U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

January 2024 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Aerospace Engineering **Duration: 3 hrs.**
Course Code: 21AE7HSPMN **Max Marks: 100**
Course: PROJECT MANAGEMENT

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

		UNIT - I	*CO*	*PO*	Marks
1	a)	Considering a suitable example, elaborate the project life-cycle with relevant sketches.	*CO 1*	*PO 1*	**10**
	b)	Describe the various project roles and their functionalities.	*CO 1*	*PO 1*	**10**
		UNIT - II			
2	a)	Elaborate in details the steps involved in scope management.	*CO 2*	*PO 1*	**10**
	b)	The following table shows the jobs of a project with their duration in days. Draw the network diagram and find out the critical path. Calculate the total, free and independent floats.	*CO 2*	*PO 3*	**10**
		OR			
3	a)	Selecting a suitable example, discuss the significance of WBS.	*CO 2*	*PO 1*	**10**

Jobs	Duration
1-2	10
1-3	8
1-4	9
2-5	8
3-7	16
4-6	7
5-7	7
5-8	7
6-7	8
6-9	5
7-10	12
8-10	10
9-10	15
10-11	8
11-12	5

		b)	A project has the following activities with their time estimates. Activity Time / Estimated Duration (weeks): Optimistic, Mist Likely, Pessimistic 1-2: 1, 7, 13 1-6: 2, 5, 14 2-3: 2, 14, 26 2-4: 2, 5, 8 3-5: 7, 10, 19 4-5: 5, 5, 17 6-7: 5, 8, 29 5-8: 3, 3, 9 7-8: 8, 17, 32 a. Construct the project network. b. Find the expected duration and variance of each activity. c. Compute the earliest and latest occurrence for each event. d. Calculate the expected project length. e. Calculate the variance and standard deviations of project length. f. Find the probability of completing the project in the range of 34-38 weeks.	*CO 2*	*PO 3*	**10**
			UNIT - III			
	4	a)	Explain briefly the various types of priority sequencing rules and performance criteria.	*CO 2*	*PO 1*	**10**
		b)	Apply Johnson's rule for the data given below and compute the total elapsed time and Idle times of machine 1 and machine 2. **Jobs** / **Machine 1** / **Machine 2** J1: 9, 7 J2: 5, 4 J3: 10, 9 J4: 1, 5 J5: 3, 2 Determine the job sequence and Gantt chart for the machine repair schedule.	*CO 2*	*PO 3*	**10**
			UNIT - IV			
	5	a)	Briefly explain the different types of budgeting methods.	*CO 3*	*PO 1*	**10**
		b)	TATA Co. Ltd. is to start production on 1st January 2019. The prime cost of a unit is expected to be Rs. 40 (Rs. 16 per material and Rs. 24 for labor). In addition, variable/expenses per unit are expected to be Rs. 8 and fixed expenses per month Rs. 30,000. Payment for materials is to be made in the month following the purchase. One-third of sales will be for cash and the rest on credit for settlement in the following month. Expenses are payable in the month in which they are incurred. The selling price is fixed at Rs. 80 per unit. The number of units to be produced and sold is expected to be: January 900; February 1200; March 1800; April 2000; May 2,100; June 2400. Draw a Cash Budget indicating cash requirements from month to month.	*CO 3*	*PO 3*	**10**

			OR			
	6	a)	Discuss advantages and limitations of budgeting.	*CO 3*	*PO 1*	**10**
		b)	The expenses budgeted for the production of 1,000 units in a factory are furnished below: **Particulars** — **Per Unit Rs.** Material Cost — 700 Labor Cost — 250 Variable overheads — 200 Selling expenses (20% fixed) — 130 Administrative expenses (Rs. 2,00,000) — 200 Total Cost 1,480 Prepare a budget for production of 600 units and 800 units assuming administrative expenses are rigid for all levels of production.	*CO 3*	*PO 3*	**10**
			UNIT - V			
	7	a)	Explain how to identify and analyse risks.	*CO 4*	*PO 1*	**10**
		b)	Explain the steps involved in planning procurement management.	*CO 4*	*PO 1*	**10**

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