

## CONSTRUCTION MANAGEMENT TECHNIQUES &amp; DEPARTMENTAL PROCEDURE ( SEMESTER - 8 )

CS/B.TECH ( CE-NEW )/SEM-8/CE-803/09



1. ....  
Signature of Invigilator

2. ....  
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the  
Candidate

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ENGINEERING &amp; MANAGEMENT EXAMINATIONS, APRIL – 2009

CONSTRUCTION MANAGEMENT TECHNIQUES &amp; DEPARTMENTAL PROCEDURE ( SEMESTER - 8 )

Time : 3 Hours ]

[ Full Marks : 70

**INSTRUCTIONS TO THE CANDIDATES :**

- This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
- In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
  - For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
- Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
- Read the instructions given inside carefully before answering.
- You should not forget to write the corresponding question numbers while answering.
- Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
- Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
- You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
- Rough work, if necessary is to be done in this booklet only and cross it through.

**No additional sheets are to be used and no loose paper will be provided****FOR OFFICE USE / EVALUATION ONLY**

Marks Obtained

	Group – A										Group – B					Group – C					Total Marks	Examiner's Signature
Question Number																						
Marks Obtained																						

.....  
Head-Examiner/Co-Ordinator/Scrutineer

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**ENGINEERING & MANAGEMENT EXAMINATIONS, APRIL – 2009**  
**CONSTRUCTION MANAGEMENT TECHNIQUES & DEPARTMENTAL PROCEDURE**  
**SEMESTER - 8**

Time : 3 Hours ]

[ Full Marks : 70

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

i) A parapet wall and guard rails shall be provided on the edge of any roof terrace or balcony and it shall not be more than

- |                     |                    |
|---------------------|--------------------|
| a) 1.5 m in height  | b) 1.8 m in height |
| c) 0.90 m in height | d) none of these.  |

ii) An independent bathroom may have a minimum floor area ..... square-metres.

- |         |        |
|---------|--------|
| a) 2.0  | b) 1.9 |
| c) 1.45 | d) 1.5 |

iii) If the width of means of access of a plot is above 7.0 m to 10.0 m, the maximum permissible height of building is

- |           |            |
|-----------|------------|
| a) 12.0 m | b) 11.0 m  |
| c) 14.5 m | d) 18.0 m. |

iv) Expected time is obtained by

- |                                       |  |
|---------------------------------------|--|
| a) $t_e = \frac{t_0 + 4tm + tp}{6}$   | b) $t_e = \frac{2t_0 + 2.5tm + 3tp}{7}$        |
| c) $t_e = \frac{t_0 + 3.5tm + tp}{2}$ | d) $t_e = \frac{2.5t_0 + 1.5tm + 0.25tp}{9}$ . |



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v) Cost of construction equipment for Civil Engineering project range is from

- a) 25% – 26% of the total project cost
- b) 10% – 20% of the total project cost
- c) 15% – 25% of the total project cost
- d) 25% – 40% of the total project cost.

vi) Slack =

- a)  $(T_L - T_E)$
- b)  $(T_E - T_L)$
- c)  $(T_E + T_L)$
- d)  $\frac{T_L - T_E}{T_L + T_E}$

where,  $T_L$  = Earliest start time and  $T_E$  = Latest Finish time.

vii) Fire safety of electrical installations in building should be as per

- a) IS : 1646 – 1982
- b) IS : 1646 – 2005
- c) IS : 1646 – 1999
- d) None of these.

viii) Bar chart is a pictorial representation showing the various ..... involved in a project.

- a) events
- b) activities
- c) nodes
- d) time.

ix) For a building with a maximum height of 8·0 m, the minimum rear space is

- a) 2·5 m
- b) 3·0 m
- c) 2·0 m
- d) 1·2 m.

x) Scraper is an equipment used for

- a) Tunnel boring
- b) Compaction of earth
- c) Compaction of concrete
- d) Spreading / Contour grading / Levelling of earth.



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- xii) If for an activity optimistic time is 1 day, pessimistic time is 8 days and most likely time is 3 days, then the expected time is
- a) 3·5 days                                      b) 3·6 days  
c) 3·75 days                                     d) 4 days.
- xiii) The time by which a particular activity may be delayed without affecting the preceeding and succeeding activities is known as
- a) total float                                  b) free float  
c) interfering float                        d) independent float.
- xiv) Screw pumps are used for pumping
- a) volatile liquids                              b) clear water  
c) muddy water                                d) highly viscous liquids.
- xv) The post-operations in CPM are marked
- a) right to an operation                      b) left to an operation  
c) in the middle                                d) at the end.

**GROUP – B**

**( Short Answer Type Questions )**

Write short notes on any *three* of the following.

$$3 \times 5 = 15$$

2. Liquidated damage.
3. Vibrators for concrete construction.
4. Rights of a contractor.
5. Systems of network representation.
6. Turn-key contract.
7. Importance of construction management in National Development.
8. Earnest money.

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**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following questions.

$3 \times 15 = 45$

9.    a)    Define activity, event and network. 3
- b)    Differentiate between PERT and CPM. 3
- c)    For the network shown in figure 1, work out the total float, free float and independent float of all the activities. 9

dia

10.   a)    What are the duties and liabilities of an Engineer ? 6
- b)    What is contract ? Give only the types of Engineering Contract. 1 + 3
- c)    What are the advantages and disadvantages of Item Rate Contract and Lump Sum Contract ? 5
11.   a)    What is arbitration ? What is the need for arbitration ? 1 + 2
- b)    What are the powers of arbitrator ( as per Arbitration Act 1940 and amended up to date ) ? 5
- c)    What is security deposit ? What are the differences between Security Deposit and Retention Money ? 1 + 6

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12. a) What does a concrete batching plant comprise of ? Discuss how a truck or transit mixer is used for mixing and transporting concrete at the same time. 4 + 5
- b) Define quality, quality policy and quality management system. 2 + 2 + 2
13. a) What are the general requirements for fire protection of building not more than 14.5 m height ? 5
- b) Find out the maximum ground coverage of a plot as shown in figure 2 for construction of a ( G + 2 ) residential building. 5

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- c) What are the conditions of contract ? 5

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END