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Question Paper Code : 80184

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Sixth Semester

Civil Engineering

CE 6005 — CONSTRUCTION PLANNING AND SCHEDULING

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Draw the learning curve and define the different phases of learning.
2. Name any two coding systems used in the construction industry.
3. Define and differentiate between float and slack.
4. What are the three time estimates used for determining the activity duration in PERT procedure?
5. Differentiate between income and cash inflow.
6. Define accounting and its necessity for project management.
7. Define TQM and SQC.
8. List any four different PPE, construction workers have to wear at sites.
9. Define and differentiate between data and information.
10. Name any two types of DBMS systems followed in construction industry.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Define WBS. (2)
 (ii) Draw a typical WBS Tree diagram for residence building construction. (6)
 (iii) What are the different methods to estimate the time duration of activities? (8)

Or

- (b) Describe in detail the relationship between choice of technology - construction method and the project time frame and budget limitations. Explain with reference to a high rise building comparing cast-in-situ and precast construction methods for the RCC structure.

12. (a)

Activity :	A	B	C	D	E	F	G	H	I	J	K
Duration :	10	12	8	12	6	5	8	8	10	6	12
Predecessor :	-	-	A	A	B	B	E	C, G	C, G	F, H	D, I, J

- (i) Draw the project network and identify the critical path. (6)
 (ii) Calculate all the activity times (EST, EFT, LST and LFT). (6)
 (iii) Calculate the TOTAL Float and FREE Float for all the activities. (4)

Or

- (b) (i) Define and differentiate between CPM and PERT. (8)
 (ii) Define crashing of activities, rules for crashing and draw the corresponding graphs and explain direct cost, indirect cost (overhead cost), crashing cost and total cost. (8)

13. (a) (i) Define and differentiate between completed contract method and percentage completion method. (8)
 (ii) Define Budget and describe its importance for a construction project and explain how the cost and time trends are monitored using S curve. (8)

Or

- (b) (i) Describe the cash flow statement with a typical drawing for a contractor company for one project showing the various inflow and outflow components for 6 months. (8)

- (ii) Fill the table below. It lists 8 different financial transactions for a construction project. Classify them as direct cost, indirect cost, overhead cost, cash inflow and outflow. (8)

#	Financial component	Cash inflow or outflow	Direct cost or indirect cost or overhead
1	Mobilisation advance given by client		
2	Expenditure for worker accident treatment		
3	Raw materials purchase		
4	Payment for advertisement		
5	Monthly salaries and wages		
6	Hire charges for machineries		
7	Deposit paid to client while getting the work		
8	Constructing the temporary office at site		

14. (a) (i) Define and differentiate between QA and QC with example. (8)
(ii) Define and differentiate between statistical quality control with sampling by attributes and statistical quality control with sampling by variables. (8)

Or

- (b) (i) Define accidents and the causes for accidents at construction sites and the various costs associated with accidents. (10)
(ii) List the safety precautions for a high rise RCC cast-in-situ construction. (6)
15. (a) Describe the importance of information system in the effective management of construction.

Or

- (b) Describe any two types of DBMS based Information Systems followed in construction industry.