Ph D Entrance Examination Model Question Paper-2014

CIVIL ENGINEERING

Duration: 2.00 hours.   **Total Marks = 100**

Note :

1) The question paper is in **TWO** parts, viz: Part-I and Part-II.

2) **Part-I** consists 50 questions of objective type carrying 1 mark each (50 x 1 = 50 marks)

3) **Part-II** consists of 25 questions of objective type carrying 2 marks each (25 x 2 = 50 marks)

4) All questions are compulsory.

PART-I   **(50 X 1 = 50)**

1. The principle of superposition is valid only if the material is
     (a) Elastic
     (b) Stress-strain relationship is linear
     (c) Plastic
     (d) elasto-plastic.

2. Masonry arches resist the external loads by
     (a) Bending moment and radial shear   (b) Thrust only
     (c) Normal thrust, radial shear and moment (d) Normal thrust and shear

PART-II   **(25 x 2 = 50)**

1. A moment M is applied to the free end of a cantilever beam. The slope at the free end is
     (a) $ML/4EI$ (b) $ML/3EI$ (c) $ML/2EI$ (d) ML/EI

2. A three-hinged parabolic arch rib of span 'L' and crown rise 'h' carries a UDL of intensity "w" per unit length over the entire span. The hinged supports are at the same level and the third hinge is located at left quarter span section. The horizontal thrust at the supports is

     (a) $wL^2/4h$ (b) $wL^2/6h$ (c) $wL^2/8h$ (d) $wL^2/12h$