain multicultural and virtual projects. **05**

(b) Why is ethics important in Project management? **05**

(c) What is project termination? Explain different types of project terminations. **10**

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