Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2022

Subject Code:3171506 Date:18-01-2023

Subject Name:Project Management

Time:10:30 AM TO 01:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

Q.1 **(a)** Give three examples of projects found in your city, region, or country. Justify your answer using the characteristics of a project. **03**

(b) Contrast win-lose negotiation with win-win negotiation and explain why the latter is so important in project management. **04**

(c) Explain the following ways of organizing projects as a part of the parent organization: pure project organization, functional project organization, matrix project organization. **07**

Q.2 **(a)** What is meant by "micromanagement"? Why is it undesirable? **03**

(b) Using earned value analysis, explain how the total cost of a partially completed project can be estimated. **04**

(c) Discuss the steps involved in the "Project Portfolio Process". **07**

OR

(c) As a PM, you are given an important task to choose between three locations (A, B, C) for setting up a factory. The relative weights for each criterion are shown in the following table. A score of 1 represents unfavorable, 2 satisfactory, and 3 favorable. Use a weighted scoring model and make the selection. **07**

		Location		
Category	Weights	A	B	C
Labor costs	20	1	2	3
Labor productivity	20	2	3	1
Labor supply	10	2	1	3
Union relations	10	3	3	2
Material supply	10	2	1	1
Transport costs	25	1	2	3
Infrastructure	5	2	2	2

Q.3 **(a)** Some of the planning process steps for a new product design are given below. Arrange these in their sequence of execution. **03**

- Design a product that will have the requisite capabilities.
- Describe what it is you wish to develop, including its basic performance characteristics, and decide if getting such a deliverable is worthwhile.
- Develop and evaluate the concept of the project.
- Test the prototype to see if it does have the desired capabilities.
- Create such a system (product or service), which is to say, build a prototype deliverable.
- Carefully identify and spell out the actual capabilities that the project's deliverable must have to be successful.

(b) Provide steps, you will include in Project Charter, to control "scope creep". **04**

(c) Categorize the contents of a project plan necessary for large non-routine projects. Discuss it in brief. **07**

OR

Q.3 **(a)** What are some of the benefits of setting up a project plan for routine, frequent projects? **03**

(b) Justify the statement: "The monitoring system is the direct connection between project planning and control." **04**

(c) Develop a WBS (Gozinto tree) with at least three levels for a project you are personally familiar with. (State clearly the title of your project) **07**

Q.4 **(a)** Contrast the disadvantages of top-down budgeting and bottom-up budgeting. **03**

(b) Brief about the information to be contained in a project audit report. **04**

(c) Provide brief idea of the following 'risk management' areas: Risk identification, risk analysis, and response to risk **07**

OR

Q.4 **(a)** What do you mean by severity, likelihood, and detectablity with regard to Failure Mode and Effect Analysis? **03**

(b) Explain the meaning of the following ways of terminating a project: extinction, addition, integration, and starvation. **04**

(c) Media One Consultants is a small consulting firm that specializes in developing the electronic media that accompany major textbooks. A typical project requires the development of an electronic test bank, PowerPoint lecture slides, and a website to support the textbook. **07**

A team consisting of three of the firm's consultants just completed the content for the first of eighteen chapters of an operations management textbook for a major college textbook publisher. In total, it took the team 21 hours to complete this content. The consultants are each billed out at Rs. 65/hour plus 20 percent to cover overhead. Past experience indicates that projects of this type follow a 78 percent learning curve.

Estimate the budget and completion time for this project.

Q.5 **(a)** Provide meaning of the following rules for assigning preference to some activities over others when allocating scarce resources: as soon as possible, as late as possible, shortest task duration first. **03**

(b) Explain in brief: Resource loading, Resource leveling. **04**

(c) Given the information in the following table: **07**

Activity	Duration	Predecessor
a	5 days	--
b	4	--
c	3	a
d	4	a
e	6	a
f	4	b, c
g	5	d
h	6	d, e
i	6	f
j	4	g, h

(i) Construct the network diagram (activity on node), (ii) Find each activity's ES, EF, LS, LF, (iii) Which path is the critical path? How long will it take to complete the project?

OR

Q.5 **(a)** Projects A and B are both nearing completion. You are managing a super important project C that requires an immediate input of a resource being used by both projects A and B, but is otherwise unavailable. Project A has a Type 'S' life cycle. Project B's life cycle is Type 'J'. From which do you borrow the resource? Why? **03**

(b) What is meant by Goldratt's critical chain. How does it work? **04**

(c) Given the following project: **07**

Activity	Precedence	Duration, Days (Normal, Crash)	Cost, $ (Normal, Crash)
a	--	3, 2	40, 80
b	a	2, 1	20, 80
c	a	2, 2	20, 20
d	a	4, 1	30, 120
e	b	3, 1	10, 80

Partial crashing is allowed for activity 'd' and not allowed for 'e'.
Draw the network (activity on arrow) and find the critical path, time, and cost for an all-normal level of project activity. Suppose the project must be crashed by 2 days. Assess the options you have and give its description.

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