



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/M.Tech (VLSI)/SEM-2/PGMVD-205/2013**

**2013**

**PROJECT MANAGEMENT**

*Time Allotted : 3 Hours*

*Full Marks : 70*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $5 \times 2 = 10$ 
  - i) You work for a nonprofit organization and are currently heading up a project to bring clean drinking water to several villages on a remote place in Nadia district. Your stakeholders have changed the scope of this project three times already, and the steering committee has reprioritized this project twice during the last six months. Which of the following risk categories does this represent ?
    - a) Quality risk
    - b) Organizational risk
    - c) Project management risk
    - d) External risk.



- ii) Your project sponsor has requested a cost estimate for the project you're working on. This project is similar in scope to a project you worked on last year. He would like to get the cost estimates as soon as possible. Accuracy is not his primary concern right now. He needs a ballpark figure by tomorrow. You decide to use
- a) Analogous estimating techniques
  - b) Bottom-up estimating techniques
  - c) Parametric modeling techniques
  - d) Computerized modeling techniques.
- iii) A contractor is working on a fixed price contract that calls for a single, lump sum payment upon satisfactory completion of the contract. About halfway through the contract, the contractor's project manager informs the contract administrator that financial problems are making it difficult for the contractor to pay employees and subcontractors. The contractor asks for a partial payment for work accomplished. Which one is the best out of the following possible actions ?
- a) Starting to make partial payments to the contractor
  - b) Making no payments to the contractor
  - c) Paying for work accomplished to date
  - d) Negotiating a change to the contract.

- software program for



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Mention the nine project management knowledge areas with their scopes.
3. Briefly discuss the processes which are included in Project Integration Management.
4. What do you mean by resource levelling and smoothing in project management.
5. Explain briefly the tools and techniques of project quality management.

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

6. Briefly discuss the cost estimating methodologies :
  - i) parametric
  - ii) historical bid-based
  - iii) cost based
  - iv) risk-based

What is the difference between top-down and bottom-up techniques of cost estimating ?



7. a) Discuss the system development life cycle (SDLC) for software development.
- b) Explain any one of the common software development models.
8. We have planned to take up a project to make 10,000 biscuits over a period of five days (i.e. 2,000 biscuits per day) at a budgeted cost of Rs. 0.05 per biscuit (i.e. total budgeted cost of Rs. 500.00). After the first day of baking, we find that we are able to get only 1,500 edible biscuits (some are burnt and get spoiled) at the actual cost of Rs. 90.00.
- a) Calculate the schedule variance (SV), cost variance (CV), schedule performance index (SPI), cost performance index (CPI), independent estimate at completion (IEAC); independent schedule at completion (ISAC); and variance at completion (VAC).
- b) Plot the graph of cost versus times showing the BCWS (PV), BCWP (EV) and ACWP (AC) and also comment on the progress and spending rate of the project after the first day of baking.



9. The relevant data about a project is shown below :

Sl. No.	Activity	Precedence relationship	Normal duration in days	Normal cost in Rs.	Crashed duration in days	Crashed cost in Rs.
1	A	NIL	4	6,000	2	8,000
2	B	A	3	2,000	3	2,000
3	C	B	8	8,000	4	10,000
4	D	B	2	5,000	1	6,000
5	E	B	3	4,500	1	7,500
6	F	D	2	2,000	2	2,000
7	G	C	1	3,000	1	3,000
8	H	C	6	9,000	4	10,000
9	I	E	3	4,500	2	6,000
10	J	F and I	2	5,000	1	8,000
11	K	G	2	1,500	2	1,500
12	L	H and J	4	3,500	1	5,000
13	M	K and L	3	6,000	2	8,500

- a) Draw the network diagram. Find the normal project duration and the critical path.



- b) What is the total project cost if the activities are completed by their normal times ?
- c) What will be the total project duration and cost if the project crashed by two days ?

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