6. (a) Discuss the process of site organization for a construction project taking example of an ongoing project in the university campus.

(b) Briefly describe the main reasons for safety problems on construction sites. Discuss the importance of EHS measures that need to be adopted on the construction site of a building project to provide an accident-free work environment for the hazards given in the table below.

S. No.	Some of common construction site hazards
(1)	Excavation and trenches
(2)	Scaffoldings
(3)	Welding and cutting
(4)	Fire (open flames' combustible liquids)

5+5=10

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2085

B. Arch. EXAMINATION, May 2017

(Ninth Semester)

(Old Scheme) (Re-appear Only)

AR-511-G

ARCH.

Construction Management-IX

Time : 3 *Hours*] [*Maximum Marks :* 50

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Write short notes on any *four* of the following :

(a) Bill of Quantities

(b) Lump sum Contract

(c) Organization structure

(d) Safety measures on construction site.

2½+2½+2½+2½=10

2. Define "Project" and "Project Life Cycle". Discuss types of project under the headings : Building (residential, commercial), industrial and engineering giving at least three examples for each. **10**

Unit II

3. (a) Discuss the role of architect in construction management taking example of a hospital building project in Gurgaon.

(b) What is the importance of time scheduling ? Explain giving example of one off (non-repetitive) building project.

5+5=10

4. A small project consists of six activities given in the table below. With each activity its "i" node and "j" node and duration are given. Prepare a network diagram for the project and determine the following : **10**

(a) Earliest event time and latest event time

(b) Critical path and project duration

(c) Earliest and latest start and finish times of each activity

(d) Total and free float of each activity.

Activity	"i" node	"j" node	Duration
A	1	2	6
B	1	3	12
C	2	4	13
D	3	4	5
E	4	5	4
F	3	5	16

Unit III

5. Construction of a high rise apartment is a repetitive project, discuss how the line of balance techniques can be useful in this project for time and resource scheduling. **10**

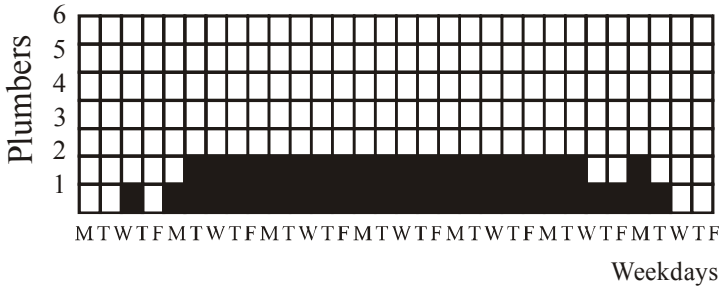

Fig. 2 Resource Scheduling

8. (a) Sources of water pollution on building sites include : diesel and oil; paint, solvents, cleaners and other harmful chemicals; and construction debris and dirt. What measures are suggested by GRIHA to control such pollution on building sites ?

(b) What are the sources of noise on a construction site and maximum allowable decibel levels or sound pressure levels at the project property line ? **5+5=10**

Unit IV

7. A plumbing project shows a typical resourse aggregation pattern of one resource (plumber) that would result from trying to do each activity at it earlist time as shown in fig. 1 Since Only Two plumbers can work on the project, resource scheduling was done as shown in fig. 2. What is this type of resource scheduling called and what are the steps involved in this type of resource scheduling ? Discuss advantages and disadvantages of this resource scheduling. **10**

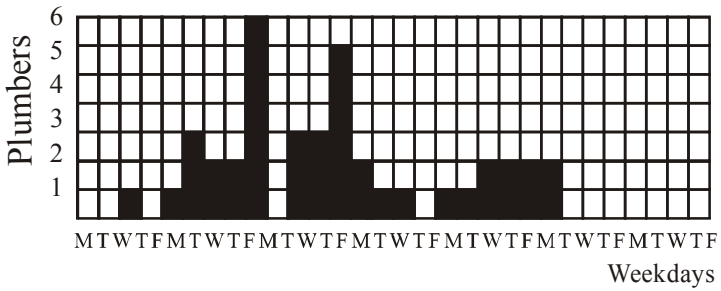

Fig. 1 Resource aggregation for the earliest start times.