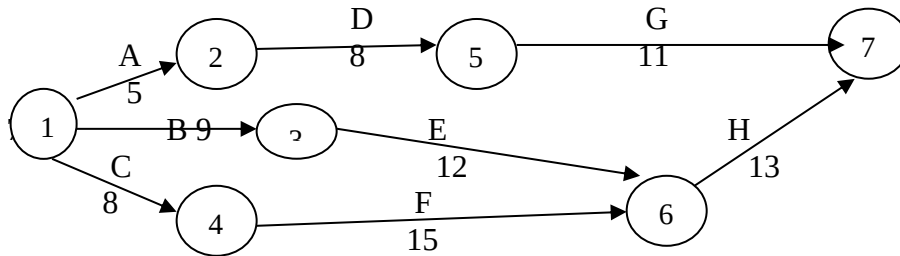


GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – SUMMER 2024****Subject Code: 2180611****Date:18-05-2024****Subject Name: Construction Management****Time: 10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

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.

MARKS

- Q.1** (a) Enlist and explain the phases of construction management project. **03**
 (b) Explain the conventional planning technique with its limitation. **04**
 (c) Draw a job layout of a railway station construction. **07**
- Q.2** (a) Define the term 1) Balance sheet 2) Cost statement 3) Ratio analysis **03**
 (b) Prepare a work breakdown structure for Housing colony construction **04**
 (c) From the following network and find out project duration, critical path, Critical activity **07**

**OR**

- (c) A) Draw the network from following data also find out critical path, critical activity, project duration **07**

Sr.No	Activity	Duration	Precedence	Successor
1	A	6	---	D
2	B	9	----	E
3	C	12	---	F
4	D	8	A	J
5	E	6	B	H,G
6	F	9	C	I
7	G	5	E	K
8	H	10	E	J
9	I	15	F	K
10	J	14	D,H	-----
11	K	10	G,I	-----

- Q.3** (a) Define the term 1) Float 2) optimistic time 3) Resource leveling **03**
 (b) Why value engineering is important? Explain in detail. **04**
 (c) Explain the procedure of network crashing. Why crashing is required for project? **07**

OR

- Q.3** (a) Define the term 1) Crash cost 2) Total float 3) Most likely time **03**
 (b) Differentiate between CPM vs PERT **04**

- (c) Explain the following network technique 1) ladder network 2) Precedence network. **07**

- Q.4** (a) Enumerate and discuss principles of organization. **03**
 (b) Explain the different inventory management technique for material management. **04**
 (c) What is organization? Explain the factors for success of a construction organization **07**

OR

- Q.4** (a) Explain the material management function. **03**
 (b) Describe various unsafe conditions which cause accidents at the construction site. **04**
 (c) Draw the network from following three time estimate, find out total project duration. **07**

Activity	Optimistic time	Pessimistic time	Most likely time
1-2	4	9	7
1-3	5	12	8
2-4	4	14	10
3-5	4	14	7
4-5	3	12	11
5-6	2	10	6

- Q.5** (a) List out project performance evaluation criteria. **03**
 (b) Write a short note on CONQUAS. **04**
 (c) Explain the term 1) Formulation 2) mathematical model 3) constrain **07**

OR

- Q.5** (a) What is break-even analysis explain with example **03**
 (b) What is updating? Why updating is required on construction project. **04**
 (c) Explain a Simplex method of linear programming. **07**
