NTSE (PART-II) SCHOLASTIC ABILITY TEST

PHYSICS

1. Which of the following term does not represent electric power (P) in electric circuit ?

   (A) $\dfrac{V^2}{R}$ (B) IR^2

   (C) I^2R (D) VI

2. S.I. unit of magnetic field B is
   (A) Newton ∕ Ampere × metre   (B) Newton ∕ Ampere
   (C) Ampere × metre   (D) Ampere × Coulomb

3. Which of the following is an equation for position - Time relation ?

   (A) $v = u + at$ (B) $2as = v^2 - u^2$

   (C) $E = mc^2$ (D) $S = ut + \dfrac{1}{2}at^2$

4. Value of 1 eV is

   (A) $1.602 \times 10^{-15}\,J$ (B) $1.602 \times 10^{-19}\,J$

   (C) $1.602 \times 10^{-16}\,J$ (D) $1.602 \times 10^{23}\,Ergs$

5. The least distance of distinct vision for healthy eye is
   (A) 25 km   (B) 25 m
   (C) 25 cm   (D) 25 mm

6. Where does image form in the human eye ?
   (A) Cornea   (B) Pupil
   (C) Iris   (D) Retina

7. An object of mass 15 kg is moving with uniform velocity of 4 m^{-1}. What is the kinetic energy possessed by the object ?

   (A) $15\ kg.m^2$ (B) $120\ kg.m^2/s^2$

   (C) $120\ J/s$ (D) $240\ J$

8. The acronym 'SONAR' stands for
   (A) Sound Navigation and Ranging   (B) Solar Navigation and Ranging
   (C) Sound Navigation and Nuclear Reaction   (D) Sound Navigation and Rectification

9. Equivalent resistance in parallel combination of resistance is

   (A) $R = R_1 + R_2 + R_3 + ...$ (B) $\dfrac{1}{R} = R_1 + R_2 + R_3 + ...$

   (C) $\dfrac{1}{R} = \dfrac{1}{R_1} + \dfrac{1}{R_2} + \dfrac{1}{R_3} + ...$ (D) $R = \dfrac{1}{R_1} + \dfrac{1}{R_2} + \dfrac{1}{R_3} + ...$

10. Focal length of thin lens is given by

(A) $\dfrac{1}{f} = \dfrac{1}{v} - \dfrac{1}{u}$

(B) $f = u + v$

(C) $f^2 = \dfrac{1}{v} - \dfrac{1}{u}$

(D) $\dfrac{1}{f} = \dfrac{1}{v} + \dfrac{1}{u}$

11. The device / machine to produce electric current is
(A) Generator
(B) Motor
(C) Galvanometer
(D) Ammeter

12. Which of the following is used to make sol panel ?
(A) Cobalt
(B) Silicon
(C) Nickel
(D) Manganese

13. Which of the following is a major constitute of Bio-gas ?
(A) Ethane
(B) Oxygen
(C) Carbon dioxide
(D) Methane

CHEMISTRY

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14. Fatty foods become rancid due to process of
(A) Oxidation
(B) Corrosion
(C) Reduction
(D) Hydrogenation

15. Which of the following are physical changes ?
(a) Melting of iron metal
(b) Rusting of iron
(c) Bending of an iron rod
(d) Drawing a wire of iron metal
(A) a + b + c
(B) a + b + d
(C) a + c + d
(D) b + c + d

16. Milk is the example of the following type of colloid
(A) Sol
(B) Emulsion
(C) Aerosol
(D) Foam

17. The nucleus of an atom contains
(A) Protons
(B) Electrons
(C) Protons and neutron
(D) Neutrons

18. By whom was neutron discovered ?
(A) Bohr
(B) Chadwick
(C) Rutherford
(D) Dalton

19. A chemical equation is said to be balanced if number of
(A) compounds are same in both side
(B) molecules are same in both side
(C) number of atoms are same in both side
(D) number of electrons are same in both side

20. Write values of a, b, and c so that following chemical equation is balanced

$aH2 + bO_2 \rightarrow cH_2O$

(A) a = 2, b = 1, c = 2
(B) a = 1, b = 1, c = 2
(C) a = 1, b = 2, c = 1
(D) a = 2, b = 2, c = 1

21. Name the element which is common to all acids?
(A) Sulphur
(B) Chlorine
(C) Nitrogen
(D) Hydrogen

22. A solution turns red litmus into blue, it pH is likely to be
(A) 1
(B) 4
(C) 5
(D) 10

23. Dilution is the process of
(A) Mixing acid with water
(B) Mixing strong acid with strong base
(C) Mixing acid or base with water
(D) Mixing strong acid with weak base

24. What type of reaction takes place when an acid is dissolved in water ?
(A) Exothermic
(B) Endothermic
(C) Substitution
(D) Elimination

25. The ability of metals to be drawn into thin wire is known as
(A) Ductility
(B) Malleability
(C) Sonority
(D) Conductivity

26. Which of the following non-metal is good conductor of electricity ?
(A) Graphite
(B) Phosphorus
(C) Hydrogen
(D) Bromine

BIOLOGY

27. Synthesis of Bile Juice take place in which the following part of Body ?
(A) Gall Bladder
(B) Liver
(C) Nephron
(D) Hypothalamus

28. Which is Phytohormone ?
(A) Auxin
(B) Gibberellin
(C) Cytokinin
(D) All of the above

29. pH of which of the following is acidic in nature ?
(A) Gastric Juice
(B) Bile Juice
(C) Pancreatic Juice
(D) Intestinal Juice

30. Which of the following have Naked Seed ?
(A) Algae
(B) Bryophyta
(C) Gymnosperm
(D) Angiosperm

31. Kreb's cycle found in which part of cell ?
(A) Mitochondria
(B) Cell membrane
(C) Golgi body
(D) Nucleus

32. Which of the following is not found in Prokaryotes except ?
(A) Endoplasmic reticulum
(B) Mitochondria
(C) Ribosome
(D) Golgi body

33. Which of the following characters are found in mammals ?
(A) Hair
(B) Mammary gland
(C) Air-sack
(D) Both A and B

34. DNA of Eukaryotes have
(A) Fatty acid
(B) Cholesterol
(C) Histone
(D) All of the above

35. Which of the following is monocotyledon?
(A) Wheat
(B) Maize
(C) Banana
(D) All

36. Deficiency of which hormone causes diabetes mellitus ?
(A) Thyroid
(B) Insulin
(C) Relaxin
(D) Parathormone

37. Which of the following is / are correct statement(s) ?
(A) Synthesis of urea takes place in live
(B) Eukaryotes have mitochondria
(C) Virus is prokaryote
(D) Both A and B

38. Which of the following is responsible for Green house effect ?
(A) O_2
(B) H_2
(C) CO_2
(D) All

39. Tracheal ring in Human consist of following
(A) Hyaline Cartilage
(B) Fibrous Cartilage
(C) Bone
(D) Muscle

40. Human Evolution was suppose to take place in
(A) America
(B) Asia
(C) Africa
(D) Australia

HISTORY

41. Which is the oldest 'Veda' ?
(A) Rigveda
(B) Samveda
(C) Yajurveda
(D) Atharvaveda

42. "Tripatika" is related to
(A) Jainism
(B) Vaishya
(C) Sanatan
(D) Buddhism

43. Which dynasty started coins with the Veena emblem ?
(A) Maurya dynasty
(B) Gupta dynast
(C) Vardhan dynas
(D) Rajput dynasty

44. "Prayag Prashasti" was written by
(A) Aryabhatt
(B) Vishnu Sharma
(C) Harishen
(D) Kalidas

45. Who wrote Padrnavat ?
(A) Kalidas
(B) Prithviraj
(C) Malik Mohammad Jayasi
(D) Dhananand

46. Battle of Haldighati was fought in
    (A) 1576 AD
    (B) 1580 AD
    (C) 1528 AD
    (D) 1572 AD

47. Who was Shivaji's mother ?
    (A) Jija Bai
    (B) Kamla Bai
    (C) Putli Bai
    (D) Durga Devi

48. Which ruler's reign in called Golden Age of Mughal Paintings ?
    (A) Babur
    (B) Jahangir
    (C) Aurangzeb
    (D) Shahjahan

49. British East India Company was established in
    (A) 1600 AD
    (B) 1540 AD
    (C) 1650 AD
    (D) 1700 AD

50. Who was the last Mughal king ?
    (A) Shershah
    (B) Aurangzeb
    (C) Bahadur Shah Zafar - II
    (D) None of the above

51. Which Governor General started Subsidiary Alliance ?
    (A) Lord Cornwallis
    (B) Lord Rippon
    (C) Lord Wellesely
    (D) Lord Curzon

52. Anand Math was written by
    (A) Swami Vivekanand
    (B) Deenbandhu Mishra
    (C) Bankimchandra Chatterjee
    (D) Ravindranath Tagore

53. Who established the Khalsa Organisation?
    (A) Guru Nanak Dev
    (B) Guru Kripal Singh
    (C) Guru Govind Singh
    (D) None of these

54. Who was the President of first session / conference of Congress ?
    (A) Dadabhai Naoroji
    (B) Arvind Ghosh
    (C) Gopal Krishna Gokhle
    (D) Vyomesh Chandra Banerje

55. Founder of 'Satya Shodhak Samaj' was
    (A) Swami Vivekanand
    (B) Atmaram
    (C) Jyotiba Phule
    (D) Mahatma Gandhi

GEOGRAPHY

56. Unit of measuring noise is
    (A) Centimeter
    (B) Decibel
    (C) Celsius
    (D) Millibar

57. Chipko Movement was started in -
    (A) Karnataka
    (B) North-East India
    (C) Uttarakhand
    (D) Kerala

58. The standard time of India is calculated from -
    (A) 72° East Longitude
    (B) 80°30' East Longitude
    (C) 82°30' East Longitude
    (D) 85° East Longitude

59. The Tropic of Cancer does not pass through which State of India?
(A) Gujarat   (B) Maharashtra
(C) Chhattisgarh   (D) Madhya Pradesh

60. Which of the following river is knows as Ganga of South India ?
(A) Narmada river   (B) Krishna river
(C) Kaveri river   (D) Godavari river

61. State with the minimum forest area in India is -
(A) Assam   (B) Rajasthan
(C) Jharkhand   (D) Haryana

62. According to 2011 census which is the most densely populated State ?
(A) Uttar Pradesh   (B) Bihar
(C) Kerala   (D) West Bengal

63. Conventional signs are certified by -
(A) Central Information Department   (B) Indian Constitution
(C) Survey Department   (D) Parliament of India

64. Keoladeo Ghana Bird Sanctuary is located in -
(A) Kerala   (B) Rajasthan
(C) West Bengal   (D) Madhya Pradesh

65. The cheapest means of transport is -
(A) Road Transport   (B) Rail Transport
(C) Water Transport   (D) Air Transport

66. The main gas pipeline is -
(A) Barauni - Haldia   (B) Barauni - Jalandhar
(C) Naharkatia - Barauni   (D) Hajira - Jagdishpur

67. The longest railway route of the world is -
(A) Trans Siberian Railway   (B) Canadian Pacific Railway
(C) Trans Indian Railway   (D) All of the above

68. Weather maps are published in India -
(A) Kolkata   (B) Delhi
(C) Pune   (D) Hyderabad

69. Name the area of India where earthquakes often occur (high incidence zones) -
(A) Kutch   (B) Aravali mountain
(C) Orissa coast   (D) Goa

70. Name the most flood affected State -
(A) Bihar   (B) Punjab
(C) Rajasthan   (D) Madhya Pradesh

CIVICS

71. In a democracy Sovereignty resides in the -
(A) President   (B) Parliament
(C) Prime Minister   (D) People
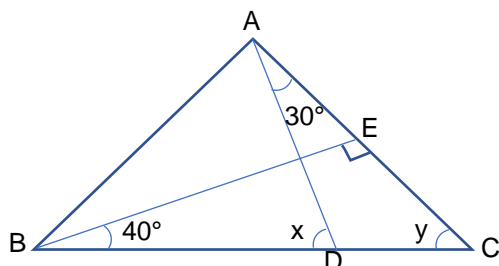
72. The Chief Election Commissioner of India is appointed by -
(A) President   (B) Prime Minister
(C) Governor   (D) Deputy Prime Minister

73. According to which article untouchability has been abolished by the Constitution of India ?
(A) Article – 14   (B) Article – 15
(C) Article – 16   (D) Article – 17

74. The term of Lok Sabha is -
(A) 3 Years   (B) 4 Years
(C) 5 Years   (D) 6 Years

75. Where is the High Court of Madhya Pradesh state situated ?
(A) Bhopal   (B) Indore
(C) Jabalpur   (D) Gwalior

ECONOMICS

76. The State having maximum population of poor, in India is -
(A) Meghalaya   (B) Assam
(C) Bihar   (D) Madhya Pradesh

77. Which of the following scheme provides 100 days of employment ?
(A) National Rural Employment Guarantee   (B) National Rural Health Mission
(C) National Rural Livelihood Mission Scheme (D) Prime Minister Jan Dhan Scheme

78. Main Function of money is -
(A) Medium of exchange   (B) Mode of payment
(C) Price holding   (D) All of the above

79. Which bank is known as Central Bank of India ?
(A) Reserve Bank of India   (B) State Bank of India
(C) Foreign Exchange Bank   (D) International Bank

80. Producers can be arbitrary with respect to the quality and price of gods in -
(A) Competitive market   (B) Monopoly
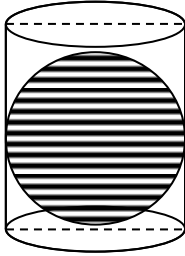(C) Agricultural product   (D) None of the above

MATHEMATICS

81. In the given figure, if $BE \perp AC$, $\angle EBC = 40°$ and $\angle DAC = 30°$, then the value of $\angle x$ and $\angle y$ are :

(A) 80° and 30°   (B) 80° and 50°
(C) 40° and 50°   (D) 70° and 40°

82. A right circular cylinder is just enclosed a sphere of radius r, then :

(A) Surface area of the sphere is equal to the curved surface area of the cylinder.
(B) Surface area of sphere is equal to the total surface area of the cylinder.
(C) Surface area of the sphere is less than the curved surface area of the cylinder.
(D) Surface area of the sphere is greater than the curved surface area of the cylinder.

83. Zeros of polynomial $x^2 - 2x$ are :
(A) only 2   (B) 0, 2
(C) 2, 2   (D) 0, 0

84. The median and mode of 14, 25, 14, 28, 18, 17, 18, 14, 23, 22, 14, 18 are :
(A) 18 and 14   (B) 17 and 18
(C) 18.5 and 14   (D) 18 and 18.5

85. Largest chord of the circle is :
(A) Radius   (B) Diameter
(C) Both (A) and (B)   (D) None of the above

86. In Euclid's division lemma, for given positive integer a and b, there exist unique integer's q and r satisfying $a = bq + r$, here :

(A) $r \neq 0$ (B) $0 \leq r < b$

(C) $r > b$ (D) $r = q$

87. If $3, -1, -\dfrac{1}{3}$ are zeros of cubic polynomial $p(x)$, where $p(x)$ is :

(A) $3x^3 + 5x^2 - 11x - 3$ (B) $3x^3 - 5x^2 - 11x + 3$
(C) $3x^3 - 5x^2 - 11x - 3$ (D) $3x^3 + 5x^2 + 11x + 3$

88. The value of p for which pair of equations $4x + py + 8 = 0, 2x + 2y + 2 = 0$, have unique solution is :
(A) $p = 4$ (B) $p = 8$
(C) $p \neq 4$ (D) $p \neq 2$

89. Which of the following is not a quadratic equation ?
(A) $(x - 2)^2 + 1 = 2x - 3$ (B) $x(x + 1) + 8 = (x + 2)(x - 2)$
(C) $x(2x + 3) = x^2 + 1$ (D) $(x + 2)^3 = x^3 + 4$

90. How many two digit numbers are there which are divisible by 3 ?
(A) 29   (B) 30
(C) 33   (D) 35

91. The sum of first n-positive integers is :

(A) $\dfrac{(n^2 + 1)}{2}$ (B) $\dfrac{(n + 1)(n + 2)}{2}$

(C) $\dfrac{n(n + 1)}{2}$ (D) $2n$

92. The point (7, 3) divides the line segment joining the points $(4,-3)$ and $(8,5)$ internally in ratio :
(A) 2 : 3   (B) 7 : 4
(C) 3 : 2   (D) 3 : 1

93. A verticle pole of length 6 m casts a shadow 4 m long on the ground and at the same time a tower casts a shadow 28 m long, then the height of the tower is :
(A) 28 m   (B) 48 m
(C) 53 m   (D) 42 m

94. The length of a arc of a sector of angle θ of circle with radius r is :
(A) $\dfrac{\theta}{180} \times \pi r^2$ (B) $\dfrac{\theta}{360} \times \pi r^2$

(C) $\dfrac{\theta}{180} \times \pi r$ (D) $\dfrac{\theta}{360} \times \pi r$

95. The value of $\tan 48^\circ \tan 23^\circ \tan 42^\circ \tan 67^\circ$ is :

(A) 0   (B) $\dfrac{\sqrt{3}}{2}$

(C) 1   (D) $\sqrt{3}$

96. An iron rod of diameter 1 cm and length $8\,cm$ is drawn into a wire of length 18 m of uniform thickness, then the radius of the wire will be :
(A) $\dfrac{1}{30}$ cm   (B) $\dfrac{1}{900}$ cm

(C) $\dfrac{1}{3}$ cm   (D) 3 cm

97. Number of terms in A. P. 23, 21,19, …, 5 are :
(A) 11   (B) 10
(C) 9   (D) 8

98. One card is drawn from a well shuffled deck of 52 cards, the probability that the card drawn is not an ace.
(A) $\dfrac{12}{13}$ (B) $\dfrac{1}{13}$

(C) $\dfrac{1}{52}$ (D) $\dfrac{4}{13}$

99. If $3x^2 - x^3 + 5x - 2$ is divided by $x - 1 + x^2$, then the remainder is
(A) -3 (B) 2
(C) 3   (D) -2

100. Which of the following statements is true?
(A) Every whole number is a natural number.   (B) Every integer is a rational number.
(C) Every rational number is an integer.   (D) None of these

B H O P A L

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ANSWER KEY

SCHOLASTIC ABILITY TEST

Ques. No.	1	2	3	4	5	6	7	8	9	10
Answer	B	A	D	B	C	D	B	A	C	A
Ques. No.	11	12	13	14	15	16	17	18	19	20
Answer	A	B	D	A	C	B	C	B	C	A
Ques. No.	21	22	23	24	25	26	27	28	29	30
Answer	D	D	C	A	A	A	B	D	A	C
Ques. No.	31	32	33	34	35	36	37	38	39	40
Answer	A	C	D	C	D	B	D	C	A	C
Ques. No.	41	42	43	44	45	46	47	48	49	50
Answer	A	D	B	C	C	A	A	B	A	C
Ques. No.	51	52	53	54	55	56	57	58	59	60
Answer	C	C	C	D	C	B	C	C	B	D
Ques. No.	61	62	63	64	65	66	67	68	69	70
Answer	D	B	C	B	C	D	A	C	A	A
Ques. No.	71	72	73	74	75	76	77	78	79	80
Answer	D	A	D	C	C	C	A	A	A	B
Ques. No.	81	82	83	84	85	86	87	88	89	90
Answer	B	A	B	A	B	B	C	C	B	B
Ques. No.	91	92	93	94	95	96	97	98	99	100
Answer	C	D	D	C	C	A	B	A	B	B