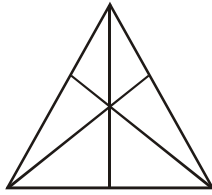# GENERAL INTELLIGENCE & REASONING
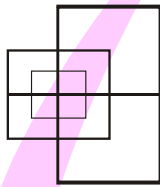
1. How many triangles are there in the figure?

(a) 7   (b) 10

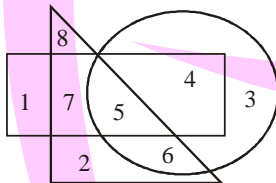(c) 16   (d) 20

Ans.(c)

2. Find the number of minimium straight lines reguired to make figure

(a) 13   (b) 17

(c) 15   (d) 19

Ans.(a)
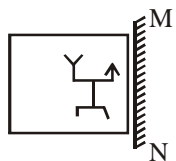
3. Write the number of space enclosed by rectangle and circle but not by triangle
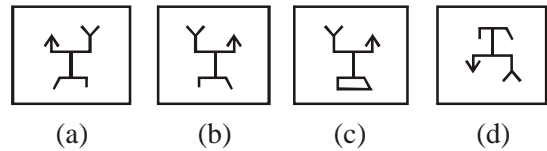

(a) 3   (b) 2

(c) 1   (d) 4

Ans.(d)

4. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

Question figure

Answer figures

(a)   (b)   (c)   (d)

Ans.(a)

5. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g. 'M' can be represented by 01, 14 etc., and 'S' can be represented by 58, 77 etc. Similaraly, you have to identify the set the word 'ROHAN'.
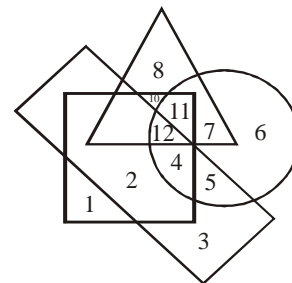
Matrix I

	0	1	2	3	4
0	H	M	X	W	K
1	N	R	N	Y	M
2	K	V	H	P	W
3	Y	Z	R	M	N
4	W	V	H	J	P

Matrix II

	5	6	7	8	9
5	A	D	E	S	B
6	T	U	O	G	Q
7	O	Q	S	D	A
8	S	E	U	E	D
9	Q	B	A	T	O

(a) 11, 57, 00, 55, 12   (b) 11, 75, 00, 55, 10

(c) 32, 75, 21, 55, 10   (d) 32, 67, 41, 55, 12

Ans.(b)

6. In the given figure, the circle stands for intelligent, square for hardworking, triangle for Post graduate and the rectangle for loyal employes. Study the figure and answer the following questions.

Employees who are intelligent, hardworking and loyal but not Post graduate are represented by

(a) 11   (b) 5

(c) 4   (d) 3

Ans.(c)

Directions : In questions nos. 7 and 8, one/two statement(s) are given are followed by two conclusion/assumption, I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusion/assumptions, if any, follows from the given statements.

7. **Statements :** All students are girls.

Some students are not talented.

Conclusions : I. No students is talented

II. Some girls are talented

(a) Only I follows

(b) Only II follows

(c) Both I and II follows

(d) Neither I nor II follows

Ans.(d)

8. **Statements :** 1. Tigers do not fly

2. Hens do not fly.

Conclusions : I. Tigers are birds

II. All birds cannot fly

(a) Only I follows

(b) Only II follows
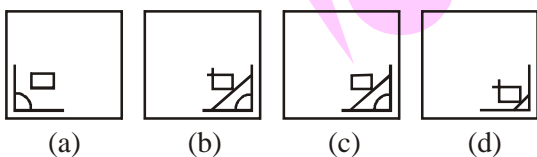
(c) Both I and II follows

(d) Neither I nor II follows

Ans.(d)

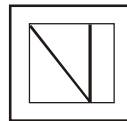**9.** Which answer figure will complete the pattern in the question figure?

Question figure

Answer figure

(a)　　　(b)　　　(c)　　　(d)

Ans.(b)

10. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question figure

Answer figure

(a)　　　(b)　　　(c)　　　(d)
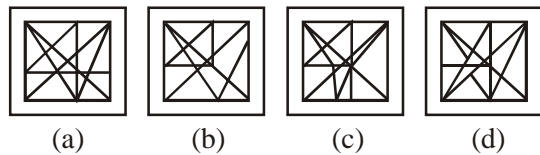
Ans.(a)

11. A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate hot it will appear when opened.

Question figures

Answer figures

(a)　　　(b)　　　(c)　　　(d)
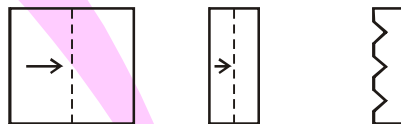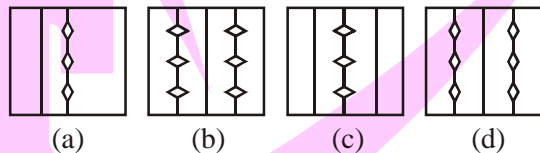
Ans.(b)

12. Ramu's mother has three sons. The eldest one is called onekari, the second one is called twokari. Then the third son's name is

(a) Teenkari　　　(b) Sandu

(c) Ramu　　　(d) Nokari

Ans.(c)

13. Ashok is heavier than Gopal. Mahesh is lighter than Jayesh. Prashant is heavier than Jayesh but lighter than Gopal. Who among them is heavies?

(a) Gopal　　　(b) Ashok

(c) Prashant　　　(d) mahesh

Ans.(a)

14. From the given alternative words, select the word which cannot be formed using the letters of the given word :
KILOMETERS

(a) OIL (b) MEET

(c) TREES (d) STREET

Ans.(d)

15. In a certain code language, if the word 'RHOMBUS' is coded as TJQODWU, then how is the word 'RECTANGLE' in that language ?

(a) TGEVCPIMG (b) TGEVCPING

(c) TGEWDPING (d) TGFWEPING

Ans.(b)

16. If in a certain code 'Education' is written as 3 6 5 7 9 8 2 1 4 then how 'Conduct' can be written?

(a) 7 1 4 6 5 7 8 (b) 6 5 4 7 8 7 1

(c) 1 4 5 8 7 7 6 (d) 6 4 8 5 7 6 7

Ans.(a)

17. If $7x = 8k$ and $5y = 6k$ then the value of ratio x is to y is

(a) 20 : 21 (b) 21 : 20

(c) 35 : 48 (d) 48 : 35

Ans.(a)

18. If 44 + 12 = 30, 77 + 14 = 61, 84 + 16 = 66 then what should be for 44 + 22 = ?

(a) 28 (b) 20

(c) 32 (d) 24

Ans.(b)

19. Select the set of symbols which can be fitted correctly in the equation,

8_____4_____2_____6_____3 = 32

(a) ×, −, +, ÷ (b) +, ×, ÷, −

(c) +, ÷, ×, − (d) −, ×, ÷, +

Ans.(a)

Directions : In question nos. 20 to 22, which one of the given responses would be a meaningful order of the following?

20. 1. Village 2. State

3. Nation 4. District

(a) 1, 2, 4, 3 (b) 1, 4, 2, 3

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

Ans.(b)

21. 1. Branches 2. Root

3. Trunk 4. Leaf

5. Flower

(a) 4, 1, 3, 2, 5 (b) 2, 3, 1, 4, 5

(c) 1, 2, 3, 4, 5 (d) 4, 3, 1, 2, 5

Ans.(b)

22. 1. Adulthood 2. Babyhood

3. Childhood 4. Infancy

(a) 4, 3, 2, 1 (b) 4, 2, 3, 1

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

Ans.(b)

Directions : In question nos. 23 to 28, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

23. CDDP DEER EFFT FGGV GHHX ?

(a) ZIIH (b) HIIZ

(c) HJJY (d) HIJZ

Ans.(b)

24. l m n m n o p n o p q r ?

(a) pqrst (b) lmnop

(c) opqrs (d) hpqrs

Ans.(c)

25. R I A T N I E ?

(a) A (b) B

(c) C (d) D

Ans.(b)

26. $\left(\frac{1}{8}\right),\left(\frac{1}{4}\right),\left(\frac{1}{2}\right),1$, ?, 4

(a) $\left(\frac{3}{8}\right)$ (b) $\left(\frac{2}{8}\right)$

(c) 2 (d) 6

Ans.(c)

27. 11, 12, 16, 25, ?

(a) 45 (b) 41

(c) 43 (d) 49

Ans.(b)

28. 3, 9, 21, 45, ?

(a) 54 (b) 78

(c) 87 (d) 93

Ans.(d)

Directions : In question nos. 29 and 30, select the missing number from the given responses.

29.

13	15	12
02	04	05
04	05	08
30	65	?

(a) 64   (b) 69

(c) 65   (d) 68

Ans.(d)

30. 20   30   12

     3   4   8

    80   ?   116

(a) 120   (b) 60

(c) 100   (d) 140

Ans.(d)

31. Hospital is 12 km towards east of Rupin's house. His school is 5 km towards south of Hospital. What is the shortest distance between Rupin's house and school?

(a) 16 km   (b) 17 km

(c) 12 km   (d) 13 km

Ans.(d)

32. Two cars started from a particular spot. The car A ran Straight at the speed of 30 kmph for 2 hours north and then took a right turn. It run 40 km and again turned right. It stopped after east at the speed of 20 kmph for 2 hours and tuned left. it ran for 100 km and then stopped. How far were there two cars from each other when both of them stopped at last ?

(a) 17 km   (b) 18 km

(c) 19 km   (d) 20 km

Ans.(d)

Direction : In question nos. 33 to 41, select the related word/ letters/number from the given alternatives.

33. CHAIR : FURNITURE : : FORK : ?

(a) SPOON   (b) CUTLERY

(c) CROCKERY   (d) FOOD

Ans.(b)

34. Compass : Ship : : Vastu : ?

(a) Building   (b) Flat

(c) Home   (d) Land

Ans.(c)

35. BOOK : LIBRARY :: ? : FILE

(a) COMPUTER   (b) DATA

(c) FOLDER   (d) BYTES

Ans.(b)

36. q : d :: b : ?

(a) p   (b) d

(c) q   (d) b

Ans.(a)

37. ABB : EGJ :: FHL : ?

(a) BDH   (b) JMT

(c) FHH   (d) JJL

Ans.(b)

38. EV : KP :: TG : ?

(a) ZA   (b) AZ

(c) ZZ   (d) AA

Ans.(a)

39. 21 : 65 :: 31 : ?

(a) 78   (b) 80

(c) 85   (d) 95

Ans.(d)

40. 17 : 102 :: 23 : ?

(a) 112   (b) 138

(c) 216   (d) 413

Ans.(b)

41. 25 : 36 :: ?

(a) 9 : 25   (b) 16 : 25

(c) 25 : 49   (d) 81 : 121

Ans.(b)

Directions : In question nos 42 to 49, find the odd word/number pair from the given alternatives.

42. (a) stare   (b) glance

(c) look   (d) hug

Ans.(d)

43. (a) Analogy   (b) Reasoning

(c) Decoding   (d) Cycling

Ans.(d)

44. (a) Nephrology   (b) Astrology

(c) Pathology   (d) Entomology

Ans.(b)

45. (a) accdff   (b) prrsu

(c) mnnoqq   (d) egghij

Ans.(c)

46. (a) OQTX   (b) JMNQ

(c) EGJN   (d) XZCG

Ans.(b)

47. (a) NMOK   (b) PKQJ

(c) RLSK   (d) TGUF

Ans.(a)

48. (a) 997   (b) 976

(c) 778   (d) 895

Ans.(a)

49. (a) 8   (b) 87

(c) 111   (d) 96

Ans.(a)

50. Pick the odd number from the sequence below :

2, 3, 6, 7, 11, 15, 30

(a) 7   (b) 11

(c) 6   (d) 30

Ans.(b)

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GENERAL AWARENESS

51. The storage form of glucose is

 (a) Insulin   (b) Glycogen

 (c) Glucagon   (d) Fructose

Ans.(b)

52. Thigmotropism is the response of the plant to

 (a) Gravity   (b) Water

 (c) Light   (d) Contact

Ans.(d)

53. Root hairs are produced from

 (a) trichotnes   (b) trichiblast

 (c) rhizodermis   (d) epidermis

Ans.(c)

54. Second Ozone hole was detected over

 (a) Antartica   (b) Artica

 (c) Sweden   (d) Northern hemisphere

Ans.(a)

55. Glycolysis during fermentation results in not gain of

 (a) 1 ATP   (b) 2 ATPs

 (c) 3 ATPs   (d) 4 ATPs

Ans.(b)

56. The disadvantage of self-pollination is

 (a) seeds are less in number

 (b) no dependence of pollinating agents

 (c) mechanism is too simple

 (d) no wastage of pollengrains

Ans.(a)

57. By increasing the intensity of incident light on the surface, the photo electric current

 (a) increases

 (b) decreases

 (c) unchanged

 (d) increases initially and then decreases

Ans.(d)

58. The Phenomenon of light splitting into seven distinct colours when it passes through prism is

 (a) diffraction   (b) polarisation

 (c) dispersion   (d) reflection

Ans.(c)

59. A block placed on an inclinedc plane of slope angle θ slides down with a constant speed. The coefficient of kinetic friction is equal to

 (a) sin θ   (b) cos θ

 (c) tan θ   (d) cot θ

Ans.(c)

60. A plumb bob is hanging from the ceiling of a car. If the car moves with an acceleration a, the angle made by the string with the vertical is

 (a) $\sin^{-1}\left(\dfrac{a}{g}\right)$ (b) $\sin^{-1}\left(\dfrac{g}{a}\right)$

 (c) $\tan^{-1}\left(\dfrac{a}{g}\right)$ (d) $\tan^{-1}\left(\dfrac{g}{a}\right)$

Ans.(c)

61. Who is called the 'Father of Indian Cinema'?

 (a) Raj Kapoor   (b) Dilip kumar

 (c) Mehboob Khan   (d) Dada Saheb Phalke

Ans.(d)

62. Name the first Indian woman to climb Mount Everest

 (a) Santosh Yadav   (b) Backhendri Pal

 (c) Rita Farai   (d) Leela Seth

Ans.(b)

63. Which IPL Team won the eighth edition of the Indian Premier League?

 (a) Mumbai Indians   (b) Chennai Super Kings

 (c) Delhi Daredevils   (d) Kolkata Knight Riders

Ans.(a)

64. Nehru Trophy is associated with which sport in India?

 (a) Football   (b) Cricket

 (c) Hockey   (d) None of the above

Ans.(c)

65. Aung San Suu Kyi, a prodemocracy compaigner, is from which of the following countries?

 (a) Nepal   (b) Myanmar

 (c) Bangladesh   (d) China

Ans.(b)

66. Usain Bolt is famous as

(a) an astronaut   (b) a boxer

(c) an athlete   (d) a cricketer

Ans.(c)

67. Which of the following is the morning 'Ragg' in music ?

(a) Sohini   (b) Bhairavi

(c) Sarang   (d) Malhaar

Ans.(b)

68. When was the first All India Postage Stamp issued?

(a) 1854   (b) 1858

(c) 1850   (d) 1856

Ans.(a)

69. In which country was paper currency first used?

(a) India   (b) Egypt

(c) China   (d) Japan

Ans.(c)

70. The murder of Archduke Ferdinand and his wife triggered off which of the following events?

(a) Crimean War   (b) Balkan War

(c) First World War   (d) Second World War

Ans.(b)

71. .com represents ?

(a) communication domain (b) Educational domain

(c) Commercial domain   (d) Government domain

Ans.(a)

72. IKE stands for

(a) Internet Key Exchange

(b) Information Key Execution

(c) Information Key Exchange

(d) Infrastructure Key Encryption

Ans.(a)

73. When salt is added to water, the boiling point of water is

(a) Lowered   (b) Unaffected

(c) Increased   (d) Constant

Ans.(c)

74. The gas dissolved in water that makes it acidic

(a) hydrogen   (b) nitrogen

(c) carbon dioxide   (d) ammonia

Ans.(c)

75. The hydrogen ion concentration of a solutin is measured using a

(a) thermometer   (b) pH meter

(c) hydrometer   (d) barometer

Ans.(b)

76. Non-bonding valence electrons are

(a) Involved only in covalent bond formation

(b) Involved only in ionic bond formation

(c) Involved in both ionic and covalent bond formation

(d) Not involved in covalent bond formation

Ans.(c)

77. When is the World Earth Day celebrated?

(a) 4 April   (b) 22 April

(c) 1 May   (d) 23 March

Ans.(b)

78. World "No Tabacco Day" was observed globally on

(a) 31 May   (b) 2 June

(c) 15 June   (d) 20 June

Ans.(a)

79. The greenhouse gases, otherwise called radioactively active gases include

(a) Carbon dioxide   (b) CH_4

(c) N_2O (d) All of these

Ans.(d)

80. The most serious environmental effect posed by hazardous wastes is

(a) air pollution

(b) contamination of ground water

(c) increased use of land of landfills

(d) None of the above

Ans.(b)

81. Which Delhi Sultan resorted to price control and rationing?

(a) Balban

(b) Muhammad-bin-Tughluq

(c) Bahlul Lodi

(d) Alaud-din-Khilji

Ans.(d)

82. The Maratha ruler Shivaji ruled his kingdom with the help of a Council of Ministers called

(a) Ashtapradan   (b) Ashtadigajas

(c) Navarathnas   (d) Mantriparishad

Ans.(a)

83. Ms. Florence Nightingale was associated with

(a) Seven years War   (b) Thirty Years War

(c) Crimean War   (d) Hundred Years War

Ans.(c)

84. Who among the following Gupta emperor was known as 'Vikramaditya'?

(a) Samudra Gupta   (b) Kumar Gupta

(c) Chandra Gupta I   (d) Chandra Gupta II

Ans.(d)

85. The finely painted cotton fabric made in Golkanda was called

(a) Calico   (b) Muslin

(c) Kalamkari   (d) Palampore

Ans.(c)

86. Which of the best type of cotton grown in the world?

(a) Long staple   (b) Medium staple

(c) Short staple   (d) Thick staple

Ans.(a)

87. Which one of the following is first multipurpose project constructed in India?

(a) Rihand   (b) Thungabadra

(c) Farraka Barrage   (d) Damodar

Ans.(d)

88. What is the symbol of (WWF) World Wildlife Fund?

(a) Red Panda   (b) Rhododendron

(c) Bear   (d) White Tiger

Ans.(a)

89. Market Gardening comes in this category

(a) Horticulture   (b) Monoculture

(c) Subsistence farming (d) Sericulture

Ans.(a)

90. A deep or french in the ocean floor is called

(a) Ridges   (b) Crest

(c) Trough   (d) Continental Shelf

Ans.(b)

91. Name the co-operative society that provides housing loan facility at reasonable rates

(a) Credit co-operatives

(b) Housing co-operatives

(c) Consumer co-operatives

(d) Producer's co-operatives

Ans.(b)

92. Name the biggest employer in India

(a) Steel Authority of India Ltd (SAIL)

(b) Post & Telecom Department

(c) Food Corporation of India (FCI)

(d) Indian Railways

Ans.(d)

93. Which of the following is an allied activity of agriculture

(a) Livestock   (b) Small Scale Industry

(c) Money lending   (d) Insurance

Ans.(a)

94. Disguised unemployment means

(a) Working as Self-Employed

(b) Not working whole day

(c) Marginal Productivity is zero

(d) Production is less

Ans.(c)

95. Cartel is a part of

(a) Monopoly   (b) Oligopoly

(c) Perfect competition (d) Monopolistic competition

Ans.(b)

96. In the presidential system of government, the President is

(a) Head of the state

(b) Head of the state and Head of the Government

(c) Head of the Government

(d) Head of the Executive

Ans.(b)

97. The Chief Election Commissioner of India is appointed by

(a) Chief Justice of India   (b) Prime Minister

(c) President   (d) Parliament

Ans.(c)

98. The Election Commission of India is

(a) An independent body   (b) Quasi-judicial body

(c) Quasi-legislative body   (d) Executive body

Ans.(a)

99. Articles 23 and 24 of the Indian Constitution deal with

(a) Right against Exploitation

(b) Right to Freedom

(c) Right to Freedom of Religion

(d) Right to Education

Ans.(a)

100. Which of the following ideologies aims at the spiritualization

of politics?

(a) Marxism   (b) Socialism

(c) Sarvodaya   (d) Pularlism

Ans.(c)

CIVIL ENGINEERING

101. The thickness of the flange of a tee beam of a ribbed slab is ssumed as:

(a) half the thickness of the slab

(b) thickness of the concrete topping

(c) depth of the rib

(d) width of the rib

Ans.(c)

102. Coefficient of wind resistance of a circular surface is:

(a) 2/3   (b) 3/2

(c) 1/3   (d) 1/2

Ans.(d)

103. Total number of elastic constants of an isotropic material are:

(a) 2   (b) 3

(c) 4   (d) 5

Ans.(a)

104. The stiffness os a spring is:

(a) load per coil of the spring

(b) load required to produce unit deflection

(c) load required to compress the spring up to shearing proportional limit

(d) the load required for breaking the spring

Ans.(b)

105. Creep of a material is:

(a) not being ductile

(b) to become brittle

(c) disappearance of deformation on removal load

(d) continued deformation with time under sustained loading

Ans.(d)

106. A propped cantilever is indeterminate externally of:

(a) second degree   (b) fourth degree

(c) first degree   (d) third degree

Ans.(c)

107. Which of the following is a relatively ductile material?

(a) High carbon streel   (b) Bronze

(c) Mild steel   (d) Cast iron

Ans.(c)

108. A beam is supported oner three rollers lying in same plane. The beam is stable for:

(a) loading with no component perpendicular to the direction of beam

(b) only when no load except self weight acts

(c) loading with no component in the direction of the beam

(d) any general loading

Ans.(c)

109. The resistance of an aggregate to the effect of hydration of cement and weather is called:

(a) impact value

(b) soundness

(c) crushing strength

(d) abrasion resistance

Ans.(b)

110. Under which conditions highest water cement ratio is used?

(a) Heavy sections such as piers foundations ets, exposed to alternate wetting and drying

(b) Heavy sections such as piers foundations ets, protected against rain and frost

(c) Hydraulic structure exposed to rain and snow

(d) Light structural members exposed to alternate wetting and drying

Ans.(a)

111. Snoweem is:

(a) coloured cement

(b) powdered lime

(c) chalk powder

(d) mixture of chalk powder and line

Ans.(a)

112. In a singly reinforced beam, if the concrete is stressed to its allowable limit earlier then steel, the section is siad to be:

(a) economical section

(b) over reinforced section

(c) balanced section

(d) under reinforced section

Ans.(b)

113. In order to determine the allowable stress in axial compression, Indian Standard Institution has adopted:
    (a) Rankine's formula
    (b) Secant formula
    (c) Eular's formula
    (d) Perry-Robertson formula

Ans.(a)

114. The sag tie in a truss is mainly used to reduce:
    (a) moment and deflection
    (b) tension
    (c) weight of the truss
    (d) compression

Ans.(c)

115. A simply supported beam carrying uniformaly distributed load will be safe in deflection if the ratio of its span and depth is:
    (a) < 24
    (b) >19
    (c) < 19
    (d) > 24

Ans.(c)

116. The actual thickness of a butt weld when compared with the thickness of the plate is:
    (a) less
    (b) more or less
    (c) more
    (d) equal

Ans.(a)

117. The fillet weld whose axis is parrlel to the direction of the applied load is known as:
    (a) side fillet weld
    (b) end fillet weld
    (c) flat fillet weld
    (d) diagonal fillet weld

Ans.(a)

118. Tacking rivets in compression plates exposed to weather have a pitch not exceeding 200 mm or:
    (a) 8 times the thickness of outside plate
    (b) 16 times the thickness of outside plate
    (c) 24 times the thickness of outside plate
    (d) 32 times the thickness of outside plate

Ans.(d)

119. Depth of the section of an upper column is much smaller than the lower column:
    (a) bearing plates are provided with column splice
    (b) filler and bearing plates are provided with column splice
    (c) filler plates are provided with column splice
    (d) neither filler nor bearing plates are provided with column splice

Ans.(b)

120. Web crippling in beams generally occurs at the points where:
    (a) concentrated loads act
    (b) bending moment is maximum
    (c) shear force is maximum
    (d) deflection is maximum

Ans.(a)

121. The minimum thickness of the plates used in pressed steel tanks is:
    (a) 4 mm
    (b) 5 mm
    (c) 6 mm
    (d) 3 mm

Ans.(d)

122. A column splice is used to increase:
    (a) the strength of the column
    (b) the rigidity of the column
    (c) the cross-sectional area of the column
    (d) the length of the column

Ans.(d)

123. Percentage increase of carbon in steel, decrease its:
    (a) hardness
    (b) ductility
    (c) strength
    (d) brittleness

Ans.(b)

124. The process of providing smooth face and regular face to stones is known as:
    (a) quarrying
    (b) seasoning
    (c) pitching
    (d) dressing

Ans.(d)

125. The bulking of sand occurs due to:
    (a) Air in voids
    (b) Moisture in voids
    (c) Surface tension
    (d) Capillary action

Ans.(b)

126. The compressive strength of common building bricks should not be less than:
    (a) 3.5 N/mm^2
    (b) 5.5 N/mm^2
    (c) 7.5 N/mm^2
    (d) 10.5 N/mm^2

Ans.(b)

127. The natural bedding plane of stones and the direction of pressure in stone masonry is:

(a) normal   (b) parallel

(c) at 30°   (d) at 45°

Ans.(a)

128. Following stone is suitable for damp-proofing:

(a) Slate   (b) Marble

(c) Laterite   (d) Granite

Ans.(a)

129. The number of standard bricks in one cubic metre of brick masonry is:

(a) 300   (b) 500

(c) 700   (d) 1000

Ans.(b)

130. The resistance of a material to penetration is:

(a) Toughness   (b) Hardness

(c) Fatigue   (d) Roughness

Ans.(b)

131. The standard size of a masonry brick is:

(a) 18 cm x 8 cm x 8 cm   (b) 18 cm x 9 cm x 9 cm

(c) 19 cm x 9 cm x 9 cm   (d) 19 cm x 8 cm x 8 cm

Ans.(c)

132. White cement should have least percentage of:

(a) Aluminium oxide   (b) Iron oxide

(c) Silica   (d) Magnesium oxide

Ans.(b)

133. Turpentine oil is used in paint as a:

(a) Base   (b) Carrier

(c) Drier   (d) Thinner

Ans.(d)

134. Connecting pipe in mm for septic tank should not be less than:

(a) 150   (b) 100

(c) 50   (d) 25

Ans.(b)

135. Total depreciation during first five years of a cement concrete structure is:

(a) zero percent   (b) 0.5 percent

(c) 1 percent   (d) 2 percent

Ans.(a)

136. Estimate for electrical wiring is prepared on the basis of:

(a) Voltage   (b) Power

(c) Number of appliances   (d) Number of points

Ans.(d)

137. Which of the following tax generally not applicable to residential building is:

(a) Municipal tax   (b) Property tax

(c) Sales tax   (d) Wealth tax

Ans.(c)

138. The value of demolished material is known as:

(a) Scrap value   (b) Salvage value

(c) Resultant value   (d) Material value

Ans.(a)

139. Slump test for concrete is carried out to determine:

(a) Strength   (b) Durability

(c) Workability   (d) Water content

Ans.(c)

140. The leaching action in concrete is the example of:

(a) decomposition   (b) creeping

(c) crystallization   (d) chemical reaction

Ans.(d)

141. Poission's ratio of cement concrete is about:

(a) 0.28   (b) 0.50

(c) 0.40   (d) 0.15

Ans.(d)

142. The span to depthj ratio limit is specified in IS:456-2000 for the reinforced concreted beams, in order to ensure that the:

(a) shear failure is avoided

(b) tensile crack width is below a limit

(c) deflection of the beam is below a limiting value

(d) stress in the tension reinforcement is less than the allowablw value

Ans.(c)

143. A 300 x 300 mm R.C. coloumn in reinforced with 8 bars, four bars are of 12mm diameter. The diameter of lateral ties is 6 mm. The pitch of lateral ties shall be kept as:

(a) 288 mm   (b) 160 mm

(c) 192 mm   (d) 300 mm

Ans.(c)

144. The width of lacing bars in mm is kept:

(a) twice the nominal rivet diameter

(b) thrice the nominal rivet diameter

(c) maximum of the all rounded to nearest 5mm

(d) equal to normal rivet diameter

Ans.(a)

145. The bearing stress at bends for limit state method compared to working stress method of design is:

(a) 1.5 times more   (b) 2.5 times more

(c) 2.5 times less   (d) 1.5 times less

Ans.(a)

146. The base width of retaining wall of height h is generally taken as, b =

(a) 0.8h   (b) 0.95h

(c) 0.6h   (d) 0.3h

Ans.(c)

147. The steel beam of light section placed in plain cement concrete are called:

(a) filler joists   (b) concrete joists

(c) simple joists   (d) joists

Ans.(a)

148. Partial safety factor on steel stresses is:

(a) 1.67   (b) 1.15

(c) 1.77   (d) 1.5

Ans.(b)

149. When a load is excerted or transferred from one surface to another in contact, the stress is known as:

(a) bearing stress   (b) shear stress

(c) binding stress   (d) direct stress

Ans.(a)

150. When R.C.C. footing is not to extend in the plot of the neighbouring house, the type of footing preferred is:

(a) cellular flat not footing

(b) inverted flat not footing

(c) strap footing

(d) both (a) and (b)

Ans.(c)

151. The construction joints in cement concrete:

(a) should not be provided at the corners

(b) should be spaced at a distance of 3m apart in case of huge structures

(c) should be located where shear force is large

(d) should be located where bending moment is large

Ans.(a)

152. The fineness modulus of an aggregate is roughly proportional to:

(a) average size of particles in the aggregate

(b) grading of the aggregate

(c) specific gravity of the aggregate

(d) shape of the aggregate

Ans.(a)

153. The aggregate is said to be flaky when:

(a) its length is equal to 1.8 times its mean dimension

(b) its length is equal to its mean dimension

(c) its least dimension is equal to its mean dimension

(d) its least dimension is three fifth of its mean dimension

Ans.(d)

154. The soundness of cement is tested by:

(a) Vicat's apparatus

(b) Le Chatelier's apparatus

(c) Compression testing machine

(d) Standard briquette test

Ans.(b)

155. In lime concrete, lime is used as:

(a) admixture   (b) binding aggregate

(c) fine aggregate   (d) coarse aggregate

Ans.(b)

156. The minimum quantity of cement content needed in one m^3 of a reinforced concrete which is exposed to sea weather conditions is (in kg):

(a) 350   (b) 200

(c) 250   (d) 300

Ans.(c)

157. Shrinkage in concrete increase its:

(a) bond strength   (b) compressive strength

(c) flexural strength   (d) tensile

Ans.(d)

158. The strength of concrete mainly depends on:

(a) quality of fine aggregate

(b) water cement ratio

(c) fineness of cement

(d) quality of course aggregate

Ans.(c)

159. Green concrete may be made by adding:

(a) iron hydroxide   (b) barium manganate

(c) iron oxide   (d) chromium oxide

Ans.(c)

160. Gypsum is added to cement in small quantity to:

(a) control initial setting time

(b) control final setting time

(c) give colour to the cement

(d) make cement hydrophobic

Ans.(a)

161. The Indian standard mix design for fly ash and cement concrete recommends water content:

(a) to increase by 3% to 5%

(b) to reduce by 15%

(c) to increase by 15%

(d) to reduce by 3% to 5%

Ans.(d)

162. One cubic metre of mild steel weighs about:

(a) 1000 kg   (b) 3625 kg

(c) 7850 kg   (d) 12560 kg

Ans.(c)

163. The total length of a cranked bar through a distance (d) at 45° in case of a beam of effective length L, and depth (d) is:

(a) L + 0.42d   (b) L + 2 x 0.42d

(c) L - 0.42d   (d) L - 2 x 0.42d

Ans.(d)

164. For building project estimate which method is generally used in PWD?

(a) Long wall and short wall method

(b) Centre line method

(c) Crossing method

(d) Short wall method

Ans.(b)

165. An estimate is:

(a) cost of the structure using thumb rules

(b) random guess of cost of structure

(c) probable cost arrived at before construction

(d) actual cost of construction

Ans.(c)

166. The depth of foundation is usually calculated from:

(a) Rankine's formula   (b) Newton's formula

(c) De Almbert's formula   (d) Gutter's formula

Ans.(a)

167. When two points of surveying are mutually invisible the following method of ranging is adopted:

(a) Direct ranging   (b) Indirect ranging

(c) Horizontal ranging   (d) Vertical ranging

Ans.(b)

168. The distance between two brass rings in a surveyor's chain is:

(a) 20 cm   (b) 40 cm

(c) 75 cm   (d) 1 m

Ans.(a)

169. The sum of the interior angles of a closed traverse is equal to:

(a) (2n - 4) 90°   (b) (3n - 4) 90°

(c) (2n - 4) 180°   (d) (3n - 4) 180°

Ans.(a)

170. Survey line provided to verify the accuracy of the framework is known as:

(a) Tie line   (b) Base line

(c) Subsidiary line   (d) Check line

Ans.(d)

171. The total number of links provided in a Gunter's chain is:

(a) 132   (b) 100

(c) 66   (d) 50

Ans.(b)

172. If the fore bearing of a line is observed to be AB 12°24', the back bearing of line AB should be:

(a) 102°24'   (b) 77°36'

(c) 167°36'   (d) 192°24'

Ans.(d)

173. The direction of a line relative to a given meridian is known as:

(a) Angle of line   (b) Direction of line

(c) Bearing of line   (d) Relative meridian

Ans.(c)

174. When compared with chain surveying plane table is:

(a) more accurate   (b) less accurate

(c) not accurate   (d) accurate

Ans.(a)

175. Number of satellites involved in the orbit for the GPS survey technique:

(a) 14   (b) 24

(c) 34   (d) 44

Ans.(a)

176. Harbour model are based on the following law:

(a) Froude law   (b) Reynold's law

(c) Stoke's law   (d) Euler's law

Ans.(b)

177. For stability of floating bodies, the metacentre should be:

(a) above the centre of gravity

(b) below the centre of gravity

(c) above the centre of buoyany

(d) below the centre of buoyany

Ans.(a)

178. A vessel containing water of depth h is accelerated upward with an acceleration of g/2. The pressure at the bottom of the vessel is:

(a) γh (b) $(\gamma h)/2$

(c) $2\gamma h$ (d) $(3\gamma h)/2$

Ans.(d)

179. The most desirable alignment of an irrigation canal is along:

(a) the contour line   (b) the ridge line

(c) normal to contour line   (d) the valley line

Ans.(b)

180. Clay is an example of:

(a) aquifer   (b) aquitard

(c) aquifuge   (d) aquiclude

Ans.(b)

181. Aggregate impact value indicates which of the following properties of aggregates?

(a) Durability   (b) Toughness

(c) Hardness   (d) Strength

Ans.(b)

182. The shape of the STOP sign according to IRC : 67-2001 is:

(a) Circular   (b) Triangular

(c) Restangular   (d) Octogonal

Ans.(d)

183. Pollution potential of domestic sewage generated in a town and its industrial sewage can be compared with reference to:

(a) their BOD value   (b) population equivalent

(c) their volume   (d) the relative density

Ans.(b)

184. The valve which protectsthe water meter from the damages of water hammer:

(a) pressure refiel valve   (b) stop cock

(c) reflux valve   (d) water hammer valve

Ans.(a)

185. In Brinell Hardness test, the type of indentor used is:

(a) hard steel ball   (b) diamond cone

(c) mild steel ball   (d) hard steel cone

Ans.(c)

186. The intensity of direct longitudinal stress in the cross-section at any point distant r from the neutral axis, is proportional to:

(a) $1/r^2$ (b) $1/r$

(c) r (d) r^2

Ans.(a)

187. A column is known as medium size if its slenderness ratio is between:

(a) 160 and 180   (b) 20 and 32

(c) 32 and 120   (d) 120 and 160

Ans.(c)

188. An arch may be subjected to:

(a) shear force and thrust

(b) bending moment and shear force

(c) shear and axial force

(d) bending moment and axial force

Ans.(a)

189. Mean sea level (MSL) adopted by survey of India for reference, is located at:

(a) Kolkata   (b) Mumbai

(c) Karachi   (d) Delhi

Ans.(b)

190. Black cotton soil is not suitable for foundation because of its:

(a) low bearing capacity

(b) cohesive particles

(c) swelling and shrinkage

(d) black colour

Ans.(c)

191. Optimum moisture content is obtained from:

(a) triaxial test

(b) standard proctor test

(c) consolidation test

(d) hydrometer test

Ans.(b)

192. The effective size of particles of soil is denoted by:

(a) D_{10} (b) D_{20}

(c) D_{30} (d) D_{60}

Ans.(a)

193. When the plasticity index of a soil is zero, the soil is:

(a) Clay   (b) Silt

(c) Sand   (d) Silty sand

Ans.(c)

194. Francis turbine is:

(a) a reaction turbine

(b) an impulse turbine

(c) a tangential flow impulse turbine

(d) an axial flow turbine

Ans.(a)

195. Most economical circular channel gives maximum discharge while:

(a) flow depth = 0.95 diameter

(b) flow velocity high

(c) area of flow is full

(d) wetted perimeter is least

Ans.(a)

196. Two pipe systems are said to be equivalent when:

(a) they carry same discharge

(b) they are satisfying Bernoulli's theorem

(c) both have same head loss and discharge values

(d) they are of same length and having same head loss

Ans.(c)

197. The specific speed of a pump is defined as the speed of a unit of such a size that it discharges:

(a) unit discharge at unit power

(b) unit work at unit head loss

(c) unit discharge at unit head

(d) unit volume at unit time

Ans.(c)

198. The dimensions of Chezy's C is:

(a) non-dimensional   (b) L/T

(c) LT   (d) $[L/T^2]^{1/2}$

Ans.(d)

199. The velocity distribution for turbulent flow through circular pipes is:

(a) uniform   (b) linear

(c) parabolic   (d) logarithmic

Ans.(d)

200. With increase in temperature the viscosity of air and water varies as:

(a) viscosity of air increases and viscocity of water decreases

(b) viscosity of air increases and viscocity of water increases

(c) viscosity of air decreases and viscocity of water decreases

(d) viscosity of air decreases and viscocity of water increases

Ans.(a)