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Mains Examination

Questions With Detailed Solutions

CIVIL ENGINEERING

PAPER – II

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SUBJECTWISE WEIGHTAGE

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01. The relationship between porosity (n%), air content (a_c%) and percentage air voids (n_a%) is given by
(a) $n = n_a a_c$ (b) $a_c = nn_a$
(c) $n_a = n.a_c$ (d) $a_c = n - n_a$

01. Ans: (c)

02. For a soil OMC is 27%. If the water content is decreased to 24%, the maximum dry density of soil will _____.
(a) Increase
(b) Decrease
(c) Remain same
(d) None of the above

02. Ans: (c)

03. Given that for a soil deposit :
k_o = Coefficient of earth pressure at rest
k_p = Coefficient of passive earth pressure
k_a = Coefficient of active earth pressure
and μ = Poisson's ratio
The value of $(1-\mu)/\mu$ is given by
(a) k_a/k_p (b) k_o/k_a
(c) k_p/k_a (d) $1/k_o$

03. Ans: (d)

04. Match the following:

P. Earth pressure	1. Hansen
Q. Slope stability	2. Hiley
R. Bearing capacity	3. Culmann
S. Pile capacity by dynamic method	4. Bishop

Answer options:

	P	Q	R	S		P	Q	R	S
(a)	3	4	2	1	(b)	3	4	1	2
(c)	4	3	2	1	(d)	4	2	1	3

04. Ans: (b)

05. Two footings, one circular and other square are founded in pure clay. The diameter of the circular footing is the same as the side of the square footing. The ratio of their net ultimate bearing capacity
(a) is 1.3
(b) is 1/1.3
(c) is unity
(d) cannot be determined without some more data

05. Ans: (c)

06. A temporary structure constructed in a river/lake to provide a working area for the purpose of excluding water during construction is known as
(a) Caisson (b) Conduit
(c) Levee (d) Cofferdam

06. Ans: (d)

07. For the design of strap footing, which of the following assumptions is not made?
(a) The soil pressure varies linearly.
(b) The strap is perfectly rigid.
(c) The strap is weightless.
(d) The interior footing is centrally loaded.

07. Ans: (a)

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08. Match the following:

(P) End bearing pile
(Q) Tension pile
(R) Anchor pile
(S) Fender pile

(i) To protect water front structures
(ii) To resist against horizontal pull from sheet piling
(iii) Transfer load to rock
(iv) To resist uplift due to hydrostatic pressure

Answer options:

	P	Q	R	S		P	Q	R	S
(a)	3	1	2	4	(b)	3	1	4	2
(c)	3	4	2	1	(d)	3	2	4	1

08. Ans: (c)

09. The diameter of the main cell of a cellular cofferdam is usually kept as

(a) 0.5 H to 0.6 H (b) 0.7 H to 0.8 H
(c) 1.0 H to 1.2 H (d) 1.5 H to 2.0 H

09. Ans: (c)

10. The specific volume of a fluid is the reciprocal of

(a) density (b) relative density
(c) specific weight (d) specific gravity

10. Ans: (a)

11. The most economical section of an open channel is one for which

(a) area of section is least
(b) wetted perimeter is least
(c) discharge is minimum
(d) depth of flow is critical

11. Ans: (b)

12. Which law is given in the following statement?
"The pressure or intensity of pressure at a point in a static fluid is equal in all directions."

(a) Newton's law
(b) Pascal's law
(c) Ohm's law
(d) Second law of Thermodynamics

12. Ans: (b)

13. The metacentric height is the distance between the

(a) centre of gravity of the floating body and the centre of buoyancy.
(b) centre of gravity of the floating body and the metacentre.
(c) metacentre and centre of buoyancy.
(d) original centre of buoyancy and new centre of buoyancy.

13. Ans: (b)

14. A piezometer gives _____.

(a) local atmospheric pressure
(b) small magnitude of pressure
(c) large vacuum pressure
(d) total head

14. Ans: (b)

15. When fluid is at rest, shear stress is _____
(a) +1
(b) – 1
(c) Zero
(d) None of the above

15. Ans: (c)

16. In network of pipes, for correct distribution of flow,
(a) the head loss around each elementary circuit must be zero
(b) the head loss in all circuits is the same.
(c) the elevation of hydraulic grade line is assumed for each junction.
(d) elementary circuits are replaced by equivalent pipe.

16. Ans: (a)

17. A body floats in stable equilibrium if the _____
(a) metacentre is above the Centre of Gravity
(b) metacentric height is zero
(c) Centre of Gravity is above the centre of buoyancy
(d) Centre of Gravity is below or at the centre of buoyancy

17. Ans: (a)

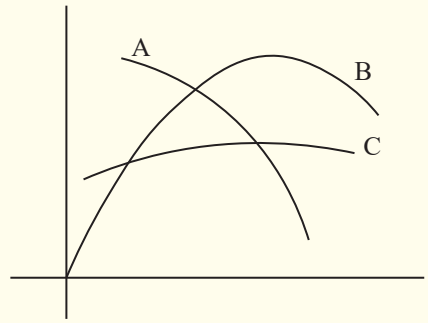
18. The coefficient of velocity is determined experimentally by using the relation (with standard notations)

(a) $C_v = \sqrt{\frac{y^2}{4xH}}$ (b) $C_v = \sqrt{\frac{x^2}{4yH}}$

(c) $C_v = \sqrt{\frac{4xH}{y^2}}$ (d) $C_v = \sqrt{\frac{4yH}{x^2}}$

18. Ans: (b)

19. The operating characteristic curves of a centrifugal pump are shown in the figure below, curve A is for



(a) Head (b) Efficiency
(c) Power (d) None of the above

19. Ans: (a)

20. A turbine develops 8000 kW when running at a speed of 130 rpm and under a head of 30 m. The specific speed of the turbine will be
Given: $\sqrt{8000}$ =89.44,
$H^{5/4} = 70.2104$
(a) 110 rpm (b) 146 rpm
(c) 216 rpm (d) 166 rpm

20. Ans: (d)

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21. During a certain period, the load of the plant is varying from 12000 kW to 26000 kW. Calculate the load factor.
(a) 0.8308 (b) 0.6308
(c) 0.9308 (d) 0.7308

21. Ans: (d)

22. An air vessel in the delivery side of a reciprocating pump
(a) maintains steady discharge output.
(b) prevents cavitation in the system.
(c) enables suction head to be increased.
(d) enables the pump to run at higher speed.

22. Ans: (a)

23. The capacity factor is the ratio of
(a) maximum load to the plant capacity.
(b) actual capacity to the rated capacity.
(c) average load to the plant capacity.
(d) energy output to the available energy within the capacity and characteristics of the plant.

23. Ans: (c)

24. The velocity heads of water at the inlet and outlet sections of a draft tube fitted in a reaction turbine are 4.0 m and 0.5 m respectively. The frictional and other losses in the draft tube are 0.50 m. What is the efficiency of the draft tube?
(a) 25% (b) 50% (c) 75% (d) 90%

24. Ans: (c)

25. The reciprocating pump is called as
(a) negative displacement pump
(b) positive displacement pump
(c) zero displacement pump
(d) All of the above

25. Ans: (b)

26. Kaplan turbine is suitable for the condition of
(a) low head and high discharge
(b) high head and low discharge
(c) medium head and medium discharge
(d) All of the above

26. Ans: (a)

27. Which of the following statements pertaining to centrifugal pump installation is incorrect?
(a) The discharge control valve is fitted in the suction pipe.
(b) The suction pipe has larger diameter as compared to that of the delivery pipe.
(c) The suction pipe is provided with a foot valve and a strainer
(d) The discharge control valve is fitted in the delivery pipe.

27. Ans: (a)

28. A canal is 10 km long and has an average width of 10 m over its length. The evaporation as measured in a Class-A PAN is 0.10 cm/day. What would be the volume of water evaporated (in m^3) in a week? Consider the Pan-coefficient equal to 0.70.
(a) 100 m^3 (b) 490 m^3
(c) 1000 m^3 (d) 4900 m^3

28. Ans: (b)

29. According to National Commission on Agriculture (1976), which of the following does not come in the category of drought?
(a) Grain Drought
(b) Meteorological Drought
(c) Hydrological Drought
(d) Agricultural Drought

29. Ans: (a)

30. Channel routing is the computation of
(a) changes in the shape of the outflow hydrograph when the flow has passed through a channel.
(b) changes in the shape of the inflow hydrograph while a flood wave passes through a channel downstream.
(c) the quantity of storage in a channel.
(d) changes in the direction of outflow from the channel.

30. Ans: (a)

31. Which of the following is not a direct stream flow determination technique?
(a) Dilution technique
(b) Ultrasonic method
(c) Area-Velocity method
(d) Slope area method

31. Ans: (d)

32. Lysimeter is used to measure
(a) Infiltration (b) Evaporation
(c) Evapotranspiration (d) Vapour pressure

32. Ans: (c)

33. A unit hydrograph consists of one unit of
(a) effective rainfall duration
(b) peak discharge
(c) hydrograph time base
(d) direct runoff due to 1 cm effective rainfall

33. Ans: (d)

34. The runoff volume above ϕ-Index is usually known as
(a) Afflux (b) Rainfall Excess
(c) Infiltration (d) True Runoff

34. Ans: (b)

35. A Hyetograph is a plot of
(a) time against water
(b) time against air

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(c) the intensity of rainfall against the time interval
(d) flood against time

35. Ans: (c)

36. The basic assumptions of the unit hydrograph theory are.
(a) non-linear response and time invariance
(b) time invariance and linear response
(c) linear response and linear time variance
(d) non linear time variance and linear response

36. Ans: (b)

37. Water is released at the rate of 5 cumecs at the head sluice. If the duty at the field is 100 hectares/cumec and the loss of water in transit is 30%, find the area of the land that can be irrigated.
(a) 150 ha (b) 350 ha
(c) 400 ha (d) 450 ha

37. Ans: (b)

38. Which of the following is considered as the limitation of sprinkler irrigation system?
(a) Seepage losses are eliminated
(b) No cultivation area is lost
(c) This method leaches down salts
(d) High winds may distort sprinkler pattern

38. Ans: (d)

39. The water distribution method adopted specially for orchard trees is
(a) Border flooding (b) Check flooding
(c) Basin flooding (d) Wild flooding

39. Ans: (c)

40. Which of the following river training structures is used for maintaining axial flow in the river?
(a) Pitched Island (b) Groynes
(c) Levees (d) Guide Bunds

40. Ans: (d)

41. Flume is an artificially narrowed section of the channel which is used for
(a) protecting the banks
(b) removal of silt
(c) diverting the flow
(d) measuring the discharge

41. Ans: (d)

42. Which of the following types of failures is classified as a structural failure of an earth dam?
(a) Piping through foundation
(b) Sliding of embankment
(c) Erosion of upstream face
(d) Erosion of downstream face

42. Ans: (b)

43. 10 cumecs of water is delivered to a 24 hectare field for 4 hours. It is observed that 0.3 m of water has been stored in the root zone, Compute the water application efficiency.
(a) 20% (b) 40% (c) 50% (d) 60%

43. Ans: (c)

44. "Cavitation" over spillways occurs when
(a) operating head is more than the designed head.
(b) operating head is less than the designed head.
(c) there is no flow over spillway
(d) operating head is equal to designed head.

44. Ans: (a)

45. A steady sloping open channel placed along a dam abutment or through a flank is called as
(a) Ogee spillway (b) Trough spillway
(c) Shaft spillway (d) Side channel spillway

45. Ans: (b)

46. Match the pair:

P. Jayakar Committee	(1) 1934
Q. IRC formation	(2) 1952
R. CRRI Establishment	(3) 1956
S. NH Act	(4) 1927

Answer options:

	P	Q	R	S		P	Q	R	S
(a)	4	2	1	3	(b)	2	4	1	3
(c)	2	1	3	4	(d)	4	1	2	3

46. Ans: (d)

47. As per IRC, the reaction time considered for OSD calculation is _____ seconds.
(a) 2 (b) 2.5
(c) 2.7 (d) 1·7

47. Ans: (a)

48. As per 3rd 20 Year Road Plan, the length of National Highways is given by area of country divided by.
(a) 20 (b) 25 (c) 50 (d) 75

48. Ans: (c)

49. Consider the following statements about camber :
1. Camber is the slope provided to road surface in the transverse direction.
2. It is provided to remove the rainwater from pavement surface as quickly as possible.
3. Value of camber does not depend on the amount of rainfall.

Which of the above statements are correct?
(a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) All of the above

49. Ans: (a)

50. The ruling design speed recommended by IRC for National Highways passing through rolling terrain is _____.
(a) 120 kmph (b) 40kmph
(c) 20 kmph (d) 80 kmph

50. Ans: (d)

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51. Consider the following statements about phases of highway planning:
    1. Assessment of requirement of road length for an area.
    2. Preparation of Master Plan showing the phasing in Five Year Plan or annual plan.

    Which of the above statements is/are correct?
    (a) Only (1) is correct.
    (b) Only (2) is correct.
    (c) Neither (1) nor (2) are correct.
    (d) Both (1) and (2) are correct.

51. Ans: (d)

52. The consistency of paving grade bitumen is determined by _____.
    (a) Ductility test (b) Viscosity test
    (c) Softening point test (d) Penetration test

52. Ans: (b)

53. As per IRC, the passenger car unit for a motorcycle in rural areas is
    (a) 0.50 (b) 0.75
    (c) 0.80 (d) 1.00

53. Ans: (a)

54. Tie bars in cement concrete pavement are used across
    (a) Contraction joints (b) Expansion joints
    (c) Construction joints (d) Longitudinal joints

54. Ans: (d)

55. Consider the following statements about estimation of flood discharge for bridge design:
    1. It can be estimated by using empirical formula such as Dicken's formula
    2. It can be estimated by using rational method.
    3 It can be estimated by using Area-Velocity method.

    Which of the above statements is/are correct?
    (a) Only (3)
    (b) (1) and (3)
    (c) (2) and (3)
    (d) All of the above

55. Ans: (d)

56. For vehicular traffic, minimum roadway width for two-lane bridge is _____
    (a) 425 cm (b) 750 cm
    (c) 200 cm (d) 300 cm

56. Ans: (b)

57. From the following methods, which is not used to work out safe bearing capacity of an existing bridge?
    (a) Correlation method
    (b) Load testing method
    (c) Impact method
    (d) Theoretical method

57. Ans: (c)

58. Find the incorrect answer.
'Force acting on bridge foundation', is
(a) Self-weight of foundation
(b) Weight of superstructure
(c) Uplift pressure
(d) Earth pressure

58. Ans: (d)

59. It is considered reasonable to design bridges for flood occurring once in_____ years and to design culverts for floods occurring once in_____ years.
(a) 100, 30 (b) 100, 40
(c) 100, 20 (d) 100, 50

59. Ans: (b)

60. Weep holes are provided in which of the following components of bridge?
(a) Foundation (b) Abutment
(c) Pier (d) Slab

60. Ans: (b)

61. Which of the following is not used to estimate maximum discharge through stream?
(a) Dickens formula (b) Inglis formula
(c) Chezy formula (d) Khosla formula

61. Ans: (d)

62. Abutment pier is used in construction of
(a) Culvert (b) Slab drain
(c) Minor bridge (d) Arch bridge

62. Ans: (d)

63. Which of the following statements is/are correct regarding afflux?
(i) Greater the afflux, greater will be the velocity under the downstream side of bridge.
(ii) Greater the afflux, lesser will be the depth of foundation required.

Answer options:
(a) Only (i) (b) Only (ii)
(c) Both (i) and (ii) (d) Neither (i) nor (ii)

63. Ans: (a)

64. Consider the following statements related to tunnel lighting:
(1) The spacing of lights will depend on size of light source.
(2) The spacing of lights will depend on tunnel dimensions.
(3) It is desirable to have few lights of more wattage.
(4) It is desirable to have more lights of small wattage

Which of the above statements are correct?
(a) (1) and (2) (b) (1), (3) and (4)
(c) (1), (2) and (4) (d) (2) and (3)

64. Ans: (c)

65. Which of the following statements is/are correct?
The open cut is not desirable because
(1) It requires shorter lengths due to approaches.
(2) The maintenance cost of railway tracks and pavements is very high.
(3) It requires larger locomotives due to grades.
(4) It will require more time for construction.
Answer options:
(a) (1) and (2) are correct
(b) (1), (3) and (4) are correct
(c) (2), (3) and (4) are correct
(d) (2) and (3) are correct

65. Ans: (a)

66. Which of the following shape of tunnel gives self-cleansing velocity in dry weather flow and proves to be quite effective in resisting external as well as internal pressures?
(a) Circular section (b) Rectangular section
(c) Egg-shaped section (d) Horseshoe form

66. Ans: (c)

67. Consider the following statements with respect to electric detonators used in blasting operations:
(1) They are safe and certain.
(2) They do not permit successive firing of holes with required delay.
(3) They are not waterproof.
(4) The process of ignition is smoother as compared to blasting fuse.
Which of the above statements is/are incorrect?
(a) Only (1) and (2) (b) Only (2) and (3)
(c) Only (1), (2) and (3) (d) Only (1), (3) and (4)

67. Ans: (a)

68. Which of the following methods is not the popular method of tunneling in rocks?
(a) Full-face method
(b) New Zealand method
(c) Drift method
(d) Heading and Benching method

68. Ans: (b)

69. Which of the following options is the governing factor in deciding the size of shaft provided in tunnel during construction?
(a) Amount of muck to be removed
(b) Hoisting system used
(c) Size of muck car
(d) All of the above

69. Ans: (d)

70. What should be the interval for cross-sectioning the tunnel accurately?
(a) 1 M – 2 M (b) 4 M – 6 M
(c) 2 M – 4 M (d) 8 M –15 M

70. Ans: (c)

71. Consider the following factors:
(1) Nature of rock
(2) Method of tunnelling
(3) Profile of tunnel
(4) Depth of lift
Which of the factors stated above affect the quantity of explosives required for blasting?
(a) (2) and (3) (b) (1) and (2)
(c) (3) and (4) (d) All of the above

71. Ans: (d)

72. Which of the following is not the type of lighting used in tunnels?
(a) Lamps and lanterns using burning oil
(b) Gobar gas lighting
(c) Coal gas lighting
(d) Acetylene lighting

72. Ans: (b)

73. How much percentage of the total BOD is the first stage BOD for sewage?
(a) 90% (b) 100% (c) 99% (d) 98.5%

73. Ans: (b)

74. Which of the following points are valid for design of sewage treatment plants?
(a) It is better to provide more than one unit for each treatment process.
(b) Preferably by-passes should be avoided for all units.
(c) Hydraulic design should ensure self-cleaning velocity wherever required.
Answer options:
(a) Only (a) and (b) (b) Only (b) and (c)
(c) Only (a) and (c) (d) All of the above

74. Ans: (d)

75. Which of the following statements are applicable to Bangalore method of composting?
(1) Biodegradable solid waste and night soil is placed in alternate layers, in earthen trenches.
(2) It is primarily anaerobic in nature.
(3) The fill is turned regularly for 3 months.
(4) The fill is covered with 15 cm layer of earth.
Answer options:
(a) Only (1), (2) and (3) (b) Only (1), (2) and (4)
(c) Only (1) and (3) (d) Only (2) and (3)

75. Ans: (b)

76. A list of advantages of the activated sludge process is given below. Which of them is/are not correct?
(1) Smaller area of land is required
(2) Efficiency of the process is high
(3) Less quantity of sludge is produced
(4) No fly nuisance
Answer options:
(a) Only (1) and (4) (b) Only (2) and (4)
(c) Only (3) (d) Only (4)

76. Ans: (c)

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77. Those streams which dry up in summer and contain water only during rainfall are known as
(a) Intermittent streams (b) Dry streams
(c) Rainy streams (d) Perennial streams

77. Ans: (a)

78. Name the Indian Standard Code used for basic requirements of water supply in India.
(a) IS: 12183 (b) IS : 1343
(c) IS 456 (d) IS: 1172

78. Ans: (d)

79. Which of the following is a disadvantage of mechanical floculators in case of water treatment?
(a) Dead spaces in the corners
(b) Less capacity of tank is required
(c) Better floc formation
(d) More flexible in operation

79. Ans: (a)

80. Which of the following formulae clearly define moisture content in solid waste?
Where
a = Initial mass of sample as delivered
b = Mass of sample after drying
(a) $\left(\frac{a-b}{a}\right)\times 100$ (b) $\left(\frac{b-a}{b}\right)\times 100$
(c) $\left(\frac{a+b}{a}\right)\times 100$ (d) $\left(\frac{a}{a+b}\right)\times 100$

80. Ans: (a)

81. In case of air pollution, particle size of cement dust and fly ash falls in the range of
(a) 0.001 to 0.01 μm (b) 0.01 to 100 μm
(c) 100 to 1000 μm (d) 1000 to 2000 μm

81. Ans: (b)

82. A curve provided to change the horizontal alignment from infinite at the straight end to desired radius of the circular curve gradually is called
(a) Compound Curve (b) Vertical Curve
(c) Reverse Curve (d) Transition Curve

82. Ans: (d)

83. Which of the following is not an indirect method of measuring distances?
(a) Tacheometry
(b) Odometer
(c) Trigonometric Levelling
(d) Electromagnetic Distance Measurement

83. Ans: (b)

84. What correction needs to be applied for observed staff reading in levelling for curvature correction for a distance of 1000 m?
(a) 0.0785 m (b) 0.06783 m
(c) 0.0785 km (d) 0.112 km

84. Ans: (a)

85. The bisector of the angle of tilt which meets the photograph at a point, which in a vertical aerial photograph coincides with photo-nadir point and the principal point is called as
(a) Nadir Point
(b) Principal Point
(c) Isocentre
(d) Plumb Point

85. Ans: (b)

86. The distance AB on the ground on a plan drawn to a scale of 1 cm = 50 m was found to be 50 m. Later it was detected that the surveyor wrongly used a scale of 1 cm = 40 m in the calculations. Find the true ground length of the line AB.
(a) 500 m (b) 625 m
(c) 2000 m (d) 200 m

86. Ans: (*)

87. Which are multiplying and additive constants of tacheometry respectively?
(a) 100 and 0. (b) 0 and 100
(c) 125 and 10 (d) 10 and 125

87. Ans: (a)

88. In order to obtain the exact volume, in case the cross-sectional areas are calculated by the end area formula, the prismoidal correction
(a) is additive
(b) may be additive or subtractive
(c) None of the above
(d) is subtractive

88. Ans: (d)

89. Which of the following is not a method of geodetic surveying?
(a) Triangulation
(b) Precise Traversing
(c) Tacheometric Surveying
(d) Trilateration

89. Ans: (c)

90. The contour interval for a particular map is
(a) kept constant (b) made variable
(c) made irregular (d) made plane

90. Ans: (a)

91. In hydrographic surveying, if the speed of sound in water is v, the time interval between the transmitter and receiver is t, the depth h is given by the formula
(a) $h = 2vt$ (b) $h = vt^2$
(c) $h = vt + \frac{1}{2}gt^2$ (d) $h = \frac{1}{2}vt$

91. Ans: (d)

92. In view of the general principles of specification writing, which of the following statement/s is/are not correct?

(a) The specification writer should give reasons for what he specifies.

(b) Cross-references should be minimized, and only titles be referred, if need be.

(c) All items affecting the cost of the work should be included and described in detail.

(d) Commercial sizes should be specified as far as possible.

Answer options:

(a) Only (1) (b) Only (2)

(c) Only (2) and (3) (d) None of the above

92. Ans: (b)

93. Which of the following is not an approximate method of Estimate?

(a) Annual Repair or Maintenance Estimate

(b) Plinth Area Estimate

(c) Cubical Content Estimate

(d) Service Unit Method

93. Ans: (a)

94. What is the volume of coarse aggregate required to make 100 m^3 of finished concrete of grade M–15? Take dry volume to wet volume ratio as 1.54

(a) 76 m^3 (b) 88 m^3

(c) 96 m^3 (d) 106 m^3

94. Ans: (b)

95. Which of the following statement/s is/are applicable to cost-plus type contracts, generally?

(1) Early completion of the work is possible.

(2) A better quality work is produced.

(3) A lot of account-keeping is required.

(4) It is commonly employed for public works.

Answer options:

(a) Only (4)

(b) Only (1), (2) and (3)

(c) Only (1), (2) and (4)

(d) Only (1)

95. Ans: (b)

96. The net annual income from a property deducting all outgoings is 3,00,000. What would be the capitalized value of the property, if the rate of interest is 10% per annum?

(a) ₹ 3,00,000 (b) ₹ 33,00,000

(c) ₹ 30,00,000 (d) ₹ 3,30,000

96. Ans: (c)

97. Which of the following are the items to be included for computing the cost of owning and operating construction equipment?

(1) Running costs

(2) Investment costs

(3) Cost of maintenance and repairs

(4) Depreciation

Answer options:

(a) All of the above (b) Only (1) and (2)

(c) Only (1), (2) and (3) (d) Only (1), (2) and (4)

97. Ans: (a)

98. The following is not a purpose of valuation of a property

(a) Assessment of different Taxes

(b) Fixation of Rent

(c) Security for Loans or Mortgage

(d) Rate Analysis

98. Ans: (d)

99. Find out the book value, after 6 years of an asset cosing ₹ 10 lakh originally, assuming 10 years as life of the asset and the scrap value of ₹ 1 lakh.

(a) ₹ 4.6 lakh (b) ₹ 5.4 lakh

(c) ₹ 4.0 lakh (d) ₹ 6.0 lakh

99. Ans: (a)

100. If cement and steel are supplied by the Department and not by the contractor, then the percentage of profit on steel and cement in Rate Analysis is deducted by

(a) 20% (b) 15%

(c) 25% (d) 10%

100. Ans: (d)

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