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

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E. **Semester: VII**
Branch: Aerospace Engineering **Duration: 3 hrs.**
Course Code: 21AE7HSPMN **Max Marks: 100**
Course: Project Management **Date: 24.02.2023**

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

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT – I

1 a) Describe the categories of projects. **10**

b) Elaborate the phases of project life cycle. **10**

UNIT - II

2 a) Describe the scope planning flow with flow chart. **10**

b) The table below gives a list of jobs, their duration in days. **10**

Activity	Duration
1-2	20
1-3	24
1-4	8
2-5	20
3-4	16
3-7	24
4-5	0
4-6	18
5-6	0
4-7	4
6-7	12

(1) Draw network & identify CP (2) Compute Total Float and Free Float.

OR

3 a) An R&D activities has 7 activities for which the three time estimates are given below along with its precedence activities. **10**

Activity	To	Tm	Tp
1-2	1	1	7
1-3	1	4	7
1-4	2	2	8
2-5	1	1	1
3-5	2	5	14
4-6	2	5	8
5-6	3	6	15

(1) Draw PERT network (2) find the duration and variance of each activity. (3) Find EST and LFT for each event, CP and duration (4) What is the probability that the project will be completed at least 4 weeks earlier than excepted? (5) What is the probability that the project will be completed not more than 4 weeks earlier than expected? (6) If the project due date is 19 weeks, what is the probability of meeting the due date?

b) Elaborate the setting up the WBS. **10**

UNIT - III

4 a) Use the graphical method to minimize the following jobs on 5 machines shown. For each machine find the job which should be done first. Also calculate the total time needed to complete both the jobs. **10**

Job 1	Sequence	A	B	C	D	E
	Time (hrs)	2	3	5	2	1
Job 2	Sequence	D	C	A	B	E
	Time (hrs)	6	2	3	1	3

b) Consider the following 3 machines & 5 jobs flow shop problem. Check whether Johnson's rule can be extended to this problem. If so what is the optimal schedule and corresponding make span. **10**

Job	1	2	3	4	5
M/C-1	11	13	15	12	20
M/C-2	10	8	6	7	9
M/C-3	12	20	15	19	7

UNIT - IV

5	a)	Elaborate the essentials of budgeting.	**10**
	b)	Describe the factors to develop a production budget.	**10**

OR

6	a)	Differentiate fixed and flexible budget.	**10**
	b)	List the advantages and limitations of budgeting.	**10**

UNIT - V

7	a)	Determining which risks might affect the project and documenting their characteristics	**10**
	b)	Elaborate the project procurement management process.	**10**

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