



Regd. Office : Aakash Tower, 8, Pusa Road, New Delhi-110005 | Ph.: 011-47623456

Questions & Answers

for

NTSE (Stage-I) 2020-21

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open the question booklet.

1. Use blue/black ballpoint pen only. There is no negative marking.
2. Part I : MAT : 1 - 100 questions
Part II : SAT : 1 - 100 questions
3. This test booklet contains 200 questions of one mark each. All the questions are compulsory.
4. Answer each question by darkening the one correct alternative among the four choices on the OMR SHEET with blue/black ballpoint pen.

Example:

Q. No.	Alternatives
Correct way : 1	① ② ● ④
Q. No.	Alternatives
Wrong way : 1	⊗ ⊕ ⊖ ⊙

Student must darkening the right oval only after ensuring correct answer on OMR Sheet.

5. Students are not allowed to scratch / alter / change out an answer once marked on OMR Sheet, by using white fluid / eraser / blade / tearing / wearing or in any other form.
6. Separate sheet has been provided for rough work in this test booklet.
7. Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.
8. Darken completely the ovals of your answer on OMR Sheet in the time limit allotted for that particular paper.
9. Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.
10. Use of electronic gadgets, calculator, mobile etc., is strictly prohibited.

PART-I : MENTAL ABILITY TEST (MAT)

Instruction: In each of the Question Nos. 1 to 8 a letter series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

1. R, V, A, G, N, ?

- | | |
|-------|-------|
| (1) U | (2) V |
| (3) W | (4) X |

Answer (2)

2. AC, FH, KM, PR, ?

- | | |
|--------|--------|
| (1) UX | (2) TV |
| (3) UW | (4) VW |

Answer (3)

3. NZ, OY, PX, QW, RV, ?

- | | |
|--------|--------|
| (1) FS | (2) UF |
| (3) TU | (4) SU |

Answer (4)

4. AEI, EIO, IOU, OUA, ?

- | | |
|---------|---------|
| (1) UXB | (2) UAE |
| (3) EUA | (4) AOU |

Answer (2)

5. ABZ, DFX, GJV, JNT, ?

- | | |
|---------|---------|
| (1) MRR | (2) QRQ |
| (3) MRQ | (4) QVR |

Answer (1)

6. COVIDNINETEEN, VIDNINETEENCO,
DNINETEENCOVI, ?

- | | |
|-------------------|-------------------|
| (1) IDNINETEENCOV | (2) NINETEENCOVID |
| (3) INETEENCOVIDI | (4) INETEENCOVIDN |

Answer (4)

7. RADIUS, RADSIU, RADSUI, RADUIS, ?

- | | |
|------------|------------|
| (1) RASDIU | (2) RDAIUS |
| (3) RADUSI | (4) RAIDUS |

Answer (3)

8. H2J, K3N, O4S, ?

- | | |
|---------|---------|
| (1) T5Y | (2) T5Z |
| (3) T5X | (4) T5A |

Answer (1)

Instruction : In each of the Question Nos. 9 to 16 a number series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

9. 2, 3, 5, 8, 13, ?, 34

- | | |
|--------|--------|
| (1) 23 | (2) 21 |
| (3) 20 | (4) 22 |

Answer (2)

10. 3, 8, 15, 24, 35, ?

- | | |
|--------|--------|
| (1) 52 | (2) 50 |
| (3) 48 | (4) 46 |

Answer (3)

11. 8, 24, 28, 140, 146, 1022, 1030, ?

- | | |
|-----------|----------|
| (1) 1040 | (2) 8240 |
| (3) 10300 | (4) 9270 |

Answer (4)

12. 2, 9, 3, 28, 4, 65, 5, ?

- | | |
|---------|---------|
| (1) 137 | (2) 126 |
| (3) 118 | (4) 115 |

Answer (2)

13. 4, 17, 290, ?

- | | |
|-----------|-----------|
| (1) 84100 | (2) 84101 |
| (3) 84102 | (4) 84103 |

Answer (2)

14. 3, 3, 4.5, 9, 22.5, ?

- | | |
|----------|----------|
| (1) 27.3 | (2) 48 |
| (3) 55 | (4) 67.5 |

Answer (4)

15. 4, 5, 12, 39, 160, ?

- | | |
|---------|---------|
| (1) 225 | (2) 695 |
| (3) 805 | (4) 790 |

Answer (3)

16. 2, 3, 7, 16, 32, ?

- | | |
|--------|--------|
| (1) 57 | (2) 39 |
| (3) 56 | (4) 55 |

Answer (1)

Instruction : Question Nos. 17 to 19 has a statements and two conclusions I and II. You have to assume the given statements as true even it seems to vary from commonly known facts. Read all the conclusions carefully and decide which of the given conclusions logically follow(s) the given statement even disregarding commonly known facts.

17. **Statement :** Unemployment is one of the main reason for the poverty of the country.

- Conclusions :** (I) To end poverty, it is required to create employment opportunities.
 (II) All the people in the country are unemployed.

- (1) Only conclusion (I) follows
- (2) Only conclusion (II) follows
- (3) Both conclusions (I) and (II) follows
- (4) Neither conclusion (I) nor (II) follows

Answer (1)

18. **Statement :** Morning walk is good for health.

- Conclusions :** (I) All healthy people go for morning walk.
 (II) Evening walk is harmful.

- (1) Only conclusion (I) follows
- (2) Only conclusion (II) follows
- (3) Both conclusions (I) and (II) follows
- (4) Neither conclusion (I) nor (II) follows

Answer (4)

19. **Statement :** Animal live on Oxygen.

- Conclusions :** (I) Plants do not live on Oxygen.
 (II) Anything that needs Oxygen is bound to be animal.

- (1) Only conclusion (I) follows
- (2) Only conclusion (II) follows
- (3) Both conclusions (I) and (II) follows
- (4) Neither conclusion (I) nor (II) follows

Answer (4)

20. Which one of the following Venn-diagram correctly represents the relation between currency, Rupee and Dollar ?

- (1)
- (2)
- (3)
- (4)

Answer (3)

21. Which one of the following Venn-diagrams correctly represents the relation between Mumbai, Madhya Pradesh and Bhopal?

- (1)
- (2)
- (3)
- (4)

Answer (3)

22. Which one of the following Venn-diagram correctly represents the relation between Herbivorous, Lions and Animals?

- (1)
- (2)
- (3)
- (4)

Answer (1)

23. In a coded language, ONLINE is written as LNOENI and SILENT is written as LISTNE; then in the same coded language, LISTEN will be written as.

- (1) ILSNET
- (2) SILENT
- (3) SILNET
- (4) SILETN

Answer (3)

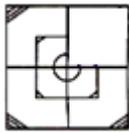
24. In a coded language, AVOID is written as 73564 and CHINA is written as 28617; then in the same coded language, COVID will be written as.

- (1) 53246
- (2) 25364
- (3) 25346
- (4) 25634

Answer (2)

34. Which of the answer figures will complete the matrix figure?

Question Image



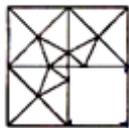
Answer figure



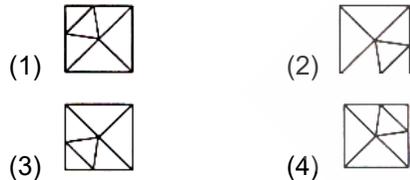
Answer (2)

35. Which of the answer-figures will complete the matrix-figure ?

Question figure



Answer figure



Answer (1)

36. If it was Tuesday on 24th March, 2020 then what was the day on 24th August, 2020.

- (1) Wednesday (2) Tuesday
(3) Monday (4) Sunday

Answer (3)

37. How many numbers from 10 to 200 are there which are divisible by 2 as well 7 ?

- (1) 13 (2) 14
(3) 15 (4) 16

Answer (2)

Instruction: In each of the Question numbers 38 to 43, three alternatives are alike in a certain way but the rest one is different. Select odd one.

38. (1) Chalk (2) Pen
(3) Pencil (4) Map

Answer (4)

39. (1) Taxi (2) Bus
(3) Car (4) Tanker

Answer (4)

40. (1) June (2) August
(3) April (4) November

Answer (2)

41. (1) Africa (2) Europe
(3) Australia (4) England

Answer (4)

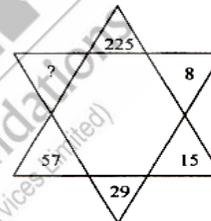
42. (1) Hand (2) Leg
(3) Ear (4) Neck

Answer (3)

43. (1) Cone (2) Triangle
(3) Rectangle (4) Circle

Answer (1)

44. Identify the missing term (?) in the following figure.



- (1) 114 (2) 113
(3) 123 (4) 124

Answer (2)

45. Identify the missing term (?) in the following table.

11	12	13
14	15	16
2	3	4
39	57	?

- (1) 87 (2) 85
(3) 77 (4) 75

Answer (3)

46. Ishant is taller than Sanjay, Ashok is taller than Ishant, Sachin is not as taller as Ashok but taller than Ishant, Who is shortest in height ?

- (1) Sanjay
(2) Sachin
(3) Ishant
(4) Can't be determined

Answer (1)

70. From the positions shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in clockwise direction for $1\frac{1}{2}$ sides of triangle. Now which of the following statements is true?

- (1) Charvi is in West of Shaifu.
- (2) Ranu is in South-West of Charvi.
- (3) Ranu is in South-West of Shaifu.
- (4) Shaifu is in North-East of Ranu.

Answer (2)

71. From the position shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in anti-clockwise direction for $1\frac{1}{2}$ sides of triangle. Now Shaifu is in which direction of Ranu?

- (1) In East
- (2) In South
- (3) In North-West
- (4) In North-East

Answer (3)

72. From the position shown in above figure, Ranu, Shaifu and Charvi run along the sides of equilateral triangle in clockwise direction for 1 side of triangle. Now Charvi is in which direction of Shaifu?

- (1) South-West
- (2) South-East
- (3) North-West
- (4) North-East

Answer (4)

73. In this question, ' Δ ' means "Greater than", ' \square ' means "Less than", ' ϕ ' means "equal to", ' \oplus ' means "not equal to"

If $C\Delta A$, $A\square B$, $D\phi B$ and $B\oplus C$, then choose the correct option in the following.

- (1) $D\square C$
- (2) $D\Delta C$
- (3) $A\Delta C$
- (4) $B\oplus D$

Answer (1 or 2)

74. Darshan walked 4 meters in East, then he turned right and walked 7 meters, then he turned left and walked 5 meters again he turned left and walked 7 meters. Then finally before stopping he turned right and walked 3 meters. How far is Darshan from his initial point?

- (1) 10 meter
- (2) 11 meter
- (3) 12 meter
- (4) 13 meter

Answer (3)

Instruction: The following table shows the record of surgery done in a hospital. This record shows the data from January to July. Study the table carefully and answer the following questions.

Month	Total successful surgery	Total unsuccessful surgery
January	5	3
February	4	4
March	5	2
April	6	3
May	4	2
June	3	3
July	2	4

75. As per the above table, what is the percentage of successful surgery?

- (1) 32%
- (2) 29%
- (3) 58%
- (4) 21%

Answer (3)

76. In which month the percentage of successful surgery was highest in the hospital?

- (1) January
- (2) April
- (3) July
- (4) March

Answer (4)

77. In which month the percentage of unsuccessful surgery was highest in the hospital?

- (1) July
- (2) June
- (3) February
- (4) March

Answer (1)

78. If a and b are natural numbers. If $a + b = 2020$, then what will be the value of $(-1)^a + (-1)^b$?

- (1) 1 OR -1
- (2) 2020 OR -2020
- (3) 1010 OR -1010
- (4) 2 OR -2

Answer (4)

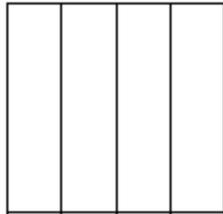
79. How many integers are in between 1 and 100 which satisfying all the following conditions?

- (i) After divided by 3, remainder is 1
- (ii) After divided by 5, remainder is 1
- (iii) After divided by 7, remainder is 0

- (1) 0
- (2) 1
- (3) 2
- (4) 3

Answer (2)

80. A square is divided into four identical rectangles. The perimeter of each of these rectangles is 20 cm. What is the perimeter of the square?



- (1) 80 cm
- (2) 50 cm
- (3) 48 cm
- (4) 32 cm

Answer (4)

81. What is the difference between the biggest 3-digits number having 8 as tens place and divisible by 4 and smallest 3-digit number having 8 as tens place and divisible by 4?

- (1) 888
- (2) 808
- (3) 708
- (4) 788

Answer (2)

Instruction : In each of the following questions, there is a certain relationship between two given numbers on left side of sign ($:$) and one number is given on the right side of sign ($::$) while another number is to be found from the given alternatives having the same relationship with the number as the numbers of the given pair bear. Choose the correct alternatives.

82. $20 : 11 :: 102 : ?$

- (1) 49
- (2) 52
- (3) 61
- (4) 96

Answer (2)

83. $6 : 35 :: 7 : ?$

- (1) 48
- (2) 42
- (3) 34
- (4) 13

Answer (1)

84. $9 : 162 :: 8 : ?$

- (1) 96
- (2) 112
- (3) 128
- (4) 162

Answer (3)

85. $64 : 100 :: 144 : ?$

- (1) 121
- (2) 169
- (3) 180
- (4) 196

Answer (4)

86. $0.01 : 0.0001 :: 0.05 : ?$

- (1) 0.00025
- (2) 0.0025
- (3) 0.025
- (4) 0.25

Answer (2)

87. Arrange the following in a meaningful sequence :

- (1) Crop (2) Root (3) Stem (4) Seed (5) Flower
- (1) 4,1,2,3,5
- (2) 2,4,3,5,1
- (3) 2,3,4,5,1
- (4) 4,2,3,5,1

Answer (4)

88. Arrange the following in a meaningful sequence:

- (1) Rain
- (2) Cloud
- (3) Ocean
- (4) River
- (5) Monsoon

- (1) 5, 2, 1, 4, 3
- (2) 3, 1, 2, 4, 5
- (3) 1, 5, 2, 4, 5
- (4) 2, 5, 1, 4, 3

Answer (1)

Instruction : Read the information given below and answer the question numbers 89 to 92 based on it.

Kriti and Amit are two children of Smt and Shri Mittal. Amit, married to Ananya, who is daughter of Smt. Goyal. Shri Goyal had married to Rita. Sonu and Rakesh are children of Sumer and Rita. Urvi and Poorvi are daughters of Ananya and Amit.

89. What is the surname of Rakesh?

- (1) Goyal (2) Mittal
(3) Amit (4) Kriti

Answer (1)

90. What is the relation of Sumer with Poorvi?

- (1) Brother
(2) Uncle
(3) Maternal Grand Father
(4) Father

Answer (3)

91. What is the relation of Urvi with Kriti?

- (1) Sister
(2) Niece
(3) Aunt
(4) Daughter

Answer (2)

92. What is the relation of Sonu with Shri Goyal?

- (1) Sister
(2) Brother
(3) Son/Daughter
(4) Father

Answer (3)

Instruction : Read the sequence given below and answer question number 93 to 95.

7, 6, 3, 2, 3, 5, 4, 3, 5, 2, 7, 6, 4, 5, 2, 3, 6, 2, 7, 5, 2, 5, 2, 3, 6, 5, 2, 6, 3, 7, 4, 2, 5

93. How many times 5 is followed by 2 but 4 does not occur just before it?

- (1) 1 (2) 2
(3) 4 (4) 5

Answer (3)

94. How many times 2 is followed by odd numbers?

- (1) 4 (2) 5
(3) 6 (4) 7

Answer (4)

95. How many times has number 5 been used just before or after 4?

- (1) 1 (2) 2
(3) 3 (4) 5

Answer (2)

96. What will be angle between minute hand and hour hand of a watch at 12:30?

- (1) 180° (2) 150°
(3) 175° (4) 165°

Answer (4)

Instruction : Read the information given below carefully and answer the questions that follow:

A, B, C, D, E, F and G are seven students of a school, who are studying in seven different Classes V, VI, VII, VIII, IX, X and XI. Everyone of them likes a particular subject viz. English, Hindi, Physics, Chemistry, Mathematics, History and Geography. Students, Classes and subjects can always be in different order as given.

B likes History and does not study in Class VII. The one who likes English studies in Class IX. The one who studies in Class V, likes Chemistry. F likes Physics. C is studying in Class VI and doesn't like Geography. E is studying in Class X and likes Mathematics. D likes Chemistry. G doesn't like English and G is not in Class VII or VIII. F is not in Class VIII.

97. F is in which Class?

- (1) VII (2) IX
(3) XI (4) Data inadequate

Answer (1)

98. G is in which Class?

- (1) VI (2) VII
(3) XI (4) IX

Answer (3)

99. Which subject does A like?

- (1) Hindi
(2) Geography
(3) English
(4) Chemistry

Answer (3)

100. Who studies in Class-8?

- (1) B (2) C
(3) A (4) E

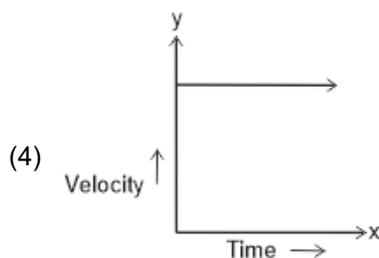
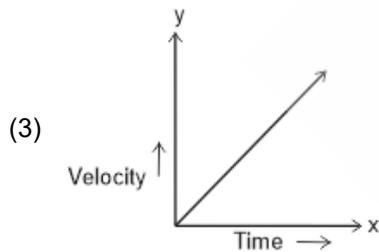
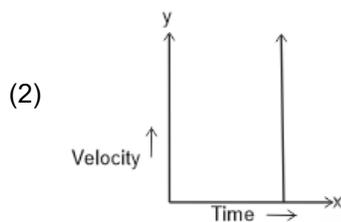
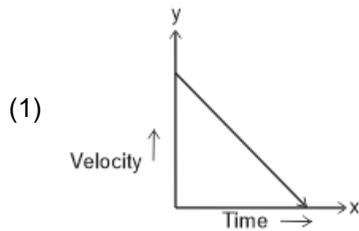
Answer (1)

PART-II : SCHOLASTIC APTITUDE TEST (SAT)

1. Group of vector quantities are :
- (1) displacement, velocity, time
 - (2) area, density, mass
 - (3) speed, length, impulse
 - (4) velocity, acceleration, force

Answer (4)

2. The velocity-time graph of an object moving with uniform velocity is



Answer (4)

3. If force, momentum and displacement are represented by A, B and C respectively then the term $\left(\frac{AC}{B}\right)$ will represent :
- (1) momentum
 - (2) acceleration
 - (3) velocity
 - (4) displacement

Answer (3)

4. The mass of a person on earth surface is 60 kg then his mass on moon will be
- (1) 60 kg
 - (2) 360 kg
 - (3) 20 kg
 - (4) 10 kg

Answer (1)

5. On halved the distance between two masses, the gravitational force between them will be
- (1) half
 - (2) one-fourth
 - (3) four times
 - (4) double

Answer (3)

6. If the speed of wave is 250 m/s and its wavelength is 50 cm then the frequency will be
- (1) 5 Hz
 - (2) 500 Hz
 - (3) 50 Hz
 - (4) 12500 Hz

Answer (2)

7. An object of mass 10 gm is moving with an acceleration of 10 m/s^2 . Force acting on the object will be
- (1) 1 N
 - (2) 0.1 N
 - (3) 1000 N
 - (4) 100 N

Answer (2)

8. Lens formula is

- (1) $\frac{1}{v} + \frac{1}{u} = \frac{1}{f}$
- (2) $\frac{1}{v} + \frac{1}{2u} = \frac{1}{f}$
- (3) $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$
- (4) $\frac{1}{v} - \frac{1}{2u} = \frac{1}{f}$

Answer (3)

9. Focal length of a lens is 50 cm. In diopetre power of lens will be
- (1) 0.02
 - (2) 2
 - (3) 0.2
 - (4) 50

Answer (2)

10. Correct relation between radius of curvature (R) and Focal length (F) of spherical mirror is
- (1) $R = \frac{F}{2}$
 - (2) $R = F$
 - (3) $R = 2F$
 - (4) $R = (F)^2$

Answer (3)

11. Refraction from denser to rarer medium for a light ray, the value of angle of refraction at the condition of critical angle is

- (1) 0° (2) 180°
(3) 45° (4) 90°

Answer (4)

12. The resistance of a bulb marked '220V, 10W' is

- (1) 242Ω (2) 4840Ω
(3) 121Ω (4) Zero

Answer (2)

13. A person of mass 100 kg reaches a height of 5 meters in 10 seconds. Find the power used by the person ($g = 10 \text{ m/s}^2$)

- (1) 500 watt (2) 250 watt
(3) 5000 watt (4) 50 watt

Answer (1)

14. Correct order of compressibility is

- (1) Solid > Liquid > Gas
(2) Solid > Gas > Liquid
(3) Gas > Liquid > Solid
(4) Gas > Solid > Liquid

Answer (3)

15. Number of molecules present in 0.25 moles of water are

- (1) 3.011×10^{23} (2) 30.11×10^{23}
(3) 1.5055×10^{23} (4) 15.055×10^{23}

Answer (3)

16. Substance having equivalent number of molecules as in 9 g of water is

- (1) 12 g of Magnesium
(2) 12 g of Carbon
(3) 17 g of Ammonia
(4) 11 g of Carbon dioxide

Answer (1)

17. Atomic number of element having symbol Unt is

- (1) 101 (2) 102
(3) 103 (4) 104

Answer (3)

18. Atomic radius of chlorine is 99 pm. Distance between nuclei of its two atoms in molecule will be

- (1) 1.98 pm (2) 49.5 pm
(3) 99 pm (4) 198 pm

Answer (4)

19. Molecular formula of chloride of a metal 'M' is MCl_2 . Molecular formula of oxide of 'M' will be

- (1) MO (2) M_2O
(3) MO_2 (4) M_2O_3

Answer (1)

20. Suitable method for separation of pure naphthalene from sandy naphthalene is

- (1) Filtration (2) Crystallisation
(3) Sublimation (4) Distillation

Answer (3)

21. pH of the solution having hydrogen ion concentration $[\text{H}^+] = 1 \times 10^{-4} \text{ Mol/L}$ will be

- (1) 3 (2) 4
(3) 7 (4) 10

Answer (2)

22. Conjugate acid-base pair is

- (1) HCO_3^- , CO_3^{2-} (2) NH_4^+ , NH_2^-
(3) OH^- , H_2O_2 (4) NO_2^- , NO_3^-

Answer (1)

23. Gas used for precipitation of pure common salt (NaCl) from saturated solution of common salt is

- (1) H_2 (2) Cl_2
(3) HCl (4) CO_2

Answer (3)

24. $\text{CuSO}_4 + \text{Zn} \longrightarrow \text{ZnSO}_4 + \text{Cu}$

Correct statement related to the above reaction is

- (1) Zn is less reactive as compared to Cu
(2) Zn is more reactive as compared to Cu
(3) Reactivity of Cu and Zn is equal
(4) Zn is displaced by Cu

Answer (2)

25. Useful substance in preparation of freezing mixture is

- (1) NaOH (2) NaCl
(3) NaHCO_3 (4) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

Answer (2)

26. Correct increasing order of reactivity of elements is

- (1) Au, Cu, K, H (2) Au, Cu, H, K
(3) Cu, Au, K, H (4) Cu, Au, H, K

Answer (2)

27. In which of the plant group chitinous cell wall is found?

- (1) Algae (2) Fungi
(3) Thallophyta (4) Bryophyta

Answer (2)

28. The light reaction occurs in which part of the chloroplast.

- (1) Stroma (2) Outer wall
(3) Grana (4) None of above

Answer (3)

29. Lack of which element occurs when Algal Bloom is formed in a waterbody.

- (1) Oxygen (2) Nitrogen
(3) Hydrogen (4) Calcium

Answer (1)

30. The plant group called "pollution indicator" is.

- (1) Bryophyta (2) Lichen
(3) Gymnosperm (4) Pteridophyta

Answer (2)

31. Genotypic ratio of F_2 generation in monohybrid cross is :

- (1) 3 : 1 (2) 9 : 3 : 3 : 1
(3) 1 : 2 : 1 (4) 1 : 3

Answer (3)

32. Rabi Crop is :

- (1) Oryza sativa
(2) Triticum aestivum
(3) Pennisetum typhoides
(4) Zea mays

Answer (2)

33. Kevla Devi National park is situated at -

- (1) Karnataka (2) Madhya Pradesh
(3) Rajasthan (4) Gujarat

Answer (3)

34. Disease caused by Virus, is

- (1) Malaria (2) Diptheria
(3) Chicken pox (4) Leprosy

Answer (3)

35. Which of the following in not a member of phylum Arthropoda

- (1) House-fly (2) Earthworm
(3) Shrimp (4) Cockroach

Answer (2)

36. DNA synthesis occurs, in which stage of cell cycle.

- (1) G-I phase (2) G-II Phase
(3) M-phase (4) S-phase

Answer (4)

37. Example of Fat digesting enzyme is

- (1) Amylase (2) Pepsin
(3) Lipase (4) Nucleases

Answer (3)

38. Indian scientist known for research on cosmic rays and nuclear energy

- (1) Dr. Prafulla Chandra Roy
(2) Chandra Shekhar Venkat Raman
(3) Dr. Panchanan Maheshwari
(4) Dr. Homi Jehangir Bhabha

Answer (4)

39. Tal Chhapar wildlife sanctuary is located at

- (1) Alwar (2) Jaipur
(3) Churu (4) Kota

Answer (3)

40. Disease caused by deficiency of vitamin – C is

- (1) Scurvy
(2) Night Blindness
(3) Beri-beri
(4) Rickets

Answer (1)

41. If polynomials $3x^3 + x^2 - 4x + P$ and $2x^3 + Px^2 + 3x - 3$ are divided by $(x - 2)$ then get the same remainder. What will be the value of P.

- (1) +3 (2) $\frac{1}{3}$
(3) $-\frac{1}{3}$ (4) -3

Answer (2)

42. Numerator of a fraction is 3 less than its denominator. If 4 is added to the numerator and 2 is subtracted from the denominator then the numerator becomes 2 times of the denominator. What will be the fraction?

- (1) $\frac{5}{2}$ (2) $\frac{4}{5}$
(3) $\frac{2}{5}$ (4) $\frac{5}{4}$

Answer (3)

43. If each interior angle of a regular polygon is 165° then the number of sides will be-
- (1) 24 (2) 72
 (3) 26 (4) 12

Answer (1)

44. The measures of Three angles of a triangle are in ratio 3 : 4 : 5, then the measure of its greatest angle is-
- (1) 55° (2) 65°
 (3) 80° (4) 75°

Answer (4)

45. If area of an equilateral triangle is $64\sqrt{3}$ cm². Then its perimeter will be-
- (1) 24 cm (2) 48 cm
 (3) 64 cm (4) 32 cm

Answer (2)

46. Each face of a cube is 144 cm². If cube is cut by a plane, parallel to its base in two equal parts, then the total surface area of both the parts will be-
- (1) 1152 cm² (2) 1052 cm²
 (3) 288 cm² (4) 576 cm²

Answer (1)

47. The time does the minute hand of a watch take to describe an angle of $\frac{3}{4}\pi$ radians is-
- (1) 45 minutes 30 seconds
 (2) 45 minutes
 (3) 22 minutes 30 seconds
 (4) 22 minutes

Answer (3)

48. If $\operatorname{cosec} A = 2$, then the value of $\tan A + \frac{\cos A}{1 + \sin A}$ will be
- (1) $\frac{1}{2\sqrt{3}}$ (2) $\frac{2}{\sqrt{3}}$
 (3) $\frac{1}{\sqrt{3}}$ (4) $2\sqrt{3}$

Answer (2)

49. Two poles of height 12 meters and 20 meters are standing on a plane ground. If distance between their feet is 15 meters, then the distance between upper ends of poles will be-
- (1) 15 meters (2) 16 meters
 (3) 17 meters (4) 18 meters

Answer (3)

50. Following are the points obtained by a Kabaddi team in various matches.
 17,2,7,27,15,5,14,19,10,24,9,8,6,18,28
 The median of the points obtained by the team will be -
- (1) 14 (2) 16
 (3) 15 (4) 17

Answer (1)

51. Vaibhav takes 24 minutes to complete one round of a circular path of a sports field. While Rohan takes 18 minutes for the same. Suppose both of them start from the same point and at the same time and go in the same direction. After how much time will they meet again at the starting point?
- (1) 48 minutes (2) 24 minutes
 (3) 72 minutes (4) 36 minutes

Answer (3)

52. Discrimination of the quadratic equation $3\sqrt{3}x^2 + 7x + \sqrt{3} = 0$ will be-
- (1) 49 (2) 13
 (3) 36 (4) 62

Answer (2)

53. If seventh term of an arithmetic progression is 20 and 22nd term is 50, then 30th term will be-
- (1) 66 (2) 68
 (3) 64 (4) 62

Answer (1)

54. If $\tan 3P = \sin 45^\circ \cos 45^\circ + \sin 30^\circ$, then the value of P will be. ($P < 90^\circ$)
- (1) 15° and 45° (2) 15° and 60°
 (3) 15° and 75° (4) 45° and 60°

Answer (3)

55. If ratio of length of a vertical rod and length of its shadow is $\sqrt{3} : 1$, then the angle of elevation of sun will be
- (1) 30° (2) 45°
 (3) 60° (4) 90°

Answer (3)

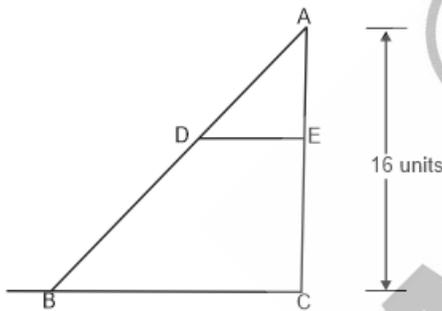
56. Triangle formed by the vertices (2, -2), (-2, 1) and (5, 2) will be
- (1) Scalene triangle
 - (2) Equilateral triangle
 - (3) Isosceles triangle
 - (4) Right-angle triangle

Answer (3 or 4)

57. Locus of the centre of rolling circle in a plane will be
- (1) circle
 - (2) line parallel to the plane
 - (3) curve
 - (4) line perpendicular to the plane

Answer (2)

58. In the given figure $DE \parallel BC$ and $\frac{AD}{DB} = \frac{3}{5}$ if $AC = 16$ units then the value of AE will be-



- (1) 4 units
- (2) 5 units
- (3) 6 units
- (4) 8 units

Answer (3)

59. The length of a minute hand of a clock is 6 cm. What will be the area (approximate) of the sector swept by this minute hand with in 45 minutes.
- (1) 85.84 cm²
 - (2) 14.12 cm²
 - (3) 84.85 cm²
 - (4) 12.14 cm²

Answer (3)

60. In a single throw of two dice, what will be the probability of getting a total of 8
- (1) $\frac{1}{36}$
 - (2) $\frac{5}{6}$
 - (3) $\frac{1}{6}$
 - (4) $\frac{5}{36}$

Answer (4)

61. Which period is known as 'Arab spring'?
- (1) 2010-2013
 - (2) 2007-2010
 - (3) 2006-2016
 - (4) 2012-2015

Answer (1)

62. Arrange the following events in chronological order and select the correct answer from the codes given below:

- (i) Korea War
- (ii) Suez Crisis
- (iii) Congo Crisis
- (iv) Somalia Crisis

Codes:

- (1) 1,3,2,4
- (2) 1,2,3,4
- (3) 3,2,4,1
- (4) 2,1,4,3

Answer (2)

63. Which one of the following is not correctly matched?

Folk God	Birth Place
(1) Jambhoji	- Nagaur
(2) Jasnathji	- Bikaner
(3) Ramcharanji	- Alwar
(4) Dadu Dayal	- Ahmedabad

Answer (3)

64. Which one of the following was not included among the Axis nations during the First World War?

- (1) Italy
- (2) Germany
- (3) Hungary
- (4) Turkey

Answer (1)

65. Who was the writer of 'Ananda Math'?

- (1) Bal Gangadhar Tilak
- (2) Bankim Chandra Chatterjee
- (3) Dayanand Saraswati
- (4) Raja Rammohan Roy

Answer (2)

66. Which one of the following is not correctly matched with reference to the revolution of 1857?

- (1) Bhimrao – Karnataka
- (2) Sultan Baksh - Madras
- (3) Mulgabal Swami – Poona
- (4) Vijay Kudarat - Kerala

Answer (3)

67. Dhapi Dadi is related to which village of Sikar peasant movement?

- (1) Kudan (2) Palthana
 (3) Katrathal (4) Ghassu

Answer (1)

68. Which newspaper compared the Neemuchana massacre to the Jallianwala Bagh massacre?

- (1) Rajputana (2) Riyasat
 (3) Rajasthan (4) Kisan

Answer (2)

69. Which of the following was first invented?

- (1) Flying Shuttle Loom
 (2) Water Frame
 (3) Spinning Jenny
 (4) Powerloom

Answer (1)

70. Which one of the following places did not Swai Jaisingh build the observatory?

- (1) Agra (2) Banaras
 (3) Mathura (4) Ujjain

Answer (1)

71. Which of the following rulers tomb is situated in the middle of the lake?

- (1) Babar (2) Sher Shah
 (3) Akbar (4) Jahangir

Answer (2)

72. Which lake is located in Rajasmand district?

- (1) Tal chhpar (2) Nauchouki
 (3) Tordisagar (4) Navlakha

Answer (2)

73. Which one of the following is a food crop?

- (1) Sugarcane (2) Tobacco
 (3) Barley (4) Tea

Answer (3)

74. Match List-I with List-II and select the correct answer using the codes given below :

List-I (Mineral)	List-II (Producing Regions)
(A) Copper	(i) Zawar
(B) Lead – Zinc	(ii) Degana
(C) Tungsten	(iii) Ghotaru
(D) Natural Gas	(iv) Kho-Dariba
(1) (iii), (ii), (iv), (i)	(2) (ii), (iii), (i), (iv)
(3) (i), (iv), (iii), (ii)	(4) (iv), (i), (ii), (iii)

Answer (4)

75. Which district in Rajasthan is called as cement city?

- (1) Chittorgarh (2) Kota
 (3) Bundi (4) Pratapgarh

Answer (1)

76. Which of the following is the highest Literacy-rate district of Rajasthan?

- (1) Ajmer (2) Jaipur
 (3) Kota (4) Udaipur

Answer (3)

77. Which of the following is ferrous metallic mineral?

- (1) Tin (2) Cobalt
 (3) Gold (4) Bauxite

Answer (2)

78. Which is the major source of rainwater storage in the Shekhawati region?

- (1) Khadin (2) Tanka
 (3) Nadi (4) Johad

Answer (4)

79. Latitudinal extension of India is

- (1) 8°4' Northern latitude to 37°4' Northern latitude
 (2) 8°4' Northern latitude to 37°6' Northern latitude
 (3) 8°2' Northern latitude to 37°8' Northern latitude
 (4) 8°5' Northern latitude to 37°5' Northern latitude

Answer (2)

80. Which of the following rivers does not fall in the Bay of Bengal?

- (1) Kaveri (2) Mahanadi
 (3) Narmada (4) Godawari

Answer (3)

81. What is "Kall Vaishaki"?

- (1) Cyclones in the Arabian sea
 (2) Rainfall due to Mediterranean cyclone in winter season
 (3) Rainfall on the Malabar coast in summer season
 (4) Dust storm in west Bengal region during summer season

Answer (4)

82. Who coined the slogan "Jo sir sante Roonkh rahe to bhi sasto Jaan?"
- (1) Smt. Amrita Devi
 - (2) Smt. Jaana Bai
 - (3) Smt. Sushila Devi
 - (4) Smt. Harsha Devi

Answer (1)

83. When was the unification of Rajasthan completed?
- (1) 30th March, 1949
 - (2) 15th May, 1948
 - (3) 26th January, 1950
 - (4) 1st November, 1956

Answer (4)

84. From which district of Rajasthan, the modern three-tier of Panchyati Raj system was launched of October 2nd, 1959?
- (1) Ajmer
 - (2) Nagaur
 - (3) Jaipur
 - (4) Bikaner

Answer (2)

85. When was the constitution of India adopted, enacted and spirited?
- (1) 26th November, 1949
 - (2) 26th October 1948
 - (3) 26th January, 1950
 - (4) 26th January, 1949

Answer (1)

86. In which schedule of Indian constitution the functions of municipal councils were listed by the 74th constitutional amendment?
- (1) In 8th Schedule
 - (2) In 12th Schedule
 - (3) In 10th Schedule
 - (4) In 9th Schedule

Answer (2)

87. Where did the 18th summit of 'SAARC' take place in November, 2014 ?
- (1) Nepal
 - (2) New Delhi
 - (3) Bhutan
 - (4) Maldiv

Answer (1)

88. Match List-I with List-II Related to Fundamental Rights and choose the correct from given codes

List-I	List-II
(A) Right to Equality	(i) Article 19 to 22
(B) Right against Exploitation	(ii) Article 29 to 30
(C) Right to Education and culture	(iii) Article 14 to 18
(D) Right to Freedom or Liberty	(iv) Article 23 to 24
A B C D	
(1) (ii) (iii) (iv) (i)	
(2) (iii) (iv) (ii) (i)	
(3) (i) (ii) (iii) (iv)	
(4) (iv) (i) (ii) (iii)	

Answer (2)

89. What can be maximum number of members of Rajya Sabha as per constitutional provision?
- (1) 245
 - (2) 233
 - (3) 250
 - (4) 230

Answer (3)

90. According to which article of Indian constitution 'Money Bills' can be proposed in Lok Sabha only?
- (1) 109
 - (2) 107
 - (3) 105
 - (4) 103

Answer (1)

91. Who has the right to casting vote if there are equal votes in favour and in against on a question in the state Legislative Assembly?
- (1) The Governor
 - (2) The Chief Minister
 - (3) The speaker of State Legislative Assembly
 - (4) The Deputy Speaker of State Legislative Assembly

Answer (3)

92. How many members can be maximum in the state cabinet according to 91st constitutional amendment?
- (1) 10% of total number of members of legislative assembly
 - (2) 25% of total number of members of legislative assembly
 - (3) 20% of total number of members of legislative assembly
 - (4) 15% of total number of members of legislative assembly

Answer (4)

93. Till what age can the Judges of high court hold his post?
- (1) 62 years (2) 60 years
(3) 65 years (4) 68 years

Answer (1)

94. The nation having a mixed economy is
- (1) China
(2) India
(3) Japan
(4) France

Answer (2)

95. The green revolution started in
- (1) 1966-67
(2) 1970-71
(3) 1988-89
(4) 2001-02

Answer (1)

96. The Central bank of India is
- (1) State Bank
(2) Indian Industrial Development Bank
(3) Export-Import Bank
(4) Reserve Bank of India

Answer (4)

97. The money is deposited for a fixed period of time in this account
- (1) Fixed deposit account
(2) Saving bank account
(3) Current account
(4) Recurring deposit account

Answer (1)

98. When the benefits of development reach the people of all the sections of the society it is called
- (1) Economic Development
(2) Continuous Development
(3) Assimilated Development
(4) Human Development

Answer (3)

99. The process which increases the role of private sector in economy, is called
- (1) Liberalization (2) Privatization
(3) Globalization (4) Swadeshi

Answer (2)

100. The concept of Relative poverty is comparatively more relevant in these countries
- (1) Undeveloped countries
(2) Under developed countries
(3) Developing countries
(4) Developed countries

Answer (4)

