

**University of Mumbai**  
**Examination June 2021**

**Examinations Commencing from 1<sup>st</sup> June 2021**

Program: Civil Engineering

Curriculum Scheme: Rev2016

Examination: BE Semester VIII

Course Code: C 802 and Course Name: Construction Management

Time: 2 hour

Max. Marks: 80

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Frederick W. Taylor introduced a system of working known as
Option A:	line organisation
Option B:	line and staff organisation
Option C:	functional organisation
Option D:	Effective organisation.
2.	The first stage of a construction, is
Option A:	Preparation of estimate
Option B:	Survey of the site
Option C:	Initiation of proposal
Option D:	Preparation of tender
3.	The reduction in project time normally results in
Option A:	Decreasing the direct cost and increasing indirect cost
Option B:	Increasing the direct cost and decreasing the indirect cost
Option C:	Increasing the direct cost and indirect cost both
Option D:	Decreasing the direct cost and indirect cost both
4.	The performance of a specific task in CPM, is known
Option A:	Dummy
Option B:	Event
Option C:	Activity
Option D:	Contract.
5.	Military organisation is known as
Option A:	line organisation
Option B:	line and staff organisation
Option C:	functional organisation
Option D:	effective organisation
6.	Various activities of a project, are shown on bar charts by
Option A:	vertical lines
Option B:	horizontal lines
Option C:	dots
Option D:	crosses.

7.	If $a$ is the optimistic time, $b$ is the pessimistic time and $m$ is most likely time of an activity, the expected time of the activity, is
Option A:	$\frac{a + m + b}{6}$
Option B:	$\frac{a + 2m + b}{6}$
Option C:	$\frac{a + 4m + b}{6}$
Option D:	$\frac{a + 5m + b}{6}$
8.	The time by which activity completion time can be delayed without affecting the start of succeeding activities, is known as
Option A:	duration
Option B:	total float
Option C:	free float
Option D:	interfering float.
9.	The time which results in the least, possible construction cost of an activity, is known
Option A:	normal time
Option B:	slow time
Option C:	crash time
Option D:	standard time
10.	Bar charts are suitable for
Option A:	minor works
Option B:	major works
Option C:	large projects
Option D:	large work
11.	EOQ is related with
Option A:	Quantity
Option B:	Quality
Option C:	Time
Option D:	Money
12.	The two most basic inventory questions answered by the typical inventory model are
Option A:	timing and cost of orders
Option B:	quantity and cost of orders
Option C:	timing and quantity of orders
Option D:	order quantity and service level

13.	Which of the following statements about ABC analysis is false?
Option A:	ABC analysis is based on the presumption that controlling the few most important items produces the vast majority of inventory savings.
Option B:	In ABC analysis, "A" Items are tightly controlled, have accurate records, and receive regular review by major decision makers.
Option C:	ABC analysis is based on the presumption that all items must be tightly controlled to produce important cost savings.
Option D:	In ABC analysis, "C" Items have minimal records, periodic review, and simple controls
14.	In time-cost optimization of a project, crashing is done.
Option A:	On all the activities
Option B:	On all the activities lying on the critical path
Option C:	Only on activities lying on the original critical path and having flatter cost slopes
Option D:	On original critical activities and those that become critical at any stage of crashing in the order of ascending cost slope
15.	Which cost is not included in direct accidents costs?
Option A:	Medical care expenses for injured
Option B:	Replacement cost of equipment and material damaged in accidents
Option C:	Decrease in moral which affects productivity.
Option D:	Fees for legal counsel.
16.	The first method invented for planning projects, was
Option A:	Bar chart method
Option B:	Milestone chart
Option C:	Critical path method (CPM)
Option D:	Program Evaluation and Review Technique (PERT)
17.	Under the OSHA Act, employers are responsible for providing a
Option A:	Safe workplace
Option B:	Land
Option C:	Insurance
Option D:	Estimation
18.	In which year did the ISO create the ISO 14000 family of standards?
Option A:	1956
Option B:	1966
Option C:	1978
Option D:	1996
19.	Choose the correct date and year on which payment of wages act was passed?
Option A:	23rd April, 1936
Option B:	28th March, 1937
Option C:	25th April, 1937
Option D:	27th April, 1936
20.	Under Workmen's Compensation Act, 1923
Option A:	Individual manager subordinate to an employer cannot act as managing agent.
Option B:	Managing agent includes an individual manager subordinate to an employer

Option C:	Only employer can act as managing agent
Option D:	The appropriate government shall appoint managing agent

<b>Q2</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>																																
A	Write a note on Workmen's' Compensation Act.																																	
B	<p>Small project is composed of 7 activities as given below:</p> <p>a) Draw project network.  b) Find expected duration, standard deviation and variance of all activities.  c) Find the expected time for completion of project with 84.13%</p> <table border="1"> <thead> <tr> <th>Activities</th> <th>to</th> <th>tm</th> <th>tp</th> </tr> </thead> <tbody> <tr> <td>1-2</td> <td>1</td> <td>1</td> <td>7</td> </tr> <tr> <td>1-3</td> <td>1</td> <td>4</td> <td>7</td> </tr> <tr> <td>1-4</td> <td>2</td> <td>2</td> <td>8</td> </tr> <tr> <td>2-5</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>3-5</td> <td>2</td> <td>5</td> <td>14</td> </tr> <tr> <td>4-6</td> <td>2</td> <td>5</td> <td>8</td> </tr> <tr> <td>5-6</td> <td>3</td> <td>6</td> <td>15</td> </tr> </tbody> </table>		Activities	to	tm	tp	1-2	1	1	7	1-3	1	4	7	1-4	2	2	8	2-5	1	1	1	3-5	2	5	14	4-6	2	5	8	5-6	3	6	15
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C	Explain Job layout & Requirements for preparation of site layout																																	

<b>Q3</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>																					
A	<p>Activities of small construction projects and its sequences is as given below:</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>Preceding Activity</td> <td>-</td> <td>-</td> <td>A</td> <td>A</td> <td>B &amp; C</td> <td>D &amp; E</td> </tr> <tr> <td>Duration</td> <td>18</td> <td>22</td> <td>10</td> <td>14</td> <td>6</td> <td>12</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Draw a network and find total project duration and critical path.</li> <li>• Calculate all types of floats</li> </ul>		Activity	A	B	C	D	E	F	Preceding Activity	-	-	A	A	B & C	D & E	Duration	18	22	10	14	6	12
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B	Write a note on A-B-C analysis																						
C	Explain General Principles of Management by Henry Fayol.																						