Hindi (10 × 1 = 10)

(प्र.1 & 2) निर्देश- प्रश्नों में दिए गए शब्द के लिए सही विपरीतार्थी अथवा विलोम शब्द चुनिए-

1. अनिवार्य

(A) आवश्यक (B) वैकल्पिक (C) ऐच्छिक (D) पंसदीदा

2. थोक

(A) खेरीज (B) चिल्लर (C) खुदरा (D) इकट्ठा

(प्र.3 & 4) निर्देश- शब्द समूह के लिए एक शब्द दीजिए-

3. "पृथ्वी और सूर्य आदि ग्रहों के मध्य का स्थान"

(A) अंतरिक्ष (B) आकाश (C) स्वर्ग (D) परलोक

4. "व्यक्ति जो किसी अन्य के स्थान पर कार्यरत हो"

(A) अस्थायी (B) स्थानापन्न (C) अल्पकालीन (D) कामचलाऊ

(प्र.5 & 6) निर्देश- शुद्ध वर्तनी वाले शब्द का चयन कीजिए-

5. (A) शीघ्रता (B) शीघृता (C) सीघ्रता (D) शिघ्रता

6. (A) परीछारती (B) परिक्षारथी (C) परीछार्थी (D) परीक्षार्थी

7. मुहावरे के लिए विकल्पों में से उपयुक्त अर्थ का चयन कीजिए-
"ईद का चाँद होना"

(A) खूबसूरत होना (B) शुभ संदेश लाने वाला (C) दुर्लभ होना (D) रंगीन होना

8. 'सूर्योदय' का अर्थ है-

(A) सूर्य का निकलना (B) सूर्य का अस्त होना (C) सूर्य का गरम होना (D) सूर्य ग्रहण होना

9. "Chief Administrative Officer" के लिए हिंदी पर्याय है-

(A) मुख्य संचालन अधिकारी (B) मुख्य सेवा अधिकारी

(C) मुख्य प्रशासनिक अधिकारी (D) इनमें से कोई नहीं

10. "केंद्रीय कार्यालय" का सही अंग्रेजी पर्याय है-

(A) Head Quarter (B) Head Office (C) Central Office (D) Main Office

English (10 × 1 = 10)

Instructions for Q.11 & 12: Choose the best suited synonym of the given word from the following options:

11. VACUOUS

(A) Ravenous (B) Truthfulness (C) Stupid (D) Dreamer

12. PRAGMATIC

(A) Practical (B) Magnetic (C) Liar (D) Arrogant

Instructions for Q.13 & 14: Choose the best suited anonym of the given word from the following options:

13. MELANCHOLY

(A) Sorrowful (B) Happy (C) Confused (D) Convicted

14. EMINENT

(A) Famous (B) Sad (C) Imminent (D) Unknown

Instructions for Q.15 & 16: Choose the best suited analogy of the given set from the following options (sets):

15. Aggravate : Alleviate

(A) Later : Precede (B) Urbane : Naive

(C) Evasive : Wordy (D) Feeble : Worker

16. VINDICTIVE : MERCY

(A) Transient : Fleeting (B) Elated : Happy

(C) Crestfallen : Cognizant (D) Skeptical : Trustfulness

Instructions for Q.17 & 18: Identify parts of speech of the word(s) available in brackets.

17. She (as well as) her sister is engaged.

(A) Adverb (B) Adjective (C) Preposition (D) Conjunction

18. This golden ring is too (costly) to purchase.

(A) Adverb (B) Adjective (C) Preposition (D) Conjunction

Instructions for Q.19 & 20: Choose the proper word from the given options to fill-in the blanks:

19. Cannon had such unique qualities _____ it was used widely in ancient times.

(A) that (B) so (C) since (D) this

20. She succeeded by _____ hard.

(A) continuous working (B) working (C) continuous work (D) work

Teaching Methodology (10 × 1 = 10)

21. One will be an effective communicator if one

(A) communicates in his/her mother tongue (B) has histrionic talents

(C) is very clear about what he/she communicates (D) is a humourous speaker

22. Teaching aptitude means

(A) Devotion towards teaching work (B) The desire to become a teacher

(C) All the requisite abilities to do the job of a teacher (D) None of these

23. You are in class on the very first day of the opening session, and take introductions of the students, the primary objective of this introduction for you is

(A) To know about students' potentialities along with their family status

(B) Selection of those students who can do the school job for you

(C) Identification of potential

(D) Both (B) & (C)

24. A teacher is the leader both *de jure* and *de facto*. He is the authority before the students, and so it is his right to lead. While assuming leadership of the students, he should follow some important principles

(A) Creating right atmosphere in the class (B) Preparation and planning

(C) Providing opportunities (D) All of these

25. **Language is a**

(A) System of symbols for effective communication (B) Instinctive development

(C) Medium to express experiences (D) Medium for self enhancement

26. **To educate according to nature means**

(A) To come back to nature as opposed to mechanical life

(B) To educate in accordance with the law of nature of human development

(C) To study natural laws and apply them to the educational process

(D) All of the above

27. **With respect to the development of skills, all of the following are correct except that**

(A) Pupil of same mental age should learn at the same rate

(B) Group interaction increases the skills

(C) Group instruction facilitates the learning process

(D) Workbooks can be invaluable learning aid

28. **A teacher in the class is**

(A) A director of the group (B) The president of the group

(C) A leader and guide of the group (D) None of these

29. **_____ refers to states within a person or animal that drive behaviour towards some goal.**

(A) Competence (B) Self-actualisation (C) Motivation (D) Affiliation

30. **A child with average potential intelligence but fertile environment will achieve—**

(A) A better life (B) Everything in life (C) Nothing in life (D) An average life

Current Affairs (10 × 1 = 10)

31. **Swapan Sarkar, who passed away recently, was associated with which field?**

(A) Politics (B) Sports journalism (C) Law (D) Art

32. **The museum for all former Prime Ministers of India will be constructed in which city?**

(A) New Delhi (B) Gandhinagar (C) Lucknow (D) Kolkata

33. **The Government of India (GoI) has reduced the minimum annual deposit requirement for accounts under Sukanya Samriddhi Yojana from Rs. 1,000 to ____?**

(A) Rs 550 (B) Rs. 350 (C) Rs. 250 (D) Rs. 750

34. **The Lok Sabha has recently passed the Fugitive Economic Offenders Bill 2018 to attach & confiscate assets of defaulters. The cases involved in economic offences of how much value will come under its purview?**

(A) Rs. 500 Crore or more (B) Rs. 100 Crore or more

(C) Rs. 1000 Crore or more (D) Rs. 50 Crore or more

35. **Gopal Das Neeraj, who passed away recently, was associated with which field?**

(A) Journalism (B) Cartoon (C) Poetry (D) Sports

36. **The Reserve Bank of India (RBI) will soon issue new 100 Rupee notes with motif of which UNESCO World Heritage site?**

(A) Sanchi Stupa (B) Rani Ki Vav (C) Hampi (D) Konark

37. **Who is the author of the book "The Dhoni Touch: Unravelling the Enigma that is Mahendra Singh Dhoni"?**

(A) Nuwan Kulasekara (B) Vijaya Kumar

(C) Jagdish Singh Rajput (D) Bharat Sundaresan

38. **Which country hosted the 10th edition of BRICS Summit 2018?**

(A) South Africa (B) Brazil (C) Russia (D) China

39. **Which city to host the 106th Indian Science Congress (ISC-2019)?**

(A) Bhopal (B) Jaipur (C) Patna (D) Jalandhar

40. **The National Institute of Yoga (NIY) is located in which city?**

(A) Kolkata (B) Udaipur (C) New Delhi (D) Kanpur

Numerical and Reasoning (10 × 1 = 10)

41. **Look at this series: 7, 10, 13, 11, 25, 12, ___. What number should come next?**

(A) 42 (B) 49 (C) 43 (D) 53

42. **Which word does NOT belong with the others?**

(A) Inch (B) Ounce (C) Centimetres (D) Yard

43. **Marathon is to race as hibernation is to**

(A) Winter (B) Bear (C) Dream (D) Sleep

44. **Statement: It is desirable to put the child in school at the age of 5 or so.**

Assumptions:

I. **At that age the child reaches appropriate level of development and is ready to learn.**
II. **The schools do not admit children after six years of age.**

(A) Only assumption I is implicit (B) Only assumption II is implicit

(C) Either I or II is implicit (D) Neither I nor II is implicit

45. **A two digit number is three times the sum of its digits. If 45 is added to it, the digits are reversed. The number is**

(A) 23 (B) 32 (C) 27 (D) 72

46. **The sum of the digits of a two digit number is 12. If the new number formed by reversing the digits is greater than the original number by 54, then what will be the original number?**

(A) 93 (B) 28 (C) 48 (D) 39

47. **Three years ago the average age of A and B was 18 years. If C joins them today, the average becomes 22 years. How old is C now?**

(A) 27 (B) 24 (C) 30 (D) 28

48. **Two numbers are in the ratio 3:5. If 9 is subtracted from each of the numbers, the new numbers are in the ratio 12: 23. The smaller number is:**

(A) 27 (B) 33 (C) 49 (D) 55

49. **If 0.75 : x :: 5 : 8, then x is equal to:**

(A) 1.12 (B) 1.2 (C) 1.25 (D) 1.30

50. **A train 360 m long is running at a speed of 45 km/hr. In what time will it pass a bridge 140 m long?**

(A) 40 s (B) 45 s (C) 50 s (D) 55 s

Subject(s) Concerned (50 × 1 = 50)

51. If tan A = 3/4 then what is the value of sec A?

(A) 5/4 (B) 4/3 (C) 4/5 (D) 3/4

52. On a real line '0' (zero) is a _____ number

(A) Positive (B) Negative (C) Special (D) Standard

53. 1 Crore = _____ Million

(A) 1 (B) 10 (C) 100 (D) 1000

54. What are the two main branches of mathematics?

(A) Pure and applied mathematics (B) Algebra and geometry

(C) Real analysis and calculus (D) None of these

55. What is the value of 'L' in Roman number system?

(A) 10 (B) 40 (C) 100 (D) 50

56. If $y = 1 - \cos\theta, x = 1 - \sin\theta$ then $\frac{dy}{dx}$ at $\theta = \frac{\pi}{4}$ is

(A) -1 (B) 1 (C) $\frac{1}{2}$ (D) $\frac{1}{\sqrt{2}}$

57. Derivative of $\tan^3\theta$ w.r.t. to $\sec^2\theta$ at $\theta = \frac{\pi}{3}$ is

(A) $\frac{3}{2}$ (B) $\frac{\sqrt{3}}{2}$ (C) $\frac{1}{2}$ (D) $\frac{-\sqrt{3}}{2}$

58. If $y = \sec^{-1}\left(\frac{\sqrt{x}-1}{x+\sqrt{x}}\right) + \sin^{-1}\left(\frac{x+\sqrt{x}}{\sqrt{x}-1}\right)$ then $\frac{dy}{dx} = \cdots$

(A) x (B) $\frac{1}{x}$ (C) 1 (D) 0

59. Value of π is

(A) $\frac{22}{7}$ (B) $\frac{7}{22}$ (C) $\frac{1}{22}$ (D) $\frac{22}{3}$

60. Function $f(x) = x^2 - 3x + 4$ has minimum value at x = ...

(A) 0 (B) $\frac{-3}{2}$ (C) 1 (D) $\frac{3}{2}$

61. The equation of tangent to the curve $y = x^2 + 4x + 1$ at $(-1,-2)$ is

(A) 2x-y = 0 (B) 2x + y − 5 =0 (C) $2x - y - 1 = 0$ (D) $x + y - 1 = 0$

62. $\sin^{10}\theta + \cos^{10}\theta = \cdots$

(A) 1 (B) 0 (C) -1 (D) 2

63. $\int \frac{1}{x}\log x\, dx$ is

(A) log (logx) + C (B) $\frac{1}{2}(logx)^2 + C$ (C) $2logx + C$ (D) $logx + C$

64. $\int \frac{1}{1+\cos x}\, dx = \cdots$

(A) $\tan\frac{x}{2} + 1$ (B) $2\tan\frac{x}{2} + c$ (C) $-cot\frac{x}{2} + c$ (D) $-2\cot\frac{x}{2} + c$

65. $\int_4^9 \frac{1}{\sqrt{x}}\, dx = \cdots$

(A) 1 (B) -2 (C) 2 (D) -1

66. $1+\tan^2\theta = \cdots$

(A) $sec^2\theta$ (B) $cos^2\theta$ (C) $sin^2\theta$ (D) $cot^2\theta$

67. Order and degree of the differential equation

$\left[1 + \left(\frac{dy}{dx}\right)^3\right]^{\frac{7}{3}} = 7\frac{d^2y}{dx^2}$ are respectively

(A) 2,3 (B) 3,2 (C) 7,2 (D) 3,7

68. The differential equation of the family of curves $y = c_1e^n + c_2e^{-x}$ is .....

(A) $\frac{d^2y}{dx^2} + y = 0$ (B) $\frac{d^2y}{dx^2} - y = 0$ (C) $\frac{d^3y}{dx^3} + 1 = 0$ (D) $\frac{d^4y}{dx^4} - 1 = 0$

69. The solution of the differential equation $\frac{dy}{dx} = \sec x - y \tan x$ is

(A) y secx = tanx + C (B) y secx + tanx = C (C) sec x = y tan x + C (D) secx + y tanx = C

70. If x is a random variable with Probability Mass Function,

p (x) = kx x = 1, 2, 3

= 0 other wise , then k =?

(A) $\frac{1}{5}$ (B) $\frac{1}{4}$ (C) $\frac{1}{6}$ (D) $\frac{2}{3}$

71. The probability density function of a continuous randomvariable x is given as

$f(x) = \frac{x^2}{3}$ for $-1 < x < 2$

= 0 otherwise

then cumulative distribution function of *f(x)* is

(A) $\frac{x^2}{9} + \frac{1}{9}$ (B) $\frac{x^2}{9} - \frac{1}{9}$ (C) $\frac{x^2}{4} + \frac{1}{4}$ (D) $9x^2 + 9$

72. Given that x ~ B (n = 10, p) if E(x) = 8 find the value of P is

(A) 0.6 (B) 0.7 (C) 0.8 (D) 0.4

73. The expected value of the No. of heads obtained when three fair coins are tossed simultanously is

(A) 1 (B) 1.5 (C) 0 (D) -1

74. $\int_{-2}^{2} |x|\, dx = \cdots$

(A) 0 (B) 1 (C) 2 (D) 4

75. P(x) = $\frac{kx}{3}$, x = 1, 2, 3 is a Probability Mass Function of x then k =

(A) $\frac{1}{3}$ (B) $\frac{1}{4}$ (C) $\frac{1}{5}$ (D) $\frac{1}{2}$

76. A body performing uniform circular motion has

(A) Constant velocity (B) Constant acceleration (C) Constant x inch energy (D) Constant displacement

77. A galvanometer can be converted into a volt meter by connecting a

(A) High resistance in parallel (B) High resistance in series

(C) Low resistance in parallel (D) Low resistance in series

78. The outermost layer of the Earth's at atmosphere is

(A) Stratosphere (B) Mesosphere (C) Troposphere (D) Ionosphere

79. A transistor is

(A) a voltage device (B) a resistance (C) a current device (D) an inductive device

80. A current that does not perform any work is

(A) Peak current (B) R.M.S. current (C) Idle current (D) Eddy current

81. The value of escape velocity from Earth's surface is

(A) 11.2 km/sec (B) 15.2 km/se (C) 5.2 km/sec (D) 11.2 m/sec

82. Which of the following is a good conductor of heat but bad conductor of electricity?

(A) Iron (B) Wood (C) Silicon (D) Mica

83. The unit of luminous intensity is

(A) Hertz (B) Candela (C) Weber (D) Curie

84. In a communication system, noise is most likely to affect the signal

(A) At the transmitter (B) In the channel (C) In the information (D) At the destination

85. The energy released by the sun and other stars is due to

(A) Nuclear fission (B) Nuclear fusion (C) X-effect (D) Both (A) and (B)

86. The absolute refractive index of air is

(A) 0 (B) 0.95 (C) 1 (D) ∞

87. Hydraulic break is based on

(A) Coulomb's law (B) Bernoulli's law (C) Pascal's law (D) Archimedes' principle

88. Which of the following devices is used to measure the current in an electric circuit?

(A) Voltmeter (B) Inductor (C) Ammeter (D) Anemometer

89. Transformer works on the principles of

(A) Magnetic effect of current (B) Electric effect of current

(C) Electromagnetic induction (D) Hooke's law

90. Polarisation of light cannot be produced by

(A) Reflection (B) Double refraction (C) Dichroism (D) Diffraction

91. The forces of attraction between the molecules of same substances are due to

(A) Adhesive force (B) Gravitational force (C) Cohesive force (D) Nuclear force

92. Which of the following waves can be polarized?

(A) Transverse waves (B) Longitudinal waves

(C) Both transverse and longitudinal waves (D) None of these

93. The motion of a simple pendulum is

(A) Oscillatory but not periodic (B) Periodic but not oscillatory

(C) Neither periodic nor oscillatory (D) Periodic as well as oscillatory

94. On the mixing the salt in water, the surface tension of water will

(A) Increase (B) Remain unchanged (C) Decrease (D) Increase or decrease

95. Resonance is a special case of _____ oscillations.

(A) Natural (B) Free (C) Forced (D) Damped

96. The weight of body is maximum _____

(A) At the poles of Earth (B) At the equator of the Earth

(C) Below the surface of the earth (D) Above the surface of the Earth

97. Ampere's law is similar to

(A) Faraday's law (B) Gauss's theorem in electrostatics

(C) Joule's law (D) Kirchhoff's law

98. Two sources of light waves are called coherent if both

(A) Waves have some amplitude

(B) Produce waves of the same wavelength

(C) Produce waves of the same acceleration

(D) Produce waves of the same wavelength having a constant phase difference

99. Kirchhoff's voltage law current law are respectively in accordance with conservation of

(A) Charge and momentum (B) Charge and energy

(C) Energy and phase (D) Energy and momentum

100. A P-N junction diode cannot be used as

(A) As rectifier (B) for getting radiation of light

(C) For amplifying an AC signal (D) As a detector of light intensity