



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

CIVIL ENGINEERING

TUTORIAL QUESTION BANK

Course Title	CONSTRUCTION MANAGEMENT			
Course Code	A80146			
Regulation	R15-JNTUH			
Course Structure	Lectures	Tutorials	Practicals	Credits
	4	-	-	4
Course Coordinator	Mr. Ch. Balakrishna, Assistant Professor, Civil Engineering			
Team of Instructors	Mr. Ch. Balakrishna, Assistant Professor, Civil Engineering Mr. R. Suresh kumar, Assistant Professor, Civil Engineering			

OBJECTIVES:

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

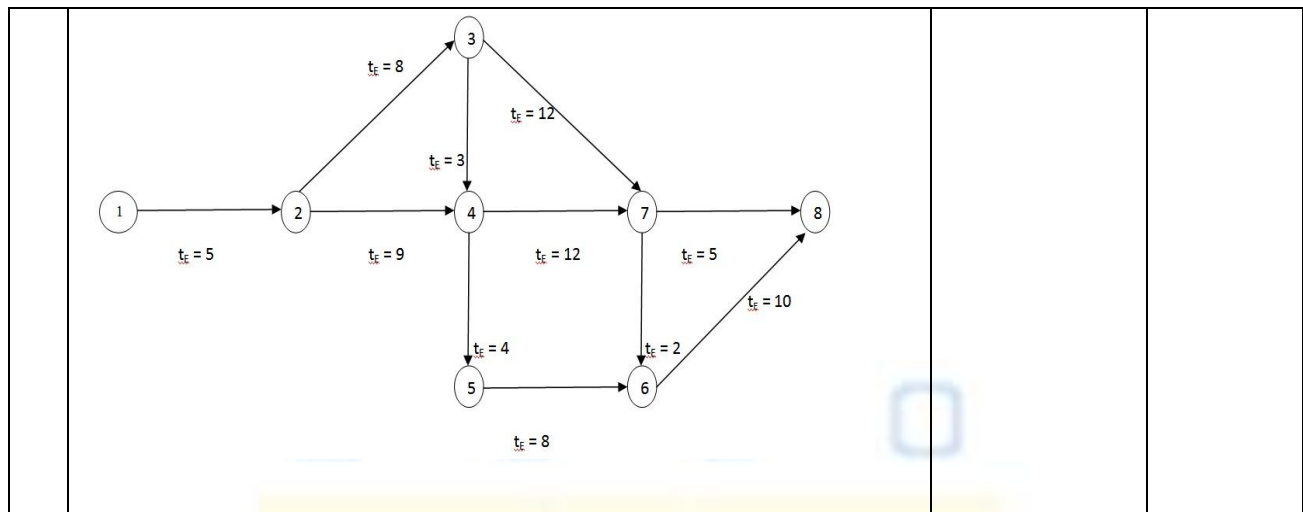
S. No	Question	Blooms Taxonomy Level	Course Outcome
UNIT-I (MANAGEMENT PROCESS)			
PART - A SHORT ANSWER QUESTIONS			
1	Define Management?	Remember	1
2	What is management of Drafting?	Understand	1
3	Name various management roles?	Remember	1
4	Define management theory?	Remember	1
5	Define strategic management?	Understand	1
6	Which are the steps of strategic management?	Remember	1
7	Which are the characteristics of the strategic management process?	Remember	1
8	Name some decision making tools?	Remember	1
9	Define organization structure?	Understand	1
10	Define employee motivation?	Understand	2

11	What is leadership?	Remember	1
12	Types of organization structure?	Remember	1
13	Define social responsibility?	Remember	1
14	Define CSR	Remember	1
15	List various responsibilities towards employees?	Remember	1
PART - B LONG ANSWER QUESTIONS			
1	Describe different management theories??	Remember	1
2	Discuss the evaluation of HRM?	Remember	3
3	Describe steps of decision Making	Remember	2
4	How Human Resource Management plays an important Rule in employee motivation?	Understand	3
5	Draw organization structure for a construction industry	Understand	3
6	Role of Human Resource Management (HRM) in Leadership Development	Understand	1
7	List various commandments of corporate social responsibility & list various forces pressuring social responsiveness	Remember	1
8	Explain the difference between 'strategy' and 'strategic management'.	Remember	2
9	Discuss various decision making techniques elaborate PERT in detail?	Remember	3
10	Explain the various stages involved in materials management. How do you overcome the problems of improper materials management?	Understand	1
11	Explain the following: (1) Decision making in Project planning (2) Important of fund flow statement.	Understand	1
PART - C CRITICAL THINKING QUESTIONS			
1	List competitive advantages of corporate social responsibility	Remember	1
2	What is managing ethics and elaborate its importance	Remember	1
3	What means strategy implementation and execution?	Remember	1
4	Outline the fundamental differences between outside-in and inside-out thinking about strategic management, and their influence on strategy.	Remember	1
5	What is the best management theory in your perspective and why?	Understand	1
6	Which decision making technique is used in civil engineering & why?	Understand	2,3,4
7	What does organizational structure specify?	Understand	2
8	What is the importance of employee motivation in business development?	Understand	2
9	What is the importance of leadership in employee motivation?	Understand	2,4
10	What the steps involved strategy implementation explain it?	Understand	2
UNIT-II (CLASSIFICATION OF CONSTRUCTION PROJECTS)			
PART - A SHORT ANSWER QUESTIONS			
1	Write a short note on construction project?	Understand	2
2	Write a short note on construction activities?	Remember	1

3	Write a short note on construction schedule?	Remember	1,5														
4	Define critical path?	Remember	1,5														
5	What is dummy activity?	Remember	1														
6	What are the activities involved in planning?	Remember	1,5														
7	What are types of project plans?	Remember	1														
8	Define PERT?	Remember	1														
9	Name Various network techniques in construction management?	Remember	3,4														
10	What are various functions of construction management?	Remember	1														
11	Write applications of construction management?	Remember	1														
12	Write the objectives of project planning.	Understand	2														
13	Distinguish between CPM and PERT.	Understand	2														
14	Define grant chart.	Remember	1														
15	What are various stages in construction.	Understand	2														
PART - B LONG ANSWER QUESTIONS																	
1	Define Planning. Discuss about various activities involved in construction planning	Understand	2														
2	Explain various project planning techniques available in construction industry?	Understand	2														
3	Write the detailed procedure involved in critical path method and explain the other scheduling techniques.	Remember	3,4														
4	Explain the various stages involved in materials management. How do you overcome the problems of improper materials management?	Understand	2														
5	<p>The following table gives the activity in construction projects</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Activity</th> <th>Duration (days)</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>20</td> </tr> <tr> <td>1-3</td> <td>25</td> </tr> <tr> <td>2-3</td> <td>10</td> </tr> <tr> <td>2-4</td> <td>12</td> </tr> <tr> <td>3-4</td> <td>6</td> </tr> <tr> <td>4-5</td> <td>10</td> </tr> </tbody> </table> <p>i) Draw Network for project ii) Find the critical path iii) Find the free float, total float & independent float for each activity</p>	Activity	Duration (days)	1-2	20	1-3	25	2-3	10	2-4	12	3-4	6	4-5	10	Understand	2.5
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1-2	20																
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6	Discuss in brief the resource allocation problem. What are methods of solving the problem	Understand	2														
7	Based on the below network diagram, identify the total paths, critical path, and float for each path.	Understand	2,5														

8	Explain in detail about the programming methods in project planning. How do you overcome the problems of scheduling the projects?	Remember	6																																								
9	Explain the following: (1) Supervision and its impact on productivity (2) Risk management	Remember	6																																								
10	<p>The following table gives the activity in construction projects</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>25</td> </tr> <tr> <td>1-3</td> <td>30</td> </tr> <tr> <td>2-3</td> <td>15</td> </tr> <tr> <td>2-4</td> <td>17</td> </tr> <tr> <td>3-4</td> <td>11</td> </tr> <tr> <td>4-5</td> <td>15</td> </tr> </tbody> </table> <p>i) Draw Network for project ii) Find the critical path Find the free float, total float & independent float for each activity</p>	Activity	Duration	1-2	25	1-3	30	2-3	15	2-4	17	3-4	11	4-5	15	Understand	5																										
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PART - C CRITICAL THINKING QUESTIONS																																											
1	Discuss in detail about Cost & Time optimization with a suitable illustration	Understand	2																																								
2	Justify how Network Techniques in construction management is useful? Explain with an example	Remember	1																																								
3	Write the detailed procedure involved in critical path method and explain the other scheduling techniques.	Remember	1																																								
4	<p>The following table lists the jobs of a project with their time estimates:</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>to</th> <th>tm</th> <th>tp (in Days)</th> </tr> </thead> <tbody> <tr> <td>1,2</td> <td>3</td> <td>6</td> <td>15</td> </tr> <tr> <td>1,6</td> <td>6</td> <td>5</td> <td>14</td> </tr> <tr> <td>2,3</td> <td>6</td> <td>12</td> <td>30</td> </tr> <tr> <td>2,4</td> <td>2</td> <td>5</td> <td>8</td> </tr> <tr> <td>3,5</td> <td>5</td> <td>11</td> <td>17</td> </tr> <tr> <td>4,5</td> <td>3</td> <td>6</td> <td>15</td> </tr> <tr> <td>6,7</td> <td>3</td> <td>9</td> <td>27</td> </tr> <tr> <td>5,8</td> <td>1</td> <td>4</td> <td>7</td> </tr> <tr> <td>7,8</td> <td>4</td> <td>19</td> <td>28</td> </tr> </tbody> </table> <p>Draw the PERT network and determine the expected project completion time.</p>	Activity	to	tm	tp (in Days)	1,2	3	6	15	1,6	6	5	14	2,3	6	12	30	2,4	2	5	8	3,5	5	11	17	4,5	3	6	15	6,7	3	9	27	5,8	1	4	7	7,8	4	19	28	Understand	5
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5	<p>A project consists of 16 activities having their predecessor relationships as follows:</p> <ul style="list-style-type: none"> i) A is the first activity of the project ii) B,C & D follow A and can be done concurrently iii) E & G cannot begin until C is completed and can be performed simultaneously iv) F is the immediate successor to activities B& E. v) H & k run in parallel & both succeed G vi) L succeeds F & H 	Understand	3,4																																								

	<p>vii) I & J are immediate successor activities to activity D.</p> <p>viii) I & J are immediate successor to I & K. however both M & N can be performed concurrently</p> <p>ix) Activities O & P are the last activities. Activity O is the immediate successor to N & L. Activity P is the immediate successor to M & J .</p> <p>Draw the network & number the events</p>																																																										
6	<p>Draw the network diagram for following data & find the critical path using floats. Also find the project duration</p> <table border="1"> <thead> <tr> <th>Succeeding activities</th> <th>Preceding activities</th> <th>Activities</th> <th>Duration (Days)</th> </tr> </thead> <tbody> <tr> <td>A & B</td> <td>---</td> <td>A</td> <td>10</td> </tr> <tr> <td>C</td> <td>B</td> <td>B</td> <td>5</td> </tr> <tr> <td>D</td> <td>A</td> <td>C</td> <td>3</td> </tr> <tr> <td>E</td> <td>C</td> <td>D</td> <td>6</td> </tr> <tr> <td>F</td> <td>C</td> <td>E</td> <td>7</td> </tr> <tr> <td>G</td> <td>F</td> <td>F</td> <td>6</td> </tr> <tr> <td>H</td> <td>G</td> <td>G</td> <td>5</td> </tr> <tr> <td>I</td> <td>C</td> <td>H</td> <td>8</td> </tr> <tr> <td>J</td> <td>H & I</td> <td>I</td> <td>4</td> </tr> <tr> <td>K</td> <td>E, J & D</td> <td>J</td> <td>6</td> </tr> <tr> <td>L</td> <td>H & I</td> <td>K</td> <td>4</td> </tr> <tr> <td>M</td> <td>K & L</td> <td>L</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>M</td> <td>2</td> </tr> </tbody> </table>	Succeeding activities	Preceding activities	Activities	Duration (Days)	A & B	---	A	10	C	B	B	5	D	A	C	3	E	C	D	6	F	C	E	7	G	F	F	6	H	G	G	5	I	C	H	8	J	H & I	I	4	K	E, J & D	J	6	L	H & I	K	4	M	K & L	L	3			M	2	Remember	6
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7	<p>For the network shown in figure</p> <p>i) What are the critical path & project duration?</p> <p>ii) If the estimated duration of activity C is revised to 8 days, will the critical path remain the same as earlier?</p>	Understand	3.4.5																																																								
8	<p>For the network shown in figure determine the slack for various events , if the scheduled date of completion of project is 36 days. Present the computations in tabular form</p>	Understand	6																																																								



9	Explain the significance of Beta distribution Curve in PERT analysis.	Understand	6
10	<p>a) What is meant by Work Breakdown Structure?</p> <p>b) Show the differences between Critical Path Method and PERT technique.</p>		

UNIT-III (RESOURCE PLANNING)

PART - A SHORT ANSWER QUESTIONS

1	What is the objective of scheduling	Remember	2
2	List out advantages of scheduling	Remember	1
3	Discuss different types of schedules	Remember	3
4	Discuss resource levelling and allocation	Understand	2.3.4
5	Write the advantages of scheduling in a construction project.	Remember	2
6	What is float?	Remember	2
7	What is organizing?	Understand	3
8	Define staffing?	Understand	2.3
9	Define Man power planning?	Understand	2
10	What is the purpose of material management	Understand	2
11	What do you understand by the word budget?	Understand	3
12	Explain the basic difference between budget and forecast	Remember	1

PART - B LONG ANSWER QUESTIONS

1	Define planning. Discuss about the various activities involved in construction planning	Remember	2
2	Explain various project planning techniques available In construction industry?	Remember	2
3	What is construction planning? What are the objectives of planning?	Understand	1

4	What are the types of project plans? Explain in detail	Understand	3
5	Explain in detail about planning of manpower & material	Remember	3
6	Explain in detail about equipment & finance plan	Remember	2
7	The construction industry is facing a severe shortage of skilled man power – discuss with particular examples	Understand	2
8	The equipment necessary for the project decides the cost – Explain?	Understand	2
9	Discuss the classification of construction equipment?	Remember	1
10	How do you arrive at necessity of hiring or purchasing the equipment?	Understand	1

PART - C CRITICAL THINKING QUESTIONS

1	Discuss in brief resource allocation problem, what are the methods of solving the problems	Understand	1
2	With the help of illustrative example explain resource smoothing method.	Remember	1

UNIT-IV (CONTRACT)

PART – A SHORT ANSWER QUESTIONS

S. No	Question	Blooms Taxonomy Level	Course Outcome
1	What do you by word contract? Define it.	Remember	4
2	List the different types of contracts	Remember	3
3	Define lump sum contract	Understand	3
4	Define Unit Price Contract	Understand	3
5	What is unbalanced bid	Understand	3
6	What is contract document of the project	Remember	1
7	What is the specification in a construction project	Understand	3
8	What are the different types of specifications	Remember	3
9	List the important conditions of contract	Remember	3
10	Define tender and what is tender document	Understand	3
11	Brief about the money deposition by the contractor	Remember	3
12	What is arbitration and Negotiation	Understand	3
13	What is the difference between arbitration and negotiation	Understand	3
14	What is M. Book in the construction	Remember	3
15	What is Muster roll	Remember	3
16	What is project estimation?	Understand	

PART - B LONG ANSWER QUESTIONS

1	What is a contract? Explain the classification & types of contracts	Understand	2
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2	Discuss the categories of contract in detail and differentiate them with respect to their characteristics	Remember	3
3	What is contract management in construction industry & discuss about it in detail	Remember	3
4	What is project estimation? Explain the types of estimation & discuss about different types of estimates with advantages & disadvantages	Understand	4
5	What is sub-contracting? Discuss about the different types of sub-contractors & also discuss about integrated contract	Understand	4
6	What is bidding? Explain the different types of bidding	Remember	1
7	What is procurement in construction industry explain in detail	Understand	2
8	Explain about activities in contract management	Remember	2
9	Explain about types of bidding & classify the various process in contracts	Remember	2
10	Explain about types of procurement & classify the various process in contracts	Understand	2

PART - C CRITICAL THINKING QUESTIONS

1	Explain various project planning techniques available in construction industry?	Remember	1
2	Differentiate building contract from forms of contract	Remember	1
3	Mention and Describe different / various types of contracts in detail with suitable examples and also furnish advantages and disadvantages of each and every type of contract?	Understand	2
4	Explain in detail about the item rate contract and furnish advantages and disadvantages? Give at least two suitable examples?	Remember	4
5	Explain in detail contract procurement strategies? Give suitable examples to each and every strategy PPT-from B	Understand	1
6	You as a contract administrator advice a suitable type of contract to your employer considering various situations with respect of time and money and skill? Define contract document and explain in detail about contract document?	Understand	1
7	Explain the different types of contracts for execution of civil engineering works. List the advantages & disadvantages of each type	Understand	3
8	Differentiate bidding from tendering and explain in detail with suitable examples?	Remember	4
9	Explain in detail pre-bidding process?	Remember	3
10	Define and explain the following in detail a. General conditions of contract b. Special conditions of contract	Understand	1

UNIT-V (MANAGEMENT INFORMATION SYSTEM)

PART - A SHORT ANSWER QUESTIONS

S. No	Question	Blooms Taxonomy Level	Course Outcome
1	What is time rate system in making wage payment to labour?	Understand	1
2	What is piece rate system in making wage payment to labour?	Remember	3

3	Define Hazard?	Understand	3
4	What do you understand by the term insurance?	Understand	3,6
5	What is trade union?	Remember	3,6
6	Define wage?	Understand	1,6
7	What do you understand by term bonus?	Understand	2,3,6
8	What is the purpose of labour regulations?	Remember	6
9	What do you understand by the term accident?	Understand	6
10	What do you understand by the term social security?	Remember	6
PART - B LONG ANSWER QUESTIONS			
1	Explain rights and liabilities of registered trade unions?	Understand	2
2	Write about the classification of labour laws in India?	Remember	2,6
3	Discuss about workmen's compensation act?	Remember	2
4	Explain the duties of safety officer ?	Understand	1
5	What is safety? How do you ensure safety in a construction site?	Remember	3
6	What are the elements of safety policy? Discuss?	Understand	6
7	Explain legal and financial aspects of accidents in construction?	Remember	6
8	Discuss the Human factors involved in safety?	Understand	6
9	Write about safety Hazard assessment?	Understand	6
10	Discuss the key features of any two laws relating to wages?	Understand	6
PART - C CRITICAL THINKING QUESTIONS			
1	Discuss the key elements of safety management systems?	Remember	6

Prepared By:

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