Graphic Era
HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

End Term (Even) Semester Examination May-June 2025

Roll no.....

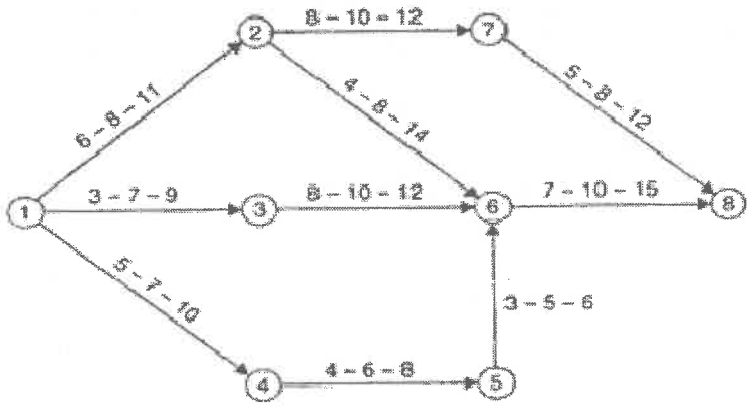
Name of the Program and semester: B.Tech. (Civil Engineering), VIII
Name of the Course: Construction Planning & Scheduling
Course Code: TCE 801

Time: 3 hours **Maximum Marks:** 100

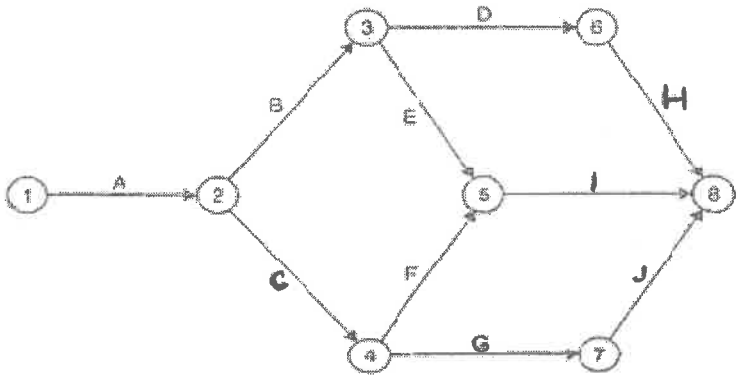
Note:
- *(i)* All the questions are compulsory.
- *(ii)* Answer any two sub questions from a, b and c in each main question.
- *(iii)* Total marks for each question is 20 (twenty).
- *(iv)* Each sub-question carries 10 marks.

Q1. **(2X10=20 Marks)**

a. The network of certain project shown in below fig. determine the expected time for each of the path. Determine critical path? CO1



b. A building project consists of 10 activities represented by network shown in the given network diagram, and calculate the time for each activity shown in table A, compute a) event time, b) activity times c) total float. Also determine critical path CO1



c. Explain CPM and PERT techniques? Explain the difference between CPM and PERT in tabular form? CO1

End Term (Even) Semester Examination May-June 2025

Q2. **(2X10=20 Marks)**

a. Explain the working of piling hammers? CO2

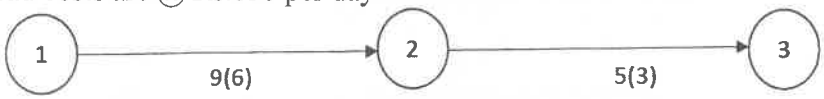
b. Describe bitumen mix plant with schematic diagram?. CO2

c. Explain working of crushers and its importance in concrete making? CO2

Q3. **(2X10=20 Marks)**

a. Describe cost controlling measures in a construction project? CO3

b. The normal & crash cost & time data of activities in network shown in Fig. below are given in the table. Determine the optimum project duration if project overhead costs are @ Rs.850 per day



CO3

Activity	Normal Duration(Days)	Normal cost (Rs)	Crash Duration(Days)	Crash Cost (Rs)
1-2	9	8000	6	9500
2-3	5	5000	3	5500

c. Explain in detail the role of project Budget-Forecasting for Activity in cost control CO3

Q4. **(2X10=20 Marks)**

a. Discuss the significance of quality control and safety during construction? CO4

b. Explain the concepts of Total Quality Control (TQC) and Quality Control by Statistical Methods in the context of construction projects? CO4

c. Describe a scenario in construction where variable sampling provides more accurate quality assessment? CO4

Q5. **(2X10=20 Marks)**

a. Explain the significance of ACRs in public service? Describe in detail the process of preparation, review, and utilization of Annual Confidential Reports (ACRs) in public works or construction departments? CO5

b. Explain the procedures and key elements involved in the tendering process for construction projects? CO5

c. Describe the financial concepts associated with the valuation and depreciation of construction assets? CO5