Q.11. At T-beam behaves as a rectangular beam of width equal to its flange if its neutral axis

(a) coincides with centroid of reinforcement

(b) coincides with centroid of T-section

(c) remains within the flange

(d) remains in the web

Q.12. The cover of longitudinal reinforcing bar in a beam subjected to sea spray should not be less than which one of the following?

(a) 30 mm

(b) 70 mm

(c) 75 mm

(d) 80 mm

Q.13. Usually stiffness of a simply supported beam is satisfied if the ratio of its span to depth does not exceed which one of the following?

(a) 7

(b) 10

(c) 20

(d) 26

Q.14. When is an R.C.C. roof slab designed as a two way slab?

(a) If the slab is continuous over two opposite edges only

(b) If the slab is unsupported at one edge only

(c) If the ratio of spans in two directions is >2

(d) If the ratio of spans in two directions is <2

Q.15. In a single reinforced beam, the tensile steel reaches its maximum allowable stress earlier than concrete. What is such a section known as?

(a) Under-reinforced section

(b) Over-reinforced section

(c) Balanced section

(d) Economic section

Q.16. Why is the design of a R.C. section as over-reinforced undesirable?

(a) It consumes more concrete

(b) It undergoes high strains

(c) It fails suddenly

(d) Its appearance is not good

Q.17. In a singly reinforced concrete beam section, maximum compressive stress in concrete and tensile stress in steel reach their permissible stresses simultaneously. What is such a section called?

(a) Under-reinforced section

(b) Economic section

(c) Balanced section

(d) Over-reinforced section

Q.19. Match List-I with List-II and select the correct answer using the code given below the lists:

List – I		List – II
A•	Vu / bd	1• Modulus of rupture
B•	0.7 √fck	2• Development length
C•	5000 √fck	3• Nominal shear stress
D•	Φ fs / 4τc	4• Hook anchorage value
		5• Modulus of concrete

Codes
A• A – 3, B – 1, C – 5, D – 2
B• A – 2, B – 1, C – 4, D – 3
C• A – 3, B – 5, C – 1, D – 4
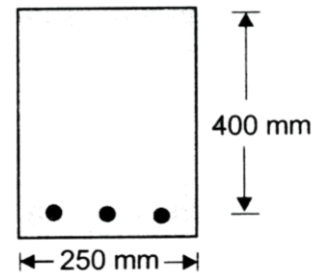D• A – 2, B – 4, C – 1, D – 3

Q.1. In limit state design method, the moment of resistance for a balanced section using M20 grade concrete and HYSD steel of grade Fe 415 is given by Mn.lim = Kbd2, what is the value of 'K'?

(a) 2.98

(b) 2.76

(c) 1.19

(d) 0.89

Q.2. How is the deflection in RC beams controlled as per IS456?

(a) 8y using large aspect ratio

(b) 8y using small modular ratio

(c) 8y controlling span/depth ratio

(d) 8y moderating water-cement ratio

Q.3. A simply supported RC beam having clear span 5 m and support width 300 mm has the cross-section as shown in figure. What is the effective span of the beam as per IS456?

(a) 5300 mm

(b) 5400 mm

(c) 5200 mm

(d) 5150 mm

Q.4. How is the base-level bending moment of a cantilever retaining wall expressed as a function of its height H?

(a) H1

(b) H2

(c) H3

(d) H4

Q.5. In RCC beams, as the percentage areas of tensile steel increases

(a) Depth of neutral axis increases

(b) Depth of neutral axis decreases

(c) Depth of the neutral axis does not change

(d) Lever arm increases

Q.6. The minimum strain at failure in the tensile reinforcement (f_y = 400 MPa) of RCC beam as per limit state method is

(a) 0.0020

(b) 0.0028

(c) 0.0037

(d) 0.0045

Q15. The inclination of letters as recommended by BIS is

(a) 75º

(b) 70º

(c) 65º

(d) 60º

Q16. The length-to-height ratio of a closed filled arrow head is

(a) 1:3

(b) 3:1

(c) 1:2

(d) 2:1

Q17. IS 10714 : 2001 refers to

(a) Scales

(b) lines

(c) lettering

(d) projection methods

Q18. If all the horizontal or vertical dimensions of the object start from a common extension line situated at one end, the way of dimensioning is called

(a) chain dimensioning

(b) parallel dimensionin

(c) combined imensioning

(d) None of the above

Q19. In orthographic projections, the FV is projected on

(a) HP

(b) VP

(c) XY

(d) GL

Q20. The location of LHSV in the third-angle method of projection is on the

(a) left-hand side of FV

(b) left-hand side of TV

(c) right –hand side of FV

(d) right –hand side of TV