



A Navratna CPSE

NBCC (INDIA) LIMITED

Candidate User ID :

Exam Date : 09/05/2022

Batch Id : CIVB3

Test Centre Name :

Exam Timing : 11:00 AM - 1:00 PM

Note: Questions answered are highlighted with selection

- 1 Schedule of rates for engineering purpose is prepared by Which agency ?
- Ministry of india
 - Survey department
 - Finance department
 - Central public work department (Correct Answer)
- 2 In the case of OPC, for the cement to possess the property of SOUNDNESS, the quantity of GYPSUM is ___ % of clinker
- 3 to 5 (Correct Answer)
 - 8 to 10
 - 10 to 12
 - 12 to 13
- 3 Hydraulic mean depth is Ratio of ... ?
- Flow area / Wetted Perimeter
 - Wetted Perimeter / Flow Area
 - Flow Area / Top width (Correct Answer)
 - Top width / Flow area
- 4 Falling drops of water become spherical because of below properties of fluid ?
- Surface tension (Correct Answer)
 - Cohesion
 - Adhesion
 - Viscosity

- 5 For pipes arranged in series below option is True
- Head loss must be same in all pipes
 - Velocity must be same in all pipes
 - Flow must be different in different pipe
 - Total loss of head of entire system is summation of the losses in all individual pipe (Correct Answer)
- 6 Who is called as "FATHER OF SOIL MECHANICS" ?
- Rankines
 - Darcy
 - Karl Terzaghi (Correct Answer)
 - Casagrande
- 7 The relation between surface tension (σ), diameter & difference of pressure between inside and outside of a liquid drop is
- $P = 4\sigma/d$ (Correct Answer)
 - $P = 8\sigma/d$
 - $P = 2\sigma/d$
 - $P = 3\sigma/d$
- 8 In drying process of a timber, at the fiber saturation point
- cell walls have no saturation
 - warping of timber occurs
 - shrinkage of timber occurs
 - cell walls have full saturation (Correct Answer)
- 9 In Abstract of Cost, what are the units used in calculation of quantities of earthwork and roofing respectively?
- cubic meter , cubic meter
 - square meter,square meter
 - cubic meter, square meter (Correct Answer)
 - square meter, cubic meter
- 10 In simply supported beam of rectangular cross section, at the neutral axis, the bending stress is ____ and

shear stress is _____.

- Zero, maximum (Correct Answer)
- Maximum, zero
- Zero, zero
- Maximum, maximum

11 When expenditure of work exceeds or likely to exceed by more than ____% of the administrative approval then revised estimate will carryout.

- 0.5
- 0.4
- 0.3
- 0.1 (Correct Answer)

12 The maximum compression steel shall not exceed of the whole area of cross-section of the BEAM as given in clause 26.5.1.2 of IS 456:2000

- 0.04bD (Correct Answer)
- 0.03bD
- 0.2aD
- 0.5DC

13 For a composite bar system of length L, change in length of the two members are same" This is referred to as condition

- Equilibrium
- compatibility (Correct Answer)
- momentum
- neutral

14 In plastic paint thinner used is _____.

- oil
- spirit
- water (Correct Answer)
- naptha

15 Taking out the old metal on road surface, reconsolidation by adding more metal and repainting of top

surface, in case of road is reflected in ...

- revised estimate
- special repairs estimate (Correct Answer)
- annual repairs estimate
- supplementary estimate

16 A cantilever beam AB of 12 m carries an uniformly distributed load of 4 kN/m. The bending moment at a distance of 3m from the free end in kN-m is ...

- 18 (Correct Answer)
- 288
- 12
- 0

17 In levelling, the correction for curvature (in meters) is equal to

- (a) $0.00785 D^2$
- (b) $0.0785 D^2$
- (c) $0.0112 D^2$
- (d) $0.0673 D^2$

- a
- b (Correct Answer)
- c
- d

18 The highest point on a carriage way is called _____

- super elevation
- crown (Correct Answer)
- gradient
- camber

19 A CST - 9 sleepers is _____

- same as pot sleepers
- same as plate sleepers
- a combination of plate,pot and box sleeper (Correct Answer)
- none of these

20 The percentage compensation in gradient for ruling gradient of 4% and horizontal curve of radius 760 m is%

- 0.1
- 1
- 10
- no compensation (Correct Answer)

21 How many of the following concepts are correctly matched with their units?

1. Momentum – kg.m/s
 2. Flow rate or discharge - m^3/sec
 3. Hydraulic conductivity - m/s
- (a) 0
(b) 1
(c) 2
(d) 3

- a
- b
- c (Correct Answer)
- d

22 As per IS 456: 2000, The tensile strength of concrete of grade M25 according to the 'limit state method' is:

- 3.0 N/mm²
- 3.5 N/mm² (Correct Answer)
- 5.0 N/mm²
- 2.5 N/mm²

23 The constant head permeability test is conducted for which type of soil ?

- Coarse grained soil (Correct Answer)
- Silty soil
- clayey soil
- Organic soil

24 The soils having SPT value in between 0 & 2, will have the consistency as

- Very soft (Correct Answer)
- Medium

- Hard
- Stiff

25 If the average monthly demand of domestic water in a city is q unit, the maximum monthly demand will be

- 1.28q (Correct Answer)
- 1.48q
- 1.5q
- 2.7q

26 Which of the following is a ductile material?

- cast iron
- copper (Correct Answer)
- glass
- concrete

27 Bond between steel and concrete arises due to various resistances. Mechanical resistance is provided by

- shrinkage of concrete thereby gripping the steel bars (Correct Answer)
- friction between the two materials
- adhesion of the 'chemical gum' produced by concrete during setting
- adhesion of the 'mechanical gum' produced by accelerators during setting

28 The value of angle of contact between liquid and glass tube to calculate capillary rise or fall (θ) for mercury is equal to ____ degree

- 148
- 198
- 128 (Correct Answer)
- 118

29 Full form of RMC

- Real mix concrete
- Ready material concrete
- Ready mix concrete (Correct Answer)
- Read mix concrete

ROAD MIX CONCRETE

30 For complete hydration of 100 lbs of cement the required water-cement ratio is

- 0.3
- 0.4 (Correct Answer)
- 0.56
- 0.65

31 At the point of inflexion, which of the following is true? a) deflected shape changes curvature b) bending moment is zero

- only a)
- only b)
- both a) and b) (Correct Answer)
- neither a) nor b)

32 The RL of the point A which is on the floor is 100 m and back sight reading on A is 2.455m. If the foresight reading on the point B which is on the ceiling is 2.745m, the RL of point B in meters will be

- 94.8
- 99.71
- 100.29
- 105.2 (Correct Answer)

33 Full form of UVL

- Uniformly Varsetile load
- Uniformly Varying load (Correct Answer)
- Uniformly Vertical load
- Uniformly distributed load

34 If there were a smaller gravitational effect, which of the following forces do you think would alter in some respect?

- Viscous force
- Archimedes uplift (Correct Answer)
- Electrostatic force
- Nuclear force

nuclear force

35 The total number of test strength of samples required to constitute an acceptable record for calculation of standard deviation for each grade of concrete shall not be less than

28

15

21

30 (Correct Answer)

36 Shear stress in a beam having triangular cross-section is maximum at ...

extreme top fibre

extreme bottom fibre

neutral axis

mid depth (Correct Answer)

37 Which of the following is not a service ability criteria ?

Deflection

Fatigue

Vibration

Force resistance (Correct Answer)

38 Example of isotropic material is

wood

fibre-reinforced plastic

reinforced concrete

All of the above (Correct Answer)

39 Expansion joints are generally provided at For smooth interface

50 m (Correct Answer)

30 m

5 m

none

- 40 In a litre of paint, the volume of solid pigment is 400 cc and volume of non-volatile binder is 600cc. What is the pigment volume concentration number of the paint?
- 400
 - 200
 - 40 (Correct Answer)
 - 4
- 41 The upper yield point in the stress-strain curve in structural steel can be avoided by which process?
- Cold working
 - Hot working (Correct Answer)
 - Quenching
 - Galvanising
- 42 Which of the following statement is correct with regards to compression members?
- when the ends of compression members are faced for complete bearing, the splices are designed to transmit all the forces to which they are subjected
 - splices are designed as long columns.
 - the best location to splice a column is at the beam and column junction
 - in columns, splice on web is designed for maximum shear. (Correct Answer)
- 43 How many of the following concepts are correctly matched with their units?
1. Force - Newton
 2. Modulus of elasticity - N/m^2
 3. Modulus of rigidity - N/m^2
- (a) 0
(b) 1
(c) 2
(d) 3
- a
 - b
 - c (Correct Answer)
 - d
- 44 Traffic volume is equal to _____
- traffic density \times traffic speed (Correct Answer)
 - traffic density / traffic speed

- traffic density / traffic speed
- traffic speed / traffic density
- none of the above

45 Tacking bolts should have a pitch in line not exceeding ?

- 32t or 300 mm whichever is least for plates
- 600 mm for compression members
- 1000 mm for tension member
- All of the above (Correct Answer)

46 For Damp-proof courses and cement concrete roads, what is the recommended cement mortar proportion?

- 1 : 2 (Correct Answer)
- 1 : 1.5
- 1 : 1
- 1 : 3

47 Full form of SOR

- Saving operation Rate
- Schedule of Rates (Correct Answer)
- Saving of Rates
- Schedule of Operational rates

48 What is the maximum particle size applicable for Darcy's Law?

- 0.2 mm
- 0.5 mm (Correct Answer)
- 1.0 mm
- 2.0 mm

49 For water bound macadam roads in localities of heavy rainfall, the recommended value of camber is 1 is ...

- 1 in 30
- 1 in 36 (Correct Answer)

- 1 in 48
- 1 in 60

50 Excavation of soil is measured in _____.

- meter
- meter square
- cubic meter (Correct Answer)
- none of these

51 The dimension of Kinematic viscosity is represented by

- (a) $L^2 T^{-1}$
- (b) LT^{-1}
- (c) $L^{-2} T$
- (d) $L^{-1} T$

- a (Correct Answer)
- b
- c
- d

52 Innermost central portion of tree is called

- cambium
- medulla (Correct Answer)
- eye
- annular rings

53 When a compression member fails at buckling load, the failure of the member is caused due to ...

- bearing and elongation
- crushing only
- crushing and bending
- bending only (Correct Answer)

54 The minimum percentage of longitudinal reinforcement in RCC column is

- 6
- 0.8 (Correct Answer)
- 1.2
- 4

55 The main component of paints is.....

- oil
- alcohol
- zinc oxide (Correct Answer)
- none of the above

56 The ratio of slope at free end in cantilever beam having uniform load intensity to varying load intensity maximum at fixed end, would be

- 0.25
- 7.5
- 0.4
- 4 (Correct Answer)

57 Which of the following errors cannot be eliminated by taking both face observations?

- error due to horizontal axis not being perpendicular to the vertical axis (Correct Answer)
- index error
- error due to non-parallelism of the axis of telescope level and line of collimation
- none of the above

58 The percentage of filler in plastic bitumen is about%

- 10 to 25
- 25 to 35
- 40 to 45 (Correct Answer)
- 45 to 65

59 The sketch prepared during reconnaissance survey is known as the _____ ?

- Index sketch (Correct Answer)
- Hand Sketch

- Hand Sketch
- Rough Sketch
- Survey Sketch

60 The maximum bending moment due to single moving point load on a simply supported beam occurs at ..

- quarter span
- mid span (Correct Answer)
- anywhere in the beam
- a section under the load

61 a) complete and fully dimensioned plans and sections b) detailed specifications of nature and class of work c) detailed specifications of nature and class of materials d) Rates for calculating abstract of cost. Which of the above are absolutely necessary to prepare Detailed Estimate of a building?

- a), d)
- a), b), c), d) (Correct Answer)
- a), b), d)
- b), c), d)

62 Let a mixture of cement and sand of 400g mass is used for compressive strength test. If standard consistency of cement is 32%, then how much mass of water is required to carry out this test with the given mass of sample?

- 36 g
- 32 g
- 30 g
- 44 g (Correct Answer)

63 Mild steel is designed by

- fracture
- elastic deformation
- fatigue
- plastic deformation (Correct Answer)

64 For an RC horizontal beam, shear reinforcement is to be designed. a) shear reinforcement in the form of vertical bars, known as stirrups b) shear reinforcement in the form of inclined bars c) shear reinforcement in the form of longitudinal bars According to code recommendations, shear reinforcement may be provided as ...

- a) and c)
- b) and c)
- a), b) and c)
- a) and b) (Correct Answer)

65 If the degree of shrinkage S_r (%) of soil mass is $< 5\%$, then the quality of soil is

- good (Correct Answer)
- medium good
- poor
- very poor

66 Torn grain defect occurs in timber due to

- conversion (Correct Answer)
- fungi
- natural fores
- insects

67 The shape factor of a rectangular section, in the plastic analysis of steel structures is

- 1.5 (Correct Answer)
- 2
- 2.5
- 2.9

68 Stoke is the Unit of

- Kinematic viscosity in CGS Unit (Correct Answer)
- Kinemtatic viscosity in MKS Unit
- Dynamic viscosity in MKS Unit
- Dynamic viscosity in SI Unit

69 The Specific gravity of Air is standardized at a temperature of

- 0°C (Correct Answer)
- 4°C
- 23°C
- 100°C

70 a) providing cut-off wall at downstream side b) increase the flow path by providing impervious blanket c) use of protective filter. Which is the most effective combination of approaches that are effective to prevent the possibility of erosion and piping

- a,b and c (Correct Answer)
- a and b
- b and c
- a and c

71 If the annual net income from a commercial property is Rs. 22,000/- and the interest rate is 8%, then the capitalization value of the property in perpetuity is approx _____.

- 350000
- 275000 (Correct Answer)
- 175000
- 88000

72 The additional equations to solve statically indeterminate structures come from prescribed conditions of translations and rotations, commonly called

- inconsistent conditions
- equilibrium conditions
- compatibility conditions (Correct Answer)
- superposition conditions

73 The standard size of wooden sleepers on broad gauge railway track is _____

- 1.53 m × 15 cm × 10 cm
- 1.83 m × 20 cm × 11 cm
- 2.74 m × 25 cm × 13 cm (Correct Answer)
- None of these

74 A provision of contingencies and petty establishment @ % should be added in the end of abstract of

cost.

- 10
- 9
- 7
- 5 (Correct Answer)

75 The relation between intermediate sight distance (ISD) and stopping sight distance (SSD) is

- ISD = 2 × SSD (Correct Answer)
- ISD = 3 × SSD
- ISD = 4 × SSD
- ISD = 5 × SSD

76 The fundamental relationship between traffic volume, density & speed is given by _____

where, q = Average volume of vehicles passing a point during a specified period of time (Vehicle / hour)
 K = Average density (vehicles / km)
 V = Space mean speed of vehicles (kmph)

- (a) $q = KV$
- (b) $K = qV$
- (c) $V = qK$
- (d) $K = (q/V)^2$

- a (Correct Answer)
- b
- c
- d

77 A road sign showing hair pin bend is a

- Regulatory sign
- warning sign (Correct Answer)
- informative sign
- mandatory sign

78 Separation of water or water sand cement from a freshly prepared concrete is known as

- Creeping
- Bleeding (Correct Answer)
- segregation
- Poor mix

79 The WCB System , a line is said to be free from local attraction if difference between the FB & BB is how many degree ?

- 0°
- 90°
- 180° (Correct Answer)
- 270°

80 Among the following options, the most suitable contour interval for a map with scale 1:10000 ismeters

- 2 (Correct Answer)
- 5
- 10
- 20

81 Stone attrition value (dry test) for good quality stones suitable for road material, should not be more than%

- 4
- 3
- 2 (Correct Answer)
- 5

82 A rectangular beam of 200 mm x 300 mm cross section is subjected to a shear force of 200 kN. Find the maximum shear stress (in Mpa) produced in the beam.

- 10
- 7.5
- 5 (Correct Answer)
- 3.33

83 The phenomenon when the sand losses its shear strength due to oscillatory motion in saturated condition is known as _____ ?

- Quick sand
- Plastic Sand
- Soil Liquefaction (Correct Answer)

All the above

84 The ratio of total elongation of a bar of uniform cross-section produced under its own weight to the elongation produced by an external load equal to weight of the bar, would be

2

1

0.5 (Correct Answer)

0.25

85 The correct formula for calculation of the working stress of ductile material is

(a) Yield stress / Factor of safety

(b) Yield stress \times factor of safety

(c) Yield stress / (factor of safety)²

(d) Yield stress / Sq. Root (factor of safety)

a (Correct Answer)

b

c

d

86 If d is the gross diameter of rivet and ' p ' is the pitch of a riveted joint, the efficiency of the joint is given by

$[p-d]/p$ (Correct Answer)

$[p-d]/d$

$d/(p-d)$

$d/(p+d)$

87 Along the grains, tensile strength of timber is the corresponding compressive strength

same

less than

not comparable

more than (Correct Answer)

88 A pull of 20 kN is suddenly applied to a rod of cross-sectional area 40 square cm. The stress produced in the rod is equal to ... kN/square cm

0.5

- 0.5
- 1 (Correct Answer)
- 2
- 4

89 The surface of still water is considered to be

- Level surface (Correct Answer)
- Horizontal
- Smooth
- None of the above

90 When a compression member buckles at the buckling load, it reaches a state of

- elastic instability (Correct Answer)
- elastic stability
- inelastic stability
- plastic instability

91 Sort the given numbers in ascending order: 1067, 1314, 1119, 1295, 1192, 1264, 1109, 1273, 1308 Third last number will be _____

- 1308
- 1295 (Correct Answer)
- 1273
- 1264

92 If @ is '+' and % is '-', then which of the following options is the largest?

- 6 @ 5 % 72 @ 55 % 78
- 7 @ 19 % 90 @ 20 % 90
- 13 @ 19 % 0 @ 8 % 96 (Correct Answer)
- 54 @ 26 % 81 @ 15 % 82

93 What is the height of K2 mountain?

- 25,000 ft.
- 28,160 ft.

- 30,400 ft.
- 28,250 ft. (Correct Answer)
- 28,000 ft.

94 When did Indian Independence Act came?

- 1946
- 1948
- 1945
- 1947 (Correct Answer)

95 How much Indian rupees is equal to 1 dollar in 2021?

- 74 (Correct Answer)
- 70
- 60
- 45

96 Find the missing term in following series: GSR, IPN, KMJ, _____, OGB

- MJF (Correct Answer)
- MKF
- MIF
- MJG

97 Match the famous places with the states in which they are located.

Famous Places

- A. Keoladeo National Park
- B. Khajuraho Group of Monuments
- C. Group of Monuments at Hampi
- D. Fatehpur Sikri

States

- 1. Rajasthan
- 2. Madhya Pradesh
- 3. Karnataka
- 4. Uttar Pradesh

- A-1, B-2, C-3, D-4 (Correct Answer)
- A-2, B-1, C-3, D-4
- A-1, B-2, C-4, D-3
- A-1, B-3, C-2, D-4

98 There are two chairs, Chair 1 and Chair 2. A Charger is kept on one of the chairs and a Mobile on the other. A says "Charger is on Chair 2" and B says "Mobile on the Chair 1". If at least one of them is lying, which of the following is true?

- Both A and B are lying (Correct Answer)
- A is lying
- B is lying
- Charger is on Chair 2

99 Find which mathematical operation is indicated by @, #, \$ and % in following equation: $30 @ 1 \% 9 \$ 3 \# 1 = 32$

- \$ means \div , @ means \times , # means $-$, % means $+$ (Correct Answer)
- \$ means \div , @ means $-$, # means $+$, % means \times
- \$ means \times , @ means \div , # means $-$, % means $+$
- \$ means \times , @ means $+$, # means \div , % means $-$

100 Find the missing term in following series: __, 202, 67, 22, 7, 2

- 607 (Correct Answer)
- 432
- 548
- 602

101 Which of the following options is the smallest?

- $16 + 69 - 98 + 25 - 95$
- $9 + 7 - 89 + 26 - 85$ (Correct Answer)
- $53 + 34 - 84 + 19 - 78$
- $42 + 13 - 46 + 6 - 81$

102 Which of the following is the cold desert of world?

- Gobi Desert (Correct Answer)
- Thar Desert
- Sahara Desert
- Arabian Desert

103 Choose the missing term from the given options ? A1B, C2A, F3I, J4F,.....

- N5S
- M5R
- O5T (Correct Answer)
- P5S

104 A sum of Rs. 800 amounts to Rs. 920 in 3 years at simple interest. If the interest rate is increased by 3%, it would amount to how much?

- 996
- 992 (Correct Answer)
- 892
- 792

105 Simple interest rate reduced to 12% from 15%. A money lender finds that due to this reduction in interest rate his yearly income reduces by rupees 1680. What is his capital?

- 12000
- 56000 (Correct Answer)
- 84000
- 168000

106 When did NSSO (National Sample Survey Organisation) was set-up?

- 1949
- 1947
- 1950 (Correct Answer)
- 1951

107 Arrange the following states in ascending order of their areas.

- Goa, Haryana, Jharkhand, Chhattisgarh (Correct Answer)
- Goa, Haryana, Chhattisgarh, Jharkhand
- Haryana, Goa, Jharkhand, Chhattisgarh
- Chhattisgarh, Jharkhand, Haryana, Goa

- 108 Match the famous places with the states in which they are located. Famous Places A. Mahabalipuram B. Kaziranga National Park C. Gol Gumbaz D. Hawa Mahal States 1. Rajasthan 2. Karnataka 3. Assam 4. Tamil Nadu
- A-1, B-2, C-3, D-4
 - A-4, B-3, C-2, D-1 (Correct Answer)
 - A-1, B-2, C-4, D-3
 - A-4, B-3, C-1, D-2
- 109 When do national technology day is celebrated in India?
- 21-Jan
 - 11-May (Correct Answer)
 - 11-Jun
 - 13-Dec
- 110 Which of the options has a set of alphabets and numbers different from other options?
- R2Mn2RjMw9
 - Mj2MRR29nw
 - n2wM2M9iRR (Correct Answer)
 - nwMj292RMR
- 111 Which of the options has a set of alphabets and numbers different from other options?
- H9Uf9HvUe8
 - Uv9UHH98fe
 - f9eU9U8vHH
 - feUv999HUH (Correct Answer)
- 112 Two sets are given below: Set 1 Sports personality: Humpy Koneru Associated sport: High Jump Set 2 Sports personality: Narain Karthikeyan Associated sport: Cricket For the given sports person in Set 1 and Set 2, check if the respective sport given is correct or incorrect.
- Both sets are correct (Correct Answer)
 - Both sets are incorrect
 - Only set 1 is correct
 - Only set 2 is correct

113 When did Mausoleum discovered?

- 1985
- 1960
- 2000
- 1974 (Correct Answer)

114 Who wrote the novel " David Copperfield"?

- Rabindranath Tagore
- Charles Dicken (Correct Answer)
- Shakespeare
- Stevenson

115 In a joint family, there are father, mother, 3 married sons and one unmarried daughter. Of the sons, two have 2 daughters each, and one has a son. How many female members are there in the family ?

- 2
- 3
- 6
- 9 (Correct Answer)

116 What is the apt meaning of "speculations" as per the passage?

- Conjectures
- Assumptions
- Either (a) or (b)
- Both (a) and (b) (Correct Answer)

117 Since when was the Model Code of Conduct applied with immediate effect?

- 23rd May-2018
- 10th March- 2019 (Correct Answer)
- 10th March 2018
- 11th March- 2019

118 What are the mandatory requirements to vote in India? i. Must be an Indian citizen ii. Must be 18 or older iii. Must have no criminal record iv. Must be an ordinary resident of the polling area of the constituency v. Must possess a valid voter identification card issued by the Election Commission of India Choose the correct options

- (i) (ii) (iii)
- (ii) (i) (v) (iv)
- (ii) (iii) (i) (iv) (v) (Correct Answer)
- (ii) (iii) (iv) (v)

119 Which word or phrase means "disapproval of current political officeholders" in the passage

- First-past-the-post
- Blunder
- Anti-incumbency (Correct Answer)
- Model Code of Conduct

120 When does the President of India nominate an additional two members from the Anglo-Indian Community?

- When there are less than 543 elected MPs.
- When and Anglo-Indian community fails to send a representative
- When the President believes that the Anglo-Indian community is under-represented.
- When the President believes that the Anglo-Indian Community is under-representative. (Correct Answer)