Admission Test

SECTION I
ENGLISH (QUESTION 1-25)

Choose one of the options that is Synonymous to the word given.(1-5)

1. ABLUTION
   a) Censure
   b) Forgiveness
   c) Survival
   d) Washing

2. COHESION
   a) Independence
   b) Sticking together
   c) Shift
   d) Climbing

3. ABORTIVE
   a) Unsuccessful
   b) Consuming
   c) Familiar
   d) Fruitful

4. SATIRE
   a) Celebrate
   b) Permeate
   c) Rumour
   d) Sarcasm

5. PSEUDO
   a) False
   b) First
   c) Forward
   d) Favor

Choose one of the options that is Antonymous to the word given in capital. (6-10)

6. AFFECTED
   a) Weary
   b) Unfeigned
   c) Slow
   d) Unfriendly

7. AMBIGOUS
   a) Responsible
   b) Clear
   c) Corresponding
   d) Auxiliary

8. AUTONOMY
   a) Submissive
   b) Dependence
   c) Subordination
   d) Slavery
9. SHALLOW
   a) Deep
   b) High
   c) Hidden
   d) Hollow

10. SYNTHETIC
    a) Cosmetic
    b) Plastic
    c) Affordable
    d) Nature

Analogy questions. (11-15)
A is the defining characteristic of B

11. CONDEMNATION : DISAPPROVAL
    a) Ignorance: patience
    b) Optimism: insight
    c) Sorrow: intention
    d) Humor: comedian

12. “A” follows B in sequence (in a matter of cause effect relationship) “B”
    REHEARSAL: PERFORMANCE
    a) Stumble: Fall
    b) Engagement: Marriage
    c) Antidote: illness
    d) Convict: sentence

13. “A” is the tool used for “B”
    SCALPEL: SURGEON
    a) Pen: Reader
    b) Bed: Patient
    c) Auto: Soldier
    d) Bow: Violinist

14. “A” is the mirror image of “B”
    RETIEMENT: SERVICE
    a) Employment: service
    b) Arrangement: flower
    c) Contract: Agreement
    d) Graduation: Studies

15. “A” is the place where one would find “B”
    PROFESSOR: CLASSROOM
    a) Umpire: Playing ground
    b) Carpenter: cabinet
    c) Judge: Courtroom
    d) Farmer: Field

Complete the sentences. (Questions 16-25)

16. I insisted --------------my fee paid.
    a) to have
    b) on having
17. I am intent ----------------
   a) to win
   b) of winning
   c) on winning
   d) for winning

18. The child -----------------crying for three hours.
   a) is
   b) has
   c) has been
   d) have been

19. We have ------------trust in you.
   a) Perfect
   b) Entire
   c) imperative
   d) absolute

20. He ------------our help
   a) Resents
   b) Recants
   c) Remove
   d) Resign

21. He is ------------for Promotion.
   a) Illegible
   b) Legible
   c) eligible
   d) in eligible

22. He --------get up early
   a) used
   b) used to
   c) is used to
   d) was used to be

23. We congratulate him ------------
   a) on his success
   b) for his success
   c) at his success
   d) in his success

24. I will meet him when he ----
   a) will come
   b) had come
   c) would have come
   d) comes

25. We will do our work ------------
   a) Latter
   b) Later
   c) Long
   d) After
SECTION II
MATHEMATICS (QUESTION 26-50)

26. If $3(p+5q)=24$, then what is the value of $q$, when $p=3$?
   a. 1   b. 5   c. 9
   d. 3   e. 7

27. A number which is divisible by both 6 and 8 is also divisible by:
   a. 7   b. 5   c. 
   d. 9   e. 24

28. If $x = -3$ and $y = -1$, then $3x^2 - 2y =
   a. 25   b. -25   c. -29
   d. 29   e. 83

29. $\frac{10}{8}$ is same as:
   a. 0.075   b. 0.0075   c. 0.75
   d. 0.1333   e. 0.0133

30. When -6 is added to -6, the sum is:
   a. +12   b. -12   c. +36
   d. -36   e. 0

31. What is the sum of 0.629, 4.3, and 2?
   a. 6.929   b. 6.74   c. 0.1259
   d. 12.59   e. 21.56

32. Of the 20 people who won prize money, 7 have come forward to claim their winnings. What percent of the people have not yet appeared?
   a. 35%   b. 20%   c. 65%
   d. 70%   e. 42%

33. The sum of five odd numbers is always:
   a. even   b. divisible by five   c. divisible by three
   d. a prime number   e. none of these

34. If it is now March, what month will be after the 100 months from now?
   a. March   b. April   c. July
   d. August   e. September

35. If $3x+9=18$, what is the value of $x+3$?
   a. 3   b. 6   c. -3
   d. 36   e. 30

36. If $6 - a > 7$, then
   a. $a > 1$   b. $a > -1$   c. $a < -1$
   d. $a < 1$   e. $a \leq 1$

37. In a certain class, if there are 35 men and 63 women, then the ratio of men to women is:
   a. $\frac{7}{20}$   b. $\frac{3}{7}$   c. $\frac{5}{9}$
   d. $\frac{5}{7}$   e. $\frac{7}{9}$

38. If $x = 3$ and $y = -3$, what is the value of $(3+x) (3-y)$?
   a. -36   b. -12   c. 0
39. If \( y = 2x - 1 \), what is the value of \( x \) in terms of \( y \)?
   a. \( \frac{y}{2} - 1 \)  
   b. \( \frac{y - 1}{2} \)  
   c. \( \frac{y + 1}{2} \)  
   d. \( \frac{2x + 2}{y} \)  
   e. \( \frac{y + 2}{x} \)

40. \( \frac{2 \times 2 \times 2 \times 2 \times 2}{2 + 2 + 2 + 2 + 2} \)
   a. 1  
   b. 2  
   c. 4  
   d. 8  
   e. 16

41. Which of the following is a multiple of both 7 and 13?
   a. 52  
   b. 65  
   c. 77  
   d. 156  
   e. 182

42. \( 3 \times \frac{2}{5} = \)
   a. \( \frac{6}{5} \)  
   b. 1  
   c. 3  
   d. 6  
   e. 6 \( \frac{2}{5} \)

43. If \( x \) equals 25 percent of a number, then 125 percent of the number is
   a. \( \frac{x}{4} \)  
   b. \( \frac{x}{4} \)  
   c. 1.25\( x \)  
   d. 4\( x \)  
   e. 5\( x \)

44. If the value of a certain fraction is equal to 0.4 and the denominator of the fraction is 15, then the numerator of the fraction is
   a. 6  
   b. 8  
   c. 9  
   d. 12  
   e. 37.5

45. How many of the positive integers less than 25 are 2 less than an integer multiple of 4?
   a. Two  
   b. Three  
   c. Four  
   d. Five  
   e. Six

46. \( (3 \times 100) + (4 \times 1) + (5 \times 1,000) + (6 \times 10) = \)
   a. 3,456  
   b. 3,564  
   c. 4,635  
   d. 5,346  
   e. 5,364

47. Of the following, which is the most nearly equal to \( \frac{3}{5} \)?
   a. \( \frac{4}{5} \)  
   b. \( \frac{6}{5} \)  
   c. \( \frac{7}{5} \)  
   d. \( \frac{11}{15} \)  
   e. \( \frac{19}{21} \)

48. A secretary typed 6 letters, each of which had either 1 or 2 pages. If the secretary typed 10 pages in all, how many of the letters had 2 pages?
   a. 1  
   b. 2  
   c. 3  
   d. 4  
   e. 5

49. A train travels 60 miles per hour for 3 hours and then 45 miles per hour for 2 hours. What is the train’s average speed in miles per hour during the 5 hour period?
   a. 55  
   b. 54  
   c. 52  
   d. 51  
   e. 50

50. What is the area of a circular region that has circumference \( 8\pi \)?
   a. \( 4\pi \)  
   b. \( 8\pi \)  
   c. \( 16\pi \)
d. $32\pi$  
e. $64\pi$
SECTION III
Subject based (QUESTION 50-100)

51. The resultant of a 3-newton and a 4-newton force which act on an object in opposite
directions to each other is, in Newton:
   a. 0  b. 1  c. 5  d. 7  e. 12

52. Light passes through two parallel slits and falls on a screen. The pattern produced
   is due to interference and
   a. Reflection  b. Refraction  c. Polarization  d. diffraction  e. absorption

53. A change of temperature of 50°C is equivalent to a temperature change of
   a. 323 K  b. 273 K  c. –273 K  d. 50 K  e. 100K

54. The amplitude of a sound wave is detected as its:
   a. wavelength  b. frequency  c. pitch  d. resonance  e. loudness

55. The velocity of light in a medium depends on its frequency, the medium is said to be:
   a. coherent  b. refractive  c. dispersive  d. diffractive  e. resonant

56. A handball is tossed vertically upward with a velocity of 19.6 meters per second.
   Approximately how high will it rise?
   a. 15 m  b. 20 m  c. 25 m  d. 30 m  e. 60 m

57. As the temperature of a solid increases, its specific heat:
   a. increases  b. decreases  c. increases, then decreases  d. decreases, then increases  e. remains the same

58. Radiation is the chief method of energy transfer
   a. from the sun to the earth  b. from a gas flame to a water  
   c. from a soldering iron to metals being soldered  d. from water to an ice  
   e. from a mammal to surrounding air

59. The work done to a system is characterized as:
   a. positive  b. negative  c. either positive or negative  d. indeterminate  e. of no consequence

60. Dark, rough objects generally good for:
   a. conduction  b. radiation  c. convection  d. reflection  e. refraction

61. How many milligrams are in 0.2 decigrams?
   a. 20 milligrams  b. 2000 milligrams  c. 0.002 milligram  d. 0.00002 milligram

62. How many valence electrons does an oxygen atom have?
   a. 2  b. 6  c. 8  d. 16
63. The identity of an element is determined by...
   a. the number of its protons.
   b. the number of its neutrons.
   c. the number of its electrons.
   d. its atomic mass.

64. Which of the following is the correct electron-dot formula for water?

   (a) \[ H\overset{\cdot}{O}\cdot \]  
   (b) \[ \overset{\cdot}{H}\overset{\cdot}{O}\cdot \]  
   (c) \[ H\overset{\cdot}{O}\cdot \]  
   (d) \[ H\overset{\cdot}{O}\cdot \]  

65. Which of the following represents the correct formula for aluminum oxide?
   (a) \( AlO \)
   (b) \( Al_2O_3 \)
   (c) \( AlO_2 \)
   (d) \( Al_2O \)

66. Which of the bonds, shown by the dash, has the greatest polarity?
   (a) \( H-Cl \)
   (b) \( H-NH_2 \)
   (c) \( H-OH \)
   (d) \( H-SH \)

67. What is the major attraction between water molecules in the solid physical state?
   (a) dipole-dipole interactions
   (b) Electrostatic interactions between charged atoms
   (c) hydrogen-bonds
   (d) Physical entanglement of the molecules

68. Which of the following is the correct name for \( NaHCO_3 \)?
   (a) Sodium hydrogen carbonate
   (b) Sodium acetate
   (c) Nitrogen hydrogen carbonate
   (d) Sodium hydrogen carbon trioxide

69. In which of the following compounds does ionic bonding predominate?
   (a) \( NH_4Cl \)
   (b) \( CO_2 \)
   (c) \( CH_4 \)
   (d) \( LiBr \)

70. Which of the following elements has the greatest electro negativity?
   (a) Si
   (b) P
   (c) N
   (d) O

71. Matter has ____________.
   (a) no mass but occupies space
   (b) mass but occupies no space
   (c) mass and occupies space
   (d) no mass and occupies no space
72. In gases, particles vibrate _________.
   (a) About their mean position
   (b) About a vertical axis
   (c) About a horizontal axis
   (d) In any direction

73. A property not possessed by a fluid is _________.
   (a) It can flow
   (b) It has mass
   (c) It has a definite shape
   (d) Can be perceived by our senses

74: A solid that sublimes on heating is _________.
   (a) Sodium chloride
   (b) Copper sulphate
   (c) Lead sulphate
   (d) Ammonium chloride

75. Temperature is a measure of:
   (a) Total kinetic energy of molecules
   (b) Total potential energy of molecules
   (c) Average potential energy of molecules
   (d) Average kinetic energy of molecules

76. A natural phenomenon that becomes harmful due to pollution is _____________.
   (a) global warming
   (b) ecological balance
   (c) greenhouse effect
   (d) desertification

77. The pollutant responsible for ozone holes is _____________.
   (a) CO2
   (b) SO2
   (c) CO
   (d) CFC

78. One of the best solutions to get rid of non-biodegradable wastes is-----------------
   (a). burning
   (b). dumping
   (c). burying
   (d). recycling

79. Animal dung is _________________ waste.
   (a) Biodegradable
   (b) non-biodegradable
   (c) hazardous
   (d) toxic

80. Which of the following is biodegradable?
   (a). iron nails
   (b). plastic mugs
(c) leather belts  
(d). silver foil  
81. In a lake polluted with pesticides, which one of the following will contain the maximum amount of pesticides?  
(a). small fish  
(b) microscopic animals  
(c). big fish  
(d). water birds  
82. Which of the following is not a major greenhouse gas?  
   a).  Methane  
   b).  Carbon Dioxide  
   c).  Water vapor  
   (d)  Calcium Carbonate  
83. An increase in the atmospheric level of automobile exhaust gases does not lead to-  
   (a) Pb Pollution  
   (b) O2 Pollution  
   (c) Particulate air pollution  
   (d) O3 Pollution  
84-Among the following environmental pollutants has the problem of biomagnifications-  
   (a)  SO2  
   (b)  NO3  
   (c)  Hg fungicides  
   (d)  O3 & CO2  
85. The compound mainly responsible for pollution which caused the ill famed Bhopal gas tragedy was-  
   (a)  NH4OH  
   (b)  CH3NCO  
   (c)  CH3NH2O  
   (d)  CHCl3  
86- Eutrophication of water bodies resulting to killing of fishes is mainly due to-  
   (a)  Non-availability of food  
   (b)  Non-availability of light  
   (c)  Non-availability of oxygen  
   (d)  Non-availability of essential minerals  
87. The pyramid of biomass will be inverted in the ecosystem of-  
   (a)  Forests  
   (b)  Ponds  
   (c)  Grasslands  
   (d)  Dry lands  
88. UV radiations is injurious to plants because it-  
   (a)  Break phosphate bonds  
   (b)  Increases respiration  
   (c)  Causes dehydration  
   (d)  Causes genetic changes  
89- The most stable ecosystem could be-  
   (a)  Ponds  
   (b)  Oceans
90- Pollution of big cities can be controlled to large extent by-
(a) Wide roads and factories away from city
(b) Cleanliness drive and proper use of pesticides
(c) Proper sewage and proper exit of chemicals from factories
(d) All of the above

91- “Green house effect” with respect to global warming refers to-
(a) Cooling & moist condition
(b) Warming effect
(c) Increased rainfall & greenery
(d) Desertification

92. The combination of which of the following soils is best for plant growth
(a) Clay, sand & gravel
(b) Humus, clay & gravel
(c) Sand, humus & gravel
(d) Humus, sand & clay

93 - Which of the following does not belong to the group formed by the other trees?
(a) Mango
(b) Coconut
(c) Tamarind
(d) Neem

94- In spring which of the following occurs?
(a) The days are longer & nights are shorter
(b) The nights are longer & days are shorter
(c) Days and nights are of almost equal duration
(d) None of the above

95- Which of the following plays an important role in the cause of rainfall
(a) Evaporation
(b) Condensation
(c) Both evaporation & condensation
(d) Filtration

96- A human body consists of ________ number of bones
(a) 205
(b) 206
(c) 207
(d) 208

97 Sanjay has a sugar cube in her mouth, in which part of his tongue, will the cube be sweetest?
(a) Front
(b) Middle
(c) Rear
(d) Sides

98- The mosquito repellent (coils, mats and liquids) that we generally use in our homes are:
(a) Pesticides
(b) Fertilizers
(c) Sedatives
(d) Insecticides

99- Cows have strong grinding teeth at the back of the mouth, but they cannot eat the flesh of
the other animals. This is because:
(a) They do not need to eat the flesh
(b) They don’t have strong grinding teeth at the front
(c) They don’t have long sharp pointed teeth
(d) They dislike eating flesh

100- During summer the earth is
(a) Closer to the sun
(b) Away from the sun
(c) Closer to the moon
(d) Away from the moon