

030/2024

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Measurements from the scale to the drawing are transferred with the aid of :
(A) Divider (B) Compass
(C) Protractor (D) Triangle
2. The magnetic bearing of the line is $63^{\circ} 30'$ and the magnetic declination is $3^{\circ} 10'$ east. The true bearing of the line will be :
(A) $66^{\circ} 40'$ (B) $34^{\circ} 30'$
(C) $60^{\circ} 20'$ (D) 51°
3. The representative fraction 1/1500 means that the scale is :
(A) 1 cm = 0.15 m (B) 1 cm = 1.5 m
(C) 1 cm = 15 m (D) 1 cm = 150 m
4. The T-Square is used for drawing :
(A) Vertical lines (B) Curve
(C) Horizontal lines (D) Inclined lines
5. The instrument which is the combination of electronic theodolite and electronic distance meter is :
(A) Digital theodolite (B) Tacheometer
(C) Telemeter (D) Total stations
6. The projection of a traverse line on a line perpendicular to the meridian is known as :
(A) Latitude of the line (B) Departure of the line
(C) Bearing of the line (D) Co-ordinate of the line
7. The method of levelling adopted to determine the difference of levels between two points when it is not possible to set up the level midway between them is :
(A) Reciprocal levelling (B) Profile levelling
(C) Precise levelling (D) Simple levelling
8. The back sight reading on a bench mark of reduced level 100.00 is 2.450 if foresight reading on the point 1.620, the reduced level of the point is :
(A) 103.070 (B) 97.550
(C) 100.830 (D) 102.450

A

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[P.T.O.]

9. Cumulative errors that occur in chaining are proportional to :
- (A) L (B) 2L
(C) 1/L (D) 1/2L
10. The error in measured length due to incorrect holding of the chain is :
- (A) Cumulative error (B) Compensating error
(C) Instrumental error (D) Negative error
11. _____ is a locus of a point moving in a plane in such a way that the ratio of its distances from a fixed point and a fixed straight line.
- (A) Ellipse (B) Parabola
(C) Conic (D) Curves
12. Lines drawn to represent visible edges and surface boundaries of objects are called :
- (A) Extension lines (B) Margin lines
(C) Outlines (D) Hatching lines
13. In _____ projection one plane is parallel to the horizontal and the other is inclined at an angle of 45° to the horizontal.
- (A) Isometric projection (B) Orthographic projection
(C) Oblique projection (D) Perspective projection
14. A series of closed contour line on the map represents a _____ if the higher values are inside.
- (A) Pond (B) Uniform slope
(C) Hill (D) Flat ground
15. _____ is the distance between base lines according to B-type lowercase letters.
- (A) 14/10h (B) 2/14h
(C) 10/10h (D) 7/14h
16. The plane of projection lies between the object and observer in :
- (A) Third angle projection (B) Fourth angle projection
(C) First angle projection (D) Second angle projection
17. When the whole circle bearing of two lines AB and AC are 115° and 41° respectively, then the included angle BAC will be?
- (A) 41° (B) 74°
(C) 115° (D) 156°

18. Remote sensing techniques are being usefully employed for the purpose of :
- (A) Improving natural resource management
 - (B) Land use
 - (C) Protection of environment
 - (D) All of these
19. In the system of dimensioning, the dimension is placed perpendicular to the dimension line in such a way that it may be read from the bottom edge or the right hand edge of the drawing sheet is called :
- (A) Unidirectional system
 - (B) Progressive dimensional system
 - (C) Aligned system
 - (D) Continuous dimensioning system
20. The height of instrument is equal to :
- (A) RL of BM + Back sight
 - (B) RL of BM +Fore sight
 - (C) RL of BM + Intermediate sight
 - (D) Back sight + Fore sight
21. The two point and three point problems are typical case of :
- (A) Radiation method
 - (B) Intersection method
 - (C) Traversing method
 - (D) Resection method
22. All offsets which are not right angles to the main survey lines according to direction are known as :
- (A) Perpendicular offset
 - (B) Long offset
 - (C) Short offset
 - (D) Oblique offset
23. In surveying telescope, cross hairs are fixed in :
- (A) Centre of telescope
 - (B) Front of the eye piece
 - (C) Optical centre of the eye piece
 - (D) Front of the objective
24. The method of contouring suitable for long and narrow strips of land is :
- (A) Square method
 - (B) Tacheometric method
 - (C) Cross section method
 - (D) Direct method
25. The inclined letters slope to the horizontal at an angle of :
- (A) 15°
 - (B) 45°
 - (C) 75°
 - (D) 30°

26. _____ is the edge of roof running between the eaves and ridge.
- (A) Verge (B) Cleat
(C) Template (D) Purlin
27. Light weight aggregate is obtained from :
- (A) Sedimentary rock (B) Metamorphic rock
(C) Volcanic source (D) Plutonic rock
28. Match the name of the stone in List –1 with the use of that stone in List – 2 :
- | List – 1 | List – 2 |
|---------------|--------------------------|
| A. Marble | 1. Roofing |
| B. Granite | 2. Manufacture of cement |
| C. Slate | 3. Light House |
| D. Lime Stone | 4. Decorative work |
- (A) A-4, B-3, C-1, D-2
(B) A-2, B-3, C-4, D-1
(C) A-3, B-2, C-1, D-4
(D) A-1, B-2, C-3, D-4
29. The volume of 1 bag cement weighing 50 kg is :
- (A) 0.34 m³ (B) 0.034 m³
(C) 0.43 m³ (D) 0.043 m³
30. Under water concreting is done at a temperature of :
- (A) 2°C (B) 3°C
(C) 4°C (D) 5°C
31. _____ is the property of a material to absorb water vapour from air.
- (A) Hydroscoy (B) Permeability
(C) Hygroscopy (D) Durability
32. Which type of scaffolding is most suitable if the construction work is to be carried out in the upper floor?
- (A) Single scaffolding (B) Independent scaffolding
(C) Suspended scaffolding (D) Needle scaffolding

33. A first class brick should have a minimum crushing strength of :
- (A) 0.7 N/mm² (B) 10.2 N/mm²
(C) 12.5 N/mm² (D) 14.0 N/mm²
34. The process of spreading and working on mortar or slurry over the stones to fill up their joints is known as :
- (A) Grouting (B) Quarries
(C) Template (D) Moulding
35. What is the name of the special type of concrete in which gas or air bubbles are introduced into the plastic cement mortar mix to produce a material with structure?
- (A) Ready mixed concrete (B) Cellular concrete
(C) No-fire concrete (D) Heavy weight concrete
36. What will be the remedy for the unequal settlement of subsoil?
- (A) Provide sufficient wide base
(B) Provide drive piles up the hard strata
(C) Foundation should rest on rigid strata
(D) Construct retaining wall to prevent the escape of earth
37. A paste formed by the addition of water to a mixture composed of an aggregate such as sand and a matrix or binding material like lime or cement is called :
- (A) Mortar (B) Cement mortar
(C) Lime mortar (D) Slurry
38. ————— are horizontal elements of a building structure which divide the building into different levels for the purpose of creating more accommodation.
- (A) Plinth (B) Plinth course
(C) Flooring (D) Floor
39. These are caused by the rupture of tissues in circular direction which forms ring shaped curved cracks in trees :
- (A) Ring shake (B) Cup shake
(C) Heart shake (D) Radial shake

40. Which of the following tests are used for testing tiles?
1. Impact test
 2. Water absorption test
 3. Dimension test
 4. Bulk density test
- (A) 1, 2 and 4 only (B) 1, 2 and 3 only
(C) 2 and 4 only (D) 1, 2,3 and 4
41. The horizontal wooden or steel members laid on the principal rafters on wall to wall to support common rafters of a roof are known as :
- (A) Purlin (B) Cleat
(C) Batten (D) Wall plate
42. The portion from which branch is removed receives nourishment from the stem for a pretty long time and ultimately results in the formation of dark rings is called :
- (A) Knot (B) Shake
(C) Pith (D) Bark
43. ————— is defined as a structure which is sunk through ground or water to exclude the water and semi fluid material during the process of excavation of foundation and which subsequently becomes as integral part of the sub-structure.
- (A) Box caisson (B) Open caisson
(C) Cofferdam (D) Caisson
44. Rank's formula is used to find :
- (A) Minimum width of foundation (B) Maximum depth of foundation
(C) Minimum depth of foundation (D) Maximum width of foundation
45. Choose the correct statements about single scaffolding :
- I. It is widely used in the construction of brick work.
 - II. Consist of single row of standards placed at a distance of about 2m from the wall.
 - III. The rakers and cross braces may be provided to make the scaffolding more strong.
 - IV. The distance between the successive standards is about 1m to 1.50m.
- (A) I and II (B) II and III
(C) III and IV (D) I and III

46. What is the distance for a village road building line?
(A) 9.0 m (B) 9.5 m
(C) 15.0 m (D) 30 m
47. For an industrial area how much will be the covered area with respect to the site area :
(A) 50% of the site area (B) 55% of the site area
(C) 60% of the site area (D) 65% of the site area
48. Which types of building comes in group H?
(A) hazardous (B) industrial
(C) storage (D) business
49. What is the carpet area of a building?
(A) Usable floor area excluding staircase, lift and wall
(B) Floor area of veranda, passage, balconies etc.
(C) Ground area covered by the building at the ground level
(D) Built up covered area measured at floor level
50. What is the scale of key plan?
(A) Not less than 1:400 (B) Not less than 1:100
(C) Not less than 1:10000 (D) Not less than 1:500
51. What is the permissible F.A .R Of mercantile building?
(A) 1.5 (B) 2.0
(C) 1.2 (D) 0.7
52. What is the normal rate of earth work for 30m lead?
(A) 1.5m lift (B) 1.8m lift
(C) 1.6m lift (D) 2.0m lift
53. The unit of measurement in M.K.S for earth work of earth filling in plinth is :
(A) cu.inch (B) cu.cm
(C) cu.ft (D) cu.m
54. Which estimate is called as item rate estimate?
(A) plinth area estimate (B) abstract estimate
(C) preliminary estimate (D) detailed estimate

55. Which area is included in the plinth area?
 (A) supported porches (B) balconies
 (C) cantilever projection (D) courtyard
56. How much cubic meter is equal to one bag of cement?
 (A) 0.4 cu.m (B) 0.034 cu.m
 (C) 0.34 cu.m (D) 0.00344 cu.m
57. The percentage of horizontal circulation area of a building is :
 (A) 4% – 5% of plinth area (B) 5% – 7% of plinth area
 (C) 7% – 10% of plinth area (D) 10% – 15% of plinth area
58. What is the unit of payment of ironwork in truss?
 (A) per quintal (B) per cu. m
 (C) per kg (D) per cu. ft
59. Which is job overheads?
 (A) handling of materials (B) travelling expenses
 (C) rent and taxes (D) telephone
60. How much volume of dry materials is required to prepare 1 cu. m of wet concrete?
 (A) 1.32 cu. m to 1.34 cu.m (B) 1.34 cu.m to 1.36 cu.m
 (C) 1.42 cu.m to 1.52 cu.m (D) 1.52 cu.m to 1.54 cu.m
61. The life of brick work in cement mortar is :
 (A) 25 years (B) 80 years
 (C) 60 years (D) 100 years
62. What is the net scrap value at the end of utility period of building?
 (A) 10% (B) 5%
 (C) 8% (D) 3%
63. The value at the end of utility period without being dismantled is termed as :
 (A) salvage value (B) market value
 (C) book value (D) scrap value
64. Which is not included under outgoings?
 (A) sinking fund (B) loss of rent
 (C) depreciation (D) taxes

65. The value of property or structure become less by its becoming out of date in style, in structure, design etc are termed as :
- (A) obsolescence (B) depreciation
(C) years purchase (D) annuity
66. A part of water, which exists in the porous space of the soil by molecular attraction is known as :
- (A) Capillary water (B) Hygroscopic water
(C) Gravitational water (D) None of the above
67. Duty of canal water is expressed in :
- (A) Cumec (B) Centimeter
(C) Ha per cumec (D) None of these
68. The first watering which is given to a crop, when it is grown up to a few centemeter is :
- (A) Paleo (B) Kor-watering
(C) Base period (D) Crop period
69. Which of the following irrigation is suitable for sugarcane and tobacco?
- (A) Free flooding (B) Check flooding
(C) Furrow irrigation (D) Border flooding
70. The ratio of mean supply discharge to the full capacity discharge is :
- (A) Time factor (B) Capacity factor
(C) Base Factor (D) Crop ratio
71. The water stored in the reservoir, below the minimum pool level is :
- (A) Dead storage (B) Useful storage
(C) Valley storage (D) Surcharge storage
72. Yield of a reservoir represents :
- (A) The inflow into the reservoir
(B) The capacity of the reservoir
(C) The out flow demand on the reservoir
(D) The optimum value of catchment yield

73. Which dam is constructed to store water during floods and release it gradually at a safe rate, when the flood recedes?
- (A) Storage dam (B) Diversion dam
(C) Rigid dam (D) Detension dam
74. A barrier with low crest provided with a series of gates across the river is a :
- (A) Barriage (B) Weir
(C) Dam (D) All of these
75. The axis of head regulator usually makes an angle with the axis of the weir is :
- (A) 30° to 60° (B) 60° to 90°
(C) 90° to 120° (D) 120° to 180°
76. The shape of lined canal as per ISI is :
- (A) Semi-circular (B) Parabolic
(C) Rectangular (D) Trapezoidal
77. The difference in level between the top of a bank and supply level in a canal is :
- (A) Berm (B) Free board
(C) Height of bank (D) None of these
78. The unit of viscosity is :
- (A) N/m^3 (B) Ns/m^2
(C) N/m^2 (D) Ns/m^3
79. The reciprocal of compressibility is known as :
- (A) Young's modulus (B) Expansion index
(C) Bulk modulus (D) Compression index
80. Which element of hydroelectric power plant prevents the penstock from water hammer phenomena?
- (A) Valves and gates (B) Draft tubes
(C) Spillway (D) Surge tank
81. The units which are derived from basic units are called :
- (A) Fundamental units (B) Basic units
(C) Derived units (D) System units

82. The three sides of a triangle are not equal, such a triangle is called :
(A) Right angled triangle (B) Isosceles triangle
(C) Equilateral triangle (D) Scalene triangle
83. Calculate the area of a right triangle whose base and height are 10 cm, 3.5 cm respectively :
(A) 17.5 cm (B) 18.5 cm
(C) 19.5 cm (D) 35 cm
84. Circumference of a circle of radius r is :
(A) πr (B) $2\pi r$
(C) πr^2 (D) πr^3
85. Find the side of a cube, if its surface area is 216 m^2 :
(A) 6 cm (B) 12 cm
(C) 18 cm (D) 8 cm
86. 1 km is equal to :
(A) 0.84 miles (B) 0.50 miles
(C) 1.60 miles (D) 0.62 miles
87. The ratio between the change in length of the material to its original length is called :
(A) Lateral strain (B) Volumetric strain
(C) Linear strain (D) Poisson's ratio
88. The ratio of output to the input of machine is called :
(A) Mechanical advantage (B) Velocity ratio
(C) Power (D) Efficiency
89. The rate of change of displacement of body is called :
(A) Velocity (B) Acceleration
(C) Speed (D) Retardation
90. The capacity to do work is :
(A) Power (B) Workdone
(C) Energy (D) Acceleration
91. The friction experienced by a body when it is in motion is known as :
(A) Static friction (B) Kinetic friction
(C) Limiting friction (D) Normal friction

92. The resultant of two forces P and Q acting at an angle θ , is :
- (A) $P^2 + Q^2 + 2PQ \sin \theta$ (B) $P^2 + Q^2 + 2PQ \cos \theta$
 (C) $\sqrt{(P^2 + Q^2 + 2PQ \sin \theta)}$ (D) $\sqrt{(P^2 + Q^2 + 2PQ \cos \theta)}$
93. The keystroke ctrl+Y is _____ in Autocad.
- (A) Undo (B) Redo
 (C) Polar Tracking ON/OFF (D) cut
94. Which state grid is used to design perspective?
- (A) Prooptic (B) Rectangular
 (C) Isometric (D) Parametric
95. What is the keystroke for erase command in auto CAD?
- (A) ES (B) ER
 (C) E (D) EL
96. What is the keystroke for break command?
- (A) B (B) BR
 (C) BS (D) EX
97. From which menu bar do you get 'Line' command?
- (A) Layout (B) Modify
 (C) Draw (D) Insert
98. Which one of the following is not a valid option for drawing a circle?
- (A) 3 points (B) Tan Tan Centre
 (C) Tan Tan Radius (D) Tan Tan Tan
99. Which command dialogue box contains preview command?
- (A) Plot (B) Plotter manager
 (C) Drafting setting (D) Drawing units
100. What is shortcut of print command?
- (A) Ctrl + X (B) Ctrl + C
 (C) Ctrl + P (D) Ctrl + F

SPACE FOR ROUGH WORK

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