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**Question Paper Code : 10456**

M.E./M.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Second Semester

Construction Engineering and Management

CN 5203 — COMPUTER APPLICATIONS IN CONSTRUCTION ENGINEERING  
AND PLANNING

(Regulation 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What could Civil Engineers gain by integrating BIM?
2. List out some of the IT applications in construction.
3. Mention some limitations of linear Programming applied for construction activities.
4. Write a short note on branch technique.
5. Write any two characteristics that should be taken into account in the models of inventory management.
6. List out the various probabilistic inventory models.
7. Define shortage cost.
8. What is meant by demand rate?
9. List out some of the latest Enterprises software's used.
10. What are the services provided by Enterprises software?

PART B — (5 × 13 = 65 marks)

11. (a) Discuss about the common features of computer aided cost estimation software's in construction Engineering.

Or

- (b) Explain the latest software applications available to support the construction project.

12. (a) Describe how integer programming can be applied for scheduling problems.

Or

- (b) Consider three jobs to be assigned to three machines. The cost for each combination is shown in the table below. Determine the minimal job — machine combinations.

Job	Machine			$a_i$
	1	2	3	
1	5	7	9	1
2	14	10	12	1
3	15	13	16	1
$b_j$	1	1	1	

13. (a) Explain the factors that are important in making decisions related to inventories.

Or

- (b) Describe about the deterministic inventory model in detail.

14. (a) Describe the core modules of advanced planning and scheduling applications.

Or

- (b) Discuss the concepts of critical path networks. List out the key steps that take place in preparing a network diagram.

15. (a) Explain about the resequencing process for accelerating the schedules.

Or

- (b) Describe about the enterprise resource planning in detail.

PART C — (1 × 15 = 15 marks)

16. (a) Discuss about the various software's used in advanced planning and scheduling.

Or

- (b) (i) Discuss the limitations of CPM based scheduling of construction activities. (6)  
(ii) Explain the issues related to the master data management with respect to Enterprises. (9)