NVQ Level 05 - Semester I		
Quantity Surveying		
Construction Technology I	**F45C002M03**	**Three Hours**
* Answer five questions including question no. 01		

1. Give short answers for the following items.

   a. Define the term bearing capacity
   b. Define the foundation
   c. Name two types of settlements of a foundation (draw a simple sketch for each type)
   d. Mention three types of foundations
   e. Mention three purposes of a D.P.C.
   f. Mention three types of brick bonds
   g. What is the common equation we use for design a staircase
   h. Sketch a quarter landing staircase with winders
   i. What is curing of concrete
   j. Why we saturate the bricks before placing to the bond
   k. Why we use steel reinforcement for concrete
   l. What is pre-cast concrete
   m. What is pre-stressed concrete
   n. What is the difference between pitch roof and flat roof
   o. Name three types of timber trusses
   p. Why we use timbering to trenches
   q. What is the best stage for anti-termite treatment of a building
   r. What is the slump test
   s. Mention three types of windows
   t. Mention two types of scaffolds

   (1 X 20) = 20 Marks

2. Sketch a semi-circular arcade and mention the following items on relevant places.

    (a) Span. (b) Rice. (c) Springer. (d) Voussoirs. (e) Haunch. (f) Crown. (g) Key-Brick. (h) Spandril.

    (i) Extrados. (j) Intrados. (k) Abutment. (l) Springing line. (m) Pire.
    $$(7+1 \times 13) = 20 \text{ Marks}$$

3. Sketch a cross section of a straight flight with 10 steps and a landing on the top and mark the following items on relevant places.

    (a) Rice. (b) Going. (c) Waist. (d) Handrail. (e) Baluster. (f) Newel post. (g) Landing. (h) Head room.
    $$(12+1 \times 8) = 20 \text{ Marks}$$

4. Sketch a cross section of a strip foundation with following data, and mark the following items with dimensions. (Use an eye scale)

    - Width of the foundation 650mm
    - Depth of the foundation 750mm
    - Base concrete strip 150mm
    - Plinth wall 350mm
    - Floor level 300mm. (From ground level)

    (a) Load bearing wall. (b) D.P.C. (c) External plaster. (d) Internal plaster. (e) Concrete bed.

    (f) Plinth plaster. (g) Skirting. (h) Cement rendered floor. (i) Dry earth filling. (j) Back filling.
    $$(10+1 \times 10) = 20 \text{ Marks}$$

5. Sketch an elevation of a steel roof truss, which is suitable for a span of 7.5m and mark the following items on relevant places.

    (a) Angle rafter (b) Angle ties (c) Angle struts (d) Gusset plate (e) Node point (f) Camber

    (g) Local bending (h) Angle cleat (i) Angle purlin (j) Fixing plate
    $$(10+1 \times 10) = 20 \text{ Marks}$$

6. (a) How to finish an internal wall of a building, from plastering to painting. Mention in detail.
    (b) How to complete a floor of a building with floor tiles. Mention in detail.
    $$(2 \times 10) = 20 \text{ Marks}$$

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