Q.27 What specification are taken for effective span as per I.S. 456

Q.28 Explain inverted T-Beam

Q.29 Differentiate between one way slab and Two way slab.

Q.30 Give classification of column.

Q.31 Write various forms of shear reinforcement in R.C.C beam.

Q.32 Write specification for longitudinal steel for column as per I.S.

Q.33 Differentiate between Fe250 and Fe 415.

Q.34 Explain shallow and deep foundation.

Q.35 Find M.O.R for beam having width 250 mm, effective depth 450 mm with 4 No. 16 mm ϕ bar. Take stress in steel 230 N/mm^2 and in concrete 7N/mm^2.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain method of Pre-stressing.

Q.37 A short R.C.C column 425 X 400 is to carry axial load of 1000 KN. Find the area of longitudinal reinforcement. Use M_{20} grade of concrete and Fe 415 steel. Use L.S.M.

Q.38 Write design step for one way slab in LSM.

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Arch
Subject:- R.C.C

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Concrete is strong in

a) Compression b) Tension
c) Shear d) Torsion

Q.2 Shear reinforcement in beams may be provided as

a) Vertical stirrups b) Bent up bar
c) Both (a) and (b) d) All above

Q.3 Lever arm is the distance between

a) Resultant compressive and tensile force
b) Centre of tensile & Comp. zone
c) Centre of tensile zone to bottom fibre of section
d) None of these

Q.4 The value of modular ratio for M20 concrete is taken as

a) 9.33 b) 10.98
c) 13.33 d) 23.33

Q.5 Design compressive stress is taken as

a) .25 f_{ck} b) .35 f_{ck}

c) 45 f_{ck} d) .55 f_{ck}

Q.6 Unit wt. of R.C.C is

a) 20000 N/m^3 b) 22000 N/m^3

c) 2400 N/m^3 d) 25000 N/m^3

Q.7 The maximum limit for tensile steel in singly R.C.C beam is

a) .04 bd b) .04 bD

c) .4 bd d) .4 bD

Q.8 Doubly reinforced beam are used when

a) Impact forces are expected

b) Stress reversal is expected

c) Seismic load is expected

d) All of the above

Q.9 Min area of steel in either direction of slab using tor steel not be less than

a) .12% of bD b) .15% bD

c) .18% bD d) None of these

Q.10 Min. no. of longitudinal bar for rectangular column are

a) 4 b) 5

c) 6 d) 8

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define P.C.C

Q.12 Define lever arm distance.

Q.13 Define singly R.C.C beam.

Q.14 What is partial safety factor for loads are taken.

Q.15 Define Pre-stress.

Q.16 What do you understand by L-beam

Q.17 Define neutral axes.

Q.18 Define doubly reinforced beam.

Q.19 Define Column.

Q.20 Define Two-way Slab.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain advantage of Pre-stressed concrete.

Q.22 Explain Suitability of steel as reinforcing material.

Q.23 Differentiate between working stress and limit state method.

Q.24 Explain loading on structure as per IS:875

Q.25 What are the basic assumption in singly R.C.C. beam

Q.26 Explain over reinforced section by working stress method.