

DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

QUESTION BOOKLET

SERIES I

Subjects : General English & Civil Engineering

BOOKLET SERIAL NO.

180209

Marks : 300

Time : 2½ hours

Read the following instructions carefully before you begin to answer the questions.

INSTRUCTIONS TO CANDIDATES

1. This booklet contains **150 questions** to be answered in a separate OMR Answer Sheet using Black Ball Pen in following two parts:
Part-A-General English : 50 questions, Part-B- Civil Engineering : 100 questions,
2. All Questions are compulsory.
3. You will be supplied the Answer sheet separately by the invigilator. You must complete the details of particulars asked for.
4. Answers must be shown by completely blackening the corresponding circles in the Answer Sheet against the relevant question number by Black Ball Pen. OMR Answer Sheet without marking series/double series marking shall not be evaluated.

Example :

Supposing the following question is asked :-

The Capital of Meghalaya is-

- A. Guwahati
- B. Kohima
- C. Shillong
- D. Delhi

You will have four alternatives in the Answer Sheet for your response corresponding to each question of the Question Booklet as below :-

(A) (B) (C) (D)

In the above illustration, if your chosen response is alternative C i.e. Shillong, then the same should be marked on the Answer Sheet by blackening the relevant circle with a Black Ball Point Pen only as below :-

(A) (B) (●) (D)

WHICH IS THE ONLY CORRECT METHOD OF ANSWERING

5. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any one question.
6. There will NOT be any negative marking for wrong answers.
7. The Answer Sheet must be handed over to the invigilator before you leave the Examination Hall.
8. No rough work is to be done on the Answer Sheet. Space for rough work has been provided in the question booklet.

PART - A - GENERAL ENGLISH

Marks :100

Each question carries 2 marks :

SECTION-I

Directions : Read the following passage and answer the questions below following the instructions :

Times grew worse and worse with Rip Van Winkle as years of matrimony rolled on; a tart temper never mellows with age, and a sharp tongue is the only edged tool that grows keener with constant use. For a long while he used to console himself, when driven from home, by frequenting a kind of perpetual club of the sages, philosophers and other idle personages of the village, which held its sessions on a bench before a small inn, designated by a rubicund portrait of his Majesty, George the Third. Here they used to sit in the shade through a long, lazy summer's day, talking listlessly over village gossip, or telling endless, sleepy stories about nothing.

Choose the appropriate synonyms of the following :

1. designated

- | | |
|-------------|-------------|
| a) designed | b) defined |
| c) doused | d) outlined |

2. personages

- | | |
|-------------|----------------------|
| a) idlers | b) bumpkins |
| c) ramblers | d) important persons |

3. frequenting

- | | |
|--------------|--------------|
| a) recurring | b) brooding |
| c) occurring | d) harrowing |

4. tart

- | | |
|-------------|--------------|
| a) ecstatic | b) bucolic |
| c) rustic | d) sarcastic |

5. gossip

- | | |
|------------|------------|
| a) chatter | b) heresy |
| c) prattle | d) affable |

Choose the appropriate antonyms of the following :

6. keener

- | | |
|------------|------------|
| a) sharpen | b) limper |
| c) blunter | d) sharper |

7. perpetual

- | | |
|--------------|---------------|
| a) incessant | b) transitory |
| c) constant | d) abiding |

8. mellows

- | | |
|------------|--------------|
| a) worsens | b) matures |
| c) ripens | d) generates |

9. listlessly

- | | |
|---------------------|------------|
| a) enthusiastically | b) vaguely |
| c) slothfully | d) snugly |

10. constant

- | | |
|---------------|---------------|
| a) consistent | b) immutable |
| c) firm | d) invariable |

SECTION-II

Directions : Choose the correct option to fill in the gaps where necessary :

11. Patience, politeness and wisdom are among _____ most celebrated virtues.

- | | |
|-------|---------------|
| a) a | b) the |
| c) an | d) no article |

12. Tom had become _____ centre of interest in the junior school concert.

- | | |
|--------|---------------|
| a) the | b) a |
| c) an | d) no article |

13. The soldier looked at the approaching enemy from _____ distance.

- | | |
|-------|---------------|
| a) an | b) the |
| c) a | d) no article |

14. The members of the parliament swore _____ the Constitution.

- | | |
|--------|-------|
| a) by | b) at |
| c) for | d) in |

15. I prohibited him _____ his car near the entrance.

- a) while parking b) not to park
c) from parking d) to park

16. Kashmir is the core issue _____ to strained relations between India and Pakistan.

- a) making b) bringing
c) leading d) tending

17. In many ways, riding a bicycle is similar

- a) to the driving of a car
b) when you drive a car
c) to driving a car
d) when driving a car

18. An eighteen year old is _____ to vote in the election as per the Constitution of India.

- a) old enough b) as old enough
c) old d) old enough yet

19. Please vote for the member _____ has done most for the locality.

- a) who you believe
b) who you believed
c) that you believe
d) whom you believe

20. He is senior in service _____

- a) to me b) than me
c) from me d) than I

21. Neither our accounts office nor our head office _____ a record of the transaction.

- a) has b) have
c) is having d) will have

22. Richard got _____ marks than John in the examination.

- a) most b) very better
c) few d) more

23. My cold is _____ today than it was yesterday.

- a) bad b) baddest
c) worse d) worst

24. Mr. Robinson is richer than Mr. Greene, but I don't think he is _____ than Mr. Greene.

- a) happier b) happy
c) more happy d) as happy

25. When the manager came to know of his deceptive behaviour he _____

- a) ordered his immediate dismissal
b) has ordered his immediate dismissal
c) ordered an immediate dismissal
d) ordered for an immediate dismissal

26. However great you may be, you cannot _____ a man's feelings.

- a) trifle on b) trifle upon
c) trifle at d) trifle with

27. Before I could stop him, the boy _____ the box down the stairs.

- a) was throwing b) threw
c) had thrown d) thrown

28. No sooner had he reached the station than the train _____

- a) had been moving
b) started moving
c) started movement
d) was moving

29. We _____ admire his inventive genius.

- a) could not help but
b) could not help to
c) could not but help
d) could not help

30. Your good gestures _____

- a) would be highly appreciable
b) is highly appreciable
c) will be highly appreciated
d) will be highly appreciative

SECTION-III

Directions : Choose the correct sentences:

31. (i) These chairs are very comfortable but they are too expensive

(ii) These chairs are comfortable but they are expensive

(iii) These chairs are comfortable and expensive

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

32. (i) Those ladies play tennis well, but they cannot swim.

(ii) The ladies play tennis well, but they cannot swim.

(iii) Those ladies play tennis well and they can-

not swim.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

33. (i) If your friends are tired, they ought to spend a holiday by the sea.

(ii) If your friends are tired, they have to spend a holiday by the sea.

(iii) If your friends are tired, they can spend a holiday by the sea.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

34. (i) They must do as they are told.

(ii) They must do as you have told.

(iii) You must do as you are told.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

35. (i) If you had left earlier, you would have caught the train.

(ii) If you leave early, you would have caught the train.

(iii) If you had left earlier, you would have been able to catch the train.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

36. (i) They go to work by car and come home on foot.

(ii) They go to work by car and come home by foot.

(iii) They go to work by car and come home walking.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

37. (i) If it rains, you will get wet.

(ii) If it rains, you will be wet.

(iii) If it starts to rain, you will be wet.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

38. (i) They come here a month ago.

(ii) They came here a month ago.

(iii) They arrived here a month ago.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

39. (i) How can I say what he is like until I see him.

(ii) How can I say what he is like until I have seen him.

(iii) How can I say what he is like until I have met him.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

40. (i) You will succeed if you do as I tell you.

(ii) Do as I tell you, you will surely succeed.

(iii) You will surely succeed if you do as I tell you.

- a) (i) & (ii) b) (i) & (iii)
c) (ii) & (iii) d) (i), (ii) & (iii)

SECTION-IV

Directions : Choose the correct meaning for the phrases given below :

41. to repudiate a charge

- a) to disclaim b) to confirm
c) to accept d) to embrace

42. to be completely sapped

- a) to exhaust one's savings
b) to be completely exhausted
c) to be revitalised
d) to be able to save

43. a smack in the eye

- a) a rebuff or a cold shoulder
b) an acknowledgement of one's good deeds
c) a blow on the face
d) an appreciation of something

44. to disparage somebody's effort

- a) to belittle b) to praise
c) to ignore d) to distract

45. to fly into a passion

- a) an outburst of anger
b) a keen obsession
c) doing something with ardour
d) an outburst of grief

46. difficult to please

- a) fastidious b) fretful
c) flunkey d) flounder

47. a long shot

- a) an attempt to shoot at something from a distance
b) a successful attempt of a shot from a distance

- c) an attempt that is not likely to be successful but is worth trying
- d) an attempt that is successful and worth trying

48. a lone wolf

- a) person who prefers to be alone
- b) a spy
- c) a fugitive
- d) an adventurer

49. putty in somebody's hand

- a) something malleable
- b) an influential person
- c) easily controlled or influenced by another person
- d) an idea that is easily agreed by many

50. pop the question

- a) to ask for somebody's hand in marriage
- b) a million dollar question
- c) to make request that is rather awkward
- d) to ask for something that is difficult to answer

PART - B - CIVIL ENGINEERING

Marks : 200

Each question carries 2 marks :

51. When the sanctioned estimate of work is less than Rupees Fifty Thousand, such type of work is known as

- a) Petty work b) Minor work
- c) Medium work d) Major work

52. The amount of money made to the contractor immediately for the security of materials brought to the Site is termed as

- a) Secured advance b) Advanced payment
- c) First payment d) Intermediate payment

53. In estimates and contracts no materials is supplied to the contractor when it is given by

- a) Labour rate b) Lumpsum rate
- c) Through rate d) Detailed rate

54. The minimum time which an activity will take to complete which will be worked out by an engineer after it face with certain problems is known as

- a) Slow time b) Slag time
- c) Delay time d) Crash time

55. In the construction by using CPM Network the activities which the management has no control is termed as

- a) External factors b) Constraints
- c) Disturbances d) Hidden factor

56. The maximum slope at which the wheel crawler or crawler type tractor can move at a uniform speed is termed as

- a) maximum gradient b) uniform gradient
- c) limiting gradient d) gradability

57. The excavating machine which can dump excavated earth over a longer distance is termed as

- a) Shovel b) Dragline
- c) Boom d) Hoist

58. The process in which differences and deviations of planned activities and actual performances are reviewed after the project has started is termed as

- a) Scheduling b) Monitoring

c) Controlling

d) Evaluating

59. Two forces acting simultaneously on a particle, the angle between them is 180° , the two forces are acting

- a) along the same line
- b) along the same line but in opposite direction
- c) along the same line in same direction
- d) at right angle to each other

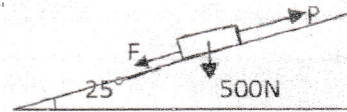
60. A body if it occupies a new position and remain at rest in this position after slight displacement from its position of rest, in this state the body is said to be in

- a) stable equilibrium b) unstable equilibrium
- c) neutral equilibrium d) none of the above

61. A T-section of size 100mm x 150mm, the width of web is 30mm and thickness of flange is 30mm, its centre of gravity is

- a) 65.2mm b) 78.4mm
- c) 94.1mm d) 116.3mm

62. A body of weight 500 N is lying on a rough plane inclined at an angle of 25° with the horizontal as in figure. It is supported by an effort P parallel to the plane, angle of friction is 20° the minimum value of P for which equilibrium is to exist is:



- a) 46.4N b) 58.2N
- c) 64.4N d) 68.2N

63. A lifting machine of weight 1000N is lifted by an effort of 25N. While the weight moves up by 100 mm the point of application of the effort moves by 8m, the efficiency of the machine is

- a) 50% b) 40%
- c) 80% d) none of the above

64. A particle is projected inside a horizontal tunnel which is 5m high with a velocity of 60m/sec, the angle of projection is

- a) $90^\circ 30'$ b) $80^\circ 30'$
- c) $9^\circ 22'$ d) $14^\circ 25'$

65. An access or internal thorough fares between rooms of the same floors or between floors is known as

- a) Grouping b) Circulation
- c) Flexibility d) Prospect

66. The height of rooms which are to be used for human habitation shall not be less than

- a) 2.50m b) 2.60m
- c) 2.70m d) 2.75m

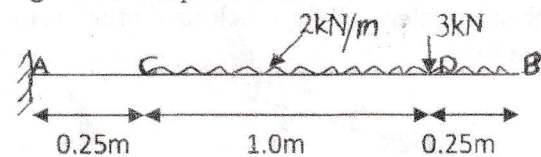
67. The line upto which the plinth of the building adjoining a street may be lawfully extend is known as

- a) building line b) control line
- c) setback line d) property line

68. A rod 100cm long and area of cross section of 4cm^2 , is subjected to a pull of 1000kg force. If the modulus of elasticity of the material is $2.0 \times 10^6 \text{kg/cm}^2$, the elongation of the rod is

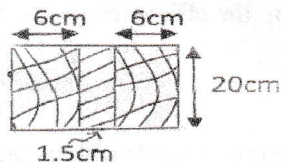
- a) 0.003125cm b) 0.0125cm
- c) 0.03125cm d) 0.00125cm

69. A cantilever beam of 1.5m long is loaded with a uniformly distributed load of 2kN/m run over a length of 1.25m from the free end as in figure. It also carries a point load of 3kN at a distance of 0.25m from the free end. The Bending moment at point C is



- a) 5.188kN-m b) 4.563kN-m
- c) 5.94kN-m d) 3.75kN-m

70. A flitched timber beam made up of steel and timber as shown in figure, the stress in timber and steel respectively is 50kg/cm^2 and 1000kg/cm^2 . The section modulus of timber is



- a) 800cm^3 b) 400cm^3
- c) 8000cm^4 d) 4000cm^4

71. A cantilever 2.5m long is loaded with a uniformly distributed load of 1000kg/m over a

length of 1.5m from the fixed end, the value of I is 9500cm^4 , $E = 2.1 \times 10^6 \text{kg/cm}^2$, the slope at the free end is

- a) 0.0018rad b) 0.0010rad
- c) 0.00040rad d) 0.00028rad

72. Isohyets are

- a) areas of equal precipitation
- b) lines of equal precipitation on maps
- c) lines of equal temperatures on maps
- d) lines of equal surface run offs

73. Perennial crop is the one which lasts

- a) during rabi season b) for eight months
- c) 10 months d) all the year

74. Duty of a canal water is expressed as

- a) cumec b) cumec per area
- c) ha per cumec d) cusecs/cm

75. In pressure measurement the difference of Local atmospheric pressure and Absolute pressure is known as

- a) Vacuum pressure
- b) Gauge pressure
- c) Standard atmospheric pressure
- d) Barometric pressure

76. When a body is submerged in a fluid it displaces a certain amount of fluid resulting in a vertically _____ which is exerted by the fluid on the body.

- a) vertically downward force
- b) vertically upward force
- c) horizontal force
- d) floating force

77. For a flow taking place around a uniform diameter pipe bend is known as

- a) non uniform flow b) unsteady flow
- c) rotational flow d) turbulent flow

78. In Bernoulli's equation the term p/γ with usual notation is the ability of unit weight of fluid to _____ by virtue of its pressure

- a) flow b) do work
- c) develop gradient d) develop kinetic energy

79. The dimension $[\text{ML}^2\text{T}^{-1}]$ represents that of

- a) surface tension
- b) torque
- c) bulk modulus of elasticity
- d) angular momentum

80. The zone in which the viscous stress and the Reynolds stress are of the same order of magnitude is known as

- a) laminar zone b) laminar sub layer zone
- c) transition zone d) turbulent zone

81. Manning's formula is widely used for flow in

- a) closed channels b) orifices
- c) open channels d) turbines

82. When the length of a weir is same as the width of the channel it is known as

- a) suppressed weir b) broad crested weir
- c) cipolletti weir d) contracted weir

83. The turbine in which the water is admitted to the entire circumference of the runner is a

- a) Hydraulic turbine b) Impulse turbine
- c) Pelton wheel d) Re-action turbine

84. The water proofing process in which an impervious layer of rich cement mortar is deposited over the surface to be treated is known as

- a) Guniting
- b) Membrane damp proofing
- c) Integral damp proofing
- d) Rigid damp proofing

85. The shoring arrangement of providing temporary support to the walls of two building is known as

- a) Raking shore b) Flying shore
- c) Underpinning d) Scaffolding

86. The extension of one or more courses of brick from the face of the wall is term as

- a) Coping b) Corbel
- c) Cornice d) Pointing

87. In a brick work where the facing of the wall consist of English bond and the backing consist of Flemish bond such type brick work is known as

- a) Single Flemish bond b) Double Flemish bond
- c) Raking bond d) None of the above

88. The flooring form by providing finishing coat over the concrete surface which is hard, resistant to abrasion and durable ; such a flooring is known as

- a) Granolithic b) Terrazo

c) Mosaic

d) Kota

89. Scotia is the _____ provided under a nosing to beautify the elevation of the step.

- a) Pitch b) Moulding
- c) Soffit d) Cutting

90. The wedge shaped units forming the arches are term as

- a) Voussoirs b) Key stones
- c) Haunches d) Springings

91. Within a door inorder to provide a _____ in a leaf, the two panels has to be placed parallel Vertically to one another.

- a) Rail b) Stile
- c) Muntin d) Mullion

92. The window that is provided to achieve better ventilation and cooling effect in the living or main room of a building is known as

- a) Louvered window b) Venetianed window
- c) Dormer window d) Clerestorey window

93. In a roof covering the battens exist when it is covered by using

- a) G.I. sheets b) A.C.sheets
- c) Terracota d) Roof tiles

94. The colour of mineral in its powder form is known as

- a) streak b) lustre
- c) texture d) talc

95. The test for resistance of stone against hammering is referred as

- a) hardness b) toughness
- c) crushing d) abrasion

96. The quick lime that comes from kiln is called as

- a) lump lime b) fat lime
- c) slake lime d) hydrated lime

97. Efflorescence test is carried out in the case of

- a) cement b) stone
- c) brick d) lime

98. Timber exhibit larger shear strength when the test is performed in the following condition

- a) parallel to the grain
- b) perpendicular to the gain

- c) at the mid section
- d) at near the end

99. For aggregate of 40mm nominal size of single size type, it should passed in the 40mm I S sieve in the percentage of

- a) 75-100
- b) 80-100
- c) 85-100
- d) 95-100

100. For concrete in addition to flow the rheology also include

- a) deformation
- b) bleeding
- c) segregation
- d) harshness

101. Low workability of concrete can be attributed when the aggregate type is

- a) angular
- b) rounded
- c) flaky
- d) elongated

102. The boards which are made by pressing the mixtures of sawdust, fibres of wood and glue is term as

- a) fibre boards
- b) veneer boards
- c) laminated boards
- d) pasted block boards

103. Paints consisting of white lead or zinc white grounded in a small quantity of oil mixed with petroleum spirits and resinous matter known.as

- a) oil paint
- b) enamel paint
- c) water paint
- d) plastic paint

104. In graphical analysis the yield strength of steel is usually correspond to the

- a) 0.002 strain value
- b) 0.025strain value
- c) 0.030 strain value
- d) 0.035 strain value

105. For indicating orientation of the drawing sheet on the drawing board the number of orientation mark usually provided is

- a) one
- b) two
- c) three
- d) four

106. During the process of dimensioning where the possibility of accumulation of tolerances does not endanger the functional requirement of an object then the type of dimensioning system may be used as

- a) aligned
- b) unidirectional
- c) chain
- d) combined

107. For converting the the distances from miles into kilometers the type of scale used is

- a) comparative
- b) plain

- c) reducing
- d) enlarging

108. A plot of 100 square kilometers is represented on a map by an area of 4 square centimeters, its scale factor is

- a) $1/5 \times 10^4$
- b) $1/5 \times 10^5$
- c) $1/2.5 \times 10^4$
- d) $1/2.5 \times 10^5$

109. A curve traced by a circumference of a generating circle which rolls without slipping on another circle inside is known as

- a) cycloid
- b) epicycloid
- c) trochoid
- d) hypocycloid

110. Diagonal scales are used for measurements of distances which are

- a) minute type
- b) diagonal type
- c) reducing type
- d) enlarging type

111. The surveying carried out to determine the property lines, area boundaries of municipalities etc is known as

- a) plane survey
- b) cadastral survey
- c) geodetic survey
- d) city survey

112. During chain survey the error which make the measurement length less than actual is known as

- a) reducing error
- b) additive error
- c) positive cumulative error
- d) negative cumulative error

113. The horizontal angle between the reference meridian and the survey line measured in clockwise direction is known as

- a) bearing
- b) true meridian
- c) grid meridian
- d) azimuth

114. The angle S160°10'E is in whole circle bearings, when converted into quadrantal bearing is

- a) S160°10'E
- b) S19°50'E
- c) N199°50'W
- d) N70°10'W

115. During the process of plane table survey choose the term which is not related from the following

- a) resection after orientation by back ray
- b) resection after orientation by three points
- c) resection after orientation by a box compass
- d) resection after orientation by centering

116. The line passing through the optical centre

of the objective and the point of intersection of cross Hairs stretched in front of the eye piece and its continuation is the

- a) line of collimation b) line of sight
- c) horizontal line d) trunnion axis

117. The least horizontal distance between two consecutive contour is known as

- a) horizontal equivalent
- b) contour interval
- c) minimum contour distance
- d) contour gradient

118. While driving in daytime the pavement that produce eye strain and glare is

- a) bituminous surface b) asphaltic concrete
- c) bituminous macadam d) cement concrete

119. The maximum number of vehicles that can pass a given point on a roadway during one hour under prevailing roadway and traffic conditions regardless of their effect in delaying the drivers and restricting their freedom of movement is

- a) traffic capacity b) basic capacity
- c) possible capacity d) practical capacity

120. In a highway gradient when the vehicle moves at a constant speed during ascending and descending that type of a gradient is known as

- a) average gradient
- b) momentum gradient
- c) compensating gradient
- d) floating gradient

121. A circular curve consist of two reverse curve which when joined by a straight line in between such a curve is known as

- a) transition b) cubic spiral
- c) lamniscate d) deviation

122. The cutback bitumen which is best suited with dense graded aggregate which provided suitable interlocking that particular type is known as

- a) slow curing b) medium curing
- c) rapid curing d) asphaltic bitumen

123. The product of grinding action between larger rock fragments during their transportation by glacier, water or wind is known as

- a) rock flour b) clay
- c) fine sand d) silt

124. When the soil sample has the resistance to moulding at the plastic limit, such type of soil is said to possess

- a) high dry strength b) medium dry strength
- c) dilatancy d) toughness

125. The natural moisture content of soil is 35%, its bulk density is 1.76 gm/cc, saturated density is 1.85 gm/cc ; its dry density is given by

- a) 1.30 gm/cc b) 1.39 gm/cc
- c) 1.67 gm/cc d) 0.62 gm/cc

126. In a soil when plastic limit is the same as that of natural water content, then the value of

- a) liquidity index is <0 b) liquidity index is =0
- c) liquidity index is >0 d) liquidity index is =1

127. During compaction of soil, the process of kneading action is usually occur in the following soil

- a) gravel b) fine sand
- c) cohesionless d) cohesive

128. The slow rate of loading in a soil in during shear test indicate that there exist a condition in the form of

- a) drained
- b) undrained
- c) consolidated undrained
- d) unconsolidated undrained

129. For bearing capacity determination as per Terzaghi's method in soil the following values obtained during computation test are

$\Phi > 36^\circ$, $N \geq 30$, $I_D > 70$, the ultimate results show that it is

- a) local shear failure b) general shear failure
- c) mixed shear failure d) yield failure

130. In plasticity chart classification of soil, when the liquid limit of the soil is between 40-50%, plasticity index between 20-30, such soil with usual notation it is shown as

- a) ML b) MI&OI
- c) CL d) CI

131. In hydrology related study the losses due to evaporation, percolation, absorption occur in

- a) lake b) well
- c) river d) runoff

132. In India for an average town population of more than 10Lakhs, the amount of water required

for various uses per capita/day in litres is

- a) 135 b) 180
- c) 220 d) 270

133. Corrosion occurs in pipe line, usually when water has more quantity of

- a) oxygen b) copper
- c) zinc d) cadmium

134. In water treatment when breakpoint chlorination occur then it leads to

- a) available chlorine b) oxidation of ammonia
- c) lowering pH d) increase in temperature

135. For potable water the range of particular element which is measure on a silica scale is for

- a) odour b) colour
- c) turbidity d) taste

136. The colloidal impurities remains in motion as a result they donot settle. This is due to their

- a) tiny sizes b) repelling action
- c) surface disturbance d) stirring action

137. The sleeper having the shape of an inverted triangular pot is termed as

- a) CI pot b) Steel trough
- c) CI d) CST 9

138. For holding the rails to the concrete sleeper it is done by using

- a) dog spike b) dog bolt
- c) elastic spike d) standard spike

139. The negative super elevation in a railway track arises when

- a) inner rail of branchline takeoff from inner rail of mainline
- b) inner rail of branchline takeoff from outer rail of mainline
- c) the super elevation of the two track is the same
- d) there is the cant deficiency

140. As per ICAO classification, the airport designated as B type has a runway length of

- a) 900-1499m b) 1400-2299m
- c) 1500-2099m d) 2100-3499m

141. For runway orientation the crosswind component for light and medium aircraft should be kept as

- a) <15kmph b) >20kmph

- c) <25kmph d) <35kmph

142. When the concrete of M20 grade and steel of Fe415 type are used, the required balanced percentage of steel is

- a) 1.32 b) 1.65
- c) 1.76 d) 2.20

143. In axially loaded short column when less longitudinal steel are used, high stress occur in steel which is due to

- a) less steel area b) shrinkage effect
- c) yielding of steel d) buckling effect

144. The concrete in the structure is assumed that it develops a strength which is equal to the product of cube strength and the factor

- a) 0.55 b) 0.67
- c) 0.75 d) 0.65

145. The load carrying capacity of a helically reinforced column as compared to that of a tied column is about

- a) 5% less b) 10% less
- c) 5% more d) 10% more

146. The unit of payment for blasting of rock including stacking is in

- a) sq.m b) cu m
- c) % sq.m d) % cu m

147. While estimating for plastering, usually no deduction is made for

- a) end of beams
- b) small openings upto 0.5 sq.m
- c) end of rafters
- d) all of the above

148. The measurement which is not made in square metres incase of

- a) D.P.C b) R.C. chajja
- c) Concrete jaffries d) Form work

149. The ratio of cost of labour to the total cost of the building is

- a) 1 : 10 b) 1 : 4
- c) 1 : 1 d) 1 : 2.5

150. In analysis of rate the quantity of dry mortar for 10 cubic metre brick work is taken as

- a) 10m³ b) 3m³
- c) 0.3m³ d) 1m³