

EK-349

B.E. (VIIIth Sem.) (CGPA) Civil Engg. Exam.-2016

Elective-II

PRESTRESSED CONCRETE

Paper - CE-804

Time Allowed : Three Hours

Maximum Marks : 60

Note : Attempt all questions.

Q.1 Choose the correct answer—

(i) The net effect due to prestressing is prestressed concrete beam usually—

- (a) Bending and torsion
- (b) Compression
- (c) Tension
- (d) Bending and compression

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P.T.O.

(2)

(ii) In prestressed concrete structure the prestressing of the concrete is done to compensate the stresses caused by—

- (a) Dead load
- (b) Working loads
- (c) Live loads
- (d) Dynamics load

(iii) Prestressing can eliminate—

- (a) Compressive stress
- (b) Shear stress
- (c) Tensile stress
- (d) Bearing stress

(iv) The whole concrete area is effective in—

- (a) Reinforced cement concrete
- (b) Plain cement concrete
- (c) Prestressed concrete
- (d) Ready mix concrete

(v) Pretensioning is used for—

- (a) Poles
- (b) Bridges
- (c) Dams
- (d) None of these

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Contd.

(3)

(vi) The approximate loss of prestress due to shrinkage of concrete in prestressed concrete is about—

- (a) 1%
- (b) 2%
- (c) 3%
- (d) 5%

(vii) In prestressed concrete member, the shear force depends on—

- (a) Torsion
- (b) Concentrated load
- (c) Distributed load
- (d) Variation in net bending moment

(viii) In-case of prestressed concrete member the bursting stresses are developed at—

- (a) Bond zone
- (b) Maximum bending moment zone
- (c) Maximum shear stress zone
- (d) Anchorage zone

Q.II Explain with sketches Hoyer's long line system of pretensioning.

or

What do you understand by losses in prestressed concrete. Describe them in details.

(4)

Q.III What are the stages of loading to be considered in design of prestressed concrete section for flexure?

or

What is the zone of transmission in end-block of prestressed concrete structure ?

Q.IV Explain the factors influencing deflection ?

or

What is the necessity of using supplementary or untensioned reinforcement in prestressed concrete members ?

Q.V List the various stages to be considered in design of prestressed concrete pipes.

or

What are different types of joints used between wall and floor slab of prestressed concrete tanks ?

Q.VI Explain the general features of prestressed concrete tanks.

or

Explain the junctions of tank wall and base slab with neat sketch.