DIPLOMA IN CIVIL ENGINEERING DCLE(G)

Term-End Examination

June, 2013

00172

BCE-051 : CONSTRUCTION MANAGEMENT

Time : 2 Hours   *Maximum Marks : 70*

*Note : Question **No.1** is **compulsory**. Attempt **any four** questions from the remaining. All questions carrry equal marks*

1. Select the most appropriate answer from the options given in the following questions.   7x2=14

    (a) As per the classification based on total outlay of money, a project may be classified as :

    (i) Small project

    (ii) Medium project

    (iii) Large project

    (iv) All of the above

    (b) The minimum time in which a job can be completed with the maximum cost is called as :

    (i) normal time

    (ii) ultimate time

    (iii) crash time

    (iv) free time

(c) CPM is abbreviation for :

(i) Commercial Project Monitoring

(ii) Critical Project Monitoring

(iii) Critical Path Monitoring

(iv) Critical Path Method

(d) The expression for expected time or average time estimate (t_E) is given by :

(i) $t_E = \dfrac{t_0 + 4t_L + t_P}{6}$

(ii) $t_E = \dfrac{t_0 + 2t_L + t_P}{6}$

(iii) $t_E = \dfrac{t_0 + 6t_L + t_P}{4}$

(iv) $t_E = \dfrac{t_0 + 2t_L + t_P}{4}$

(e) The time duration within which a material can be obtained at site after ordering it is called :

(i) Transit time

(ii) Lead time

(iii) Transportation time

(iv) Inventory time

(f) Production cost may be expressed as :

    (i) Production cost = direct cost + indirect cost

    (ii) Production cost = direct cost - indirect cost

    (iii) Production cost = direct cost + 2 (indirect cost)

    (iv) Production cost = direct cost − 2 (indirect cost)

(g) A register in which the measurements of all the works and supplies are recorded is called :

    (i) Site register

    (ii) Supply register

    (iii) Measurement book

    (iv) Material register

2. Enlist different phases of a construction project. Explain these phases briefly, and give its flow diagram.   **14**

3. What do you understand by a work breakdown structure ? Give a work breakdown structure for the construction of a primary school building.   **14**

4. (a) Explain how the progress of a work may be expressed by a bar chart. Explain various limitations of a bar chart.   **7**

(b)   Draw a bar chart for the construction of a   **7**
masonry wall. Assuming that the progress
of work is satisfactory, show the progress
of work in the bar chart after half of the
project time has elapsed.

5.   (a)   What do you understand by 'earliest start   **4**
time' and 'latest start time' of an activity ?

(b)   The network of a certain project is shown   **10**
below, with the estimated durations
(in weeks) of various activities.
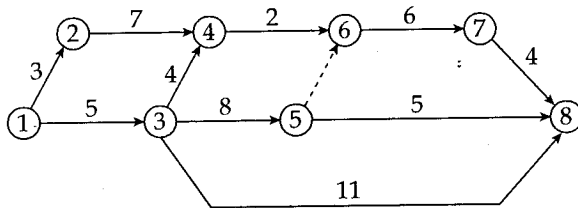
Determine the following :

(i)   earliest event time and latest event
time of all events.

(ii)   critical path for the network and
duration of the project.

6.   (a)   Describe the merits and demerits of **line**   **7**
and **staff** organisation.

(b)   Describe the line of balance (LOB) method   **7**
of scheduling.

7. (a) Explain the precautions and steps to be taken in storage and preservation of the following items :   7

   (i) cement

   (ii) structural steel

   (b) Enlist various types of temporary facilities needed at a construction site. Give a plan sketch of the site incorporating these facilities.   7

8. Write short notes on *any four* of the following :
   $4 \times 3\frac{1}{2} = 14$

   (a) Responsibilities of a construction manager

   (b) Project life cycle

   (c) Types of contract

   (d) Cost Management

   (e) Need for inspection and quality control

   (f) Importance of safety at the site of work

   (g) Classes of contractors