Q.31 Write short note on effective length of column.

Q.32 Find M.O.R For beam having width 300mm, effective deple 500 mm with 5No. 16mm f bar. Take stress in slide 230 N/mm^2 and in concrete 7 N/mm^2.

Q.33 Write short note on limit state method.

Q.34 What assumptions are taken/made in limit state of collapse.

Q.35 Why doubly reinforced beams are provided.

SECTION-D

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

Q.36 An R.C.C. beam 250x500 mm (effective) is subjected to a factorsed moment of 250 KN-m. Find the area of steel required. Use M_{2o} grade of cone a fe415 steel.

Q.37 Write design step for one way slab in LSM.

Q.38 A short column 400mmx400mm is reinforced with 4-20 mm f bars. Find ultimate load carrying capacity of the column if minimum eccentricity is less than 0.05 times the lateral dimension. Use M_{20} grade of concrets F_e415 steel.

No. of Printed Pages : 4 180253/120253/030255/241
Roll No. .....

5th Sem / Branch : ARCH
Sub.: Reinforced Cement Concrete (RCC)

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Steel is strong in

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

Q.2 The value of modular ratio for Mis Concrete is taken as

a) 9.33 b) 18.67
c) 13.33 d) 28.67

Q.3 Unit wt of P.C.C. is taken as

a) 20000 N/m^3 b) 22000 N/m^3
c) 24000 N/m^3 d) 25000 N/m^3

Q.4 Min. No. of longitudinal bar for circular column is

a) 6 b) 4
c) 8 d) 12

Q.5 Two way slab are provided if ratio of longer span to shorter span

a) Less than 2 b) Greater than 2
c) Equal 2 d) None of these

Q.6 Post tensioning method is suitable fo production of

a) Railway sleeper b) Electric pole

c) Bridges d) All of above

Q.7 Distribution steel in one way stab is provided to

a) Distribute the load

b) Take temperature stress

c) Shrinkage stress

d) All

Q.8 IN flexural member's the failure of concrete takes place due to

a) Tensile stress

b) Diagonal compression

c) Dregonal tension

d) All above

Q.9 As per IS 456-2000, the no. of grades in concrete are

a) 10 b) 12

c) 13 d) 15

Q.10 the max value of span/depth ratio for simply supported beam should not exceed

a) 7 b) 15

c) 20 d) 25

SECTION-B

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

Q.11 Define R.C.C.

Q.12 Define M.O.R.

Q.13 Define doubly reinforced beam.

Q.14 What is partial safety factory for material are taken.

Q.15 Define singly reinforced beam.

Q.16 Define Pre-press.

Q.17 Define Two way slab.

Q.18 Define Inverted T. Beam.

Q.19 Define neutral axis.

Q.20 What do yu mean by Maximum shear stress

SECTION-C

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

Q.21 Explain disadvantage of Pre-stressed concrete.

Q.22 Explain Physical properties of mild steel.

Q.23 Explain under reinforced section by working stress method.

Q.24 Explain L-Beam with neat sketch.

Q.25 Explain deep foundation.

Q.26 Which are different forms of providing shear reinforcement in beam.

Q.27 Write I.S. Specification for lateral reinforcement in column.

Q.28 Differentiate between Mild steel and Tor steel.

Q.29 Compare one way slab with two way slabs.

Q.30 Explain various classification of column.