NATIONAL INFOTECH Sec. SCHOOL

+2 ENTRANCE EXAM -2078

SET – II

TIME: 2:15 Hrs.

FM: 100

Attempt all the question

PHYSICS

1. Newtons law of gravitation gives
   a. Direction of force of gravitation
   b. Magnitude of force is gravitation
   c. Both direction and magnitude of force of gravitation
   d. None
2. Acceleration of a free falling body on the moon is
   a. $1.67 m/s^2$ b. $9.8 m/s^2$ c. $25 m/s^2$ d. $8.9 m/s^2$
3. The value of acceleration due to gravity on the pole of earth is
   a. $10 m/s^2$ b. $9.8 m/s^2$ c. $9.78 m/s^2$ d. $9.83 m/s^2$
4. A floating body can displace the liquid
   a. Equal to its mass c. more than its mass
   b. Equal to its weight d. more than its weight
5. Hydrometer measures
   a. Density of a solid c. Relative density of solid
   b. Relative density of a liquid d. Density of a liquid
6. A body of density 800 kg/m^3 is kept on water. Find out its percentage part remains outside the liquid.
   a. 40 % b. 60% c. 70 % d. 80%
7. Atom bomb is based on
   a. Nuclear fusion c. Thermochemical reaction
   b. Nuclear fission d. Photochemical reaction
8. Ultimate source of energy on the earth surface is
   a. Sun c. Chemical reaction
   b. Nuclear fission d. Hydroelectricity
9. Energy crisis stands for
   a. Sufficient amount of energy
   b. More dependency on renewable source of energy
   c. Scarcity of usable source of energy
   d. All of the above
10. Freezing point of water in Kelvin scale

    a. 0 b. 173 c. 273 d. 373

11. What amount of heat energy is required to boil 1.5 kg of water at 20^0C?

    a. 504 J b. 5.04×10^5 J c. 50400 J d. 50 KJ

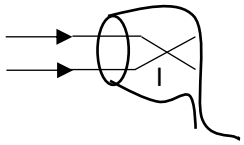
12. 1g of water at 14.5^0C absorbs 4.18J of heat energy . What will be its final temperature?

    a. 15.5^0 C b. 18.68^0C c. 13.5^o C d. 20^oC

13. Convex lens forms
    a. Only real image c. Both real and virtual image
    b. Only virtual image d. none
14. Find out the focal length of a lens to form image at the distance of 15cm of an object placed at 20cm.
    a. 8.5cm and -60cm c. -8.5cm and 60 cm

b. 8.5 cm and 60cm d. -8.5 cm and -60 cm

15. Name the defect as vision shown in figure



a. Myopia c. Presbyopia
b. Hypermetropia d. Astigmatism

16. Which one of the following relation of power is wrong
a. $P = VI$ b. $P = V^2/R$ c. $P = I^2R$ d. $P = I^2/R$
17. Fuse wire must have
a. High resistance and High melting point
b. High resistance and Low melting point
c. low resistance and High melting point
d. Low resistance and low melting point
18. A person wants to run a radio of 12V in the supply of 220V . Which type of transformer to be taken by him?
a. Step – up transformer c. Either step -up or, step – down transfer
b. Step – down transformer d. None
19. A bird can't get electric shock even sitting on wire of high voltage supply
a. Its legs have non-conductor
b. Its whole body is insulator
c. While sitting on a wire circuit is not being completed
d. None
20. What will be total amount of electric energy consumed by an electric appliance rated 100W/220V in 24 hours?
a. 1.4 unit b. 4.4 unit c. 3.3 unit d. 2.4 unit

CHEMISTRY

21. Who is regarded as a father of periodic table?
a. Moseley b. Mendeleev c. Newland d. Dobereiner
22. An element belongs to the 4^{th} Period it means
a. It has 4 orbit c. It has 4 orbital
b. It has 4 valence d. It has 4 conc electron
23. Electronic configuration of an element is $1s^2, 2s^2 2p^6, 3s^2 3p^5$, Its position in modern periodic table is
a. P- Block, VII A group, 3 – period
b. P – Block, VII B group, 3 –Period
c. P – Block, V A group, 2 – Period
d. P – Block, V B group, 3 – Period
24. Metallic properties in a group
a. Increases as move from top to bottom
b. Decreases as move from top to bottom
c. First increases then decreases as move from top to bottom
d. First decreases then increases as move from top to bottom
25. Heat energy supplied to a chemical reaction is used for
a. To break the chemical bond of reactants
b. To break the chemical bonds of products
c. To form chemical bonds of reactants
d. To form chemical bonds of products

26. What amount of 'mg' is required to form 10g of MgO?

a. 4g b. 6g c. 8g d.10g

27. P^H value of human stomach is

a. Equal to 7 b. more than 7

b. less than 7 d. may be equal or more than 7

28. Which one of the following compound can be used as an antacid?

a. NaOH b. $Ca(OH)_2$ c. $Mg(OH)_2$ d. HCl

29. Which one of the following salt can be used to repair fractured bone?

a. $ZnSO_4$ b. $CaSO_4$ c. $ZnCl_2$ d. $CaCl_2$

30. Butane has ……isomer

a. 1 b. 2 c. 3 d. 4

31. Which one of the following is trihydroxy alcohol?

a. Methyl alcohol b. Ethyl alcohol c. Glycol d. Glycerol

32. There is no effect of heat to the thermosetting plastic because it has

a. cross bond c. electro- valent bond

b. co – valent bond d. H – bond

33. Glucose is a type of

a. hexose sugar b. aldose sugar c. dextrose d. All of them

34. Compounds of a homologous series have

a. same functional group

b. difference between two consecutive member is of $-CH_2$

c. different Physical properties

d. all of them

35. $CaCO_3$ is added in ordinary glass to make it

a. soluble b. Insoluble c. Transparent d. Opaque

36. Polythene is a polymer of

a. methane b. ethane c. propene d. ethene

37. Pure white clay is called

a. plastic b. fibre c. cement d. kaolin

38. Halogens are kept in group

a. IV A b. V A c. VI A d. VII A

39. Chemical properties of an organic compound is determine by

a. molecular mass c. chemical bomd

b. molecular formula d. functional group

40. Saturated hydrocarbon always undergoes

a. addition reactions
c. decomposition reaction
b. displacement reaction
d. all of the above

BIOLOGY

41. Mendel did his experiment on
    a. Garden pea plant
    b. Sweet pea plant
    c. Bean plant
    d. Leguminous plants
42. Monohybrid ratio is
    a. 3:1 b. 2:1 c. 4:1 d. 5:3
43. Gen typically how many types of plants is obtained by Mendel in F_2 generation of monohybrid cross?
    a. 1 b. 2 c. 3 d. 4
44. A person having genotype (44+xxy). It means he is suffering from
    a. Tumor's syndrome
    b. Down's syndrome
    c. Klinefelter's syndrome
    d. all of the above
45. Longitudinal binary fission is more common in ……
    a. Paramecium *b. Euglena* *c. Amoeba* *d. Planaria*
46. Which one of the following the rule of nomenclature?
    a. magnifera indica
    b. Magnifera indica
    c. Magnifera indica
    d. magnifera indica
47. Vein which carries oxygenated blood is
    a. Pulmonary vein
    b. Hepatic vein
    c. Renal Vein
    d. Pancreatic
48. The muscular wall present between both ventricle is called
    a. Interventricular septum
    b. Interradicular septum
    c. Interauricular sulcus
    d. Interauricular sulcus
49. Pollens grains are
    a. Male gametes
    b. Female gametes
    c. Carrier of female gametes
    d. Carrier of male gametes
50. Gout is a disease because

a. sugar b. blood pressure c. uric acid d. protein

51. The number of cranial and spinal nerves in human being are

a. 12 pairs and 31 pairs
c. 10 pairs and 31 pairs
b. 12 pairs and 33 pairs
d. 10 pairs and 33 pairs

52. Center of intelligence is

a. cerebrum b. cerebellum c. medulla obligate d. pons

53. Which one of the following gland is called gland of emergency

a. Pituitary gland
c. Pancreas

b. Thyroid gland d. Adrenal gland

54. Swarming of honey bee means

a. shifting of bee hive c. flight for copulation

b. separation of members of hive d. formation of honey

55. We obtain silk from silk worm in

a. egg stage b. larval stage c. pupa stage d. adult stage

56. Worker bee is

a. sterile female b. sterile male c. fertile female d. fertile male

57. Blood pressure of a person is reported is 130/90 mm Hg it means

a. systolic blood pressure is 130 mm Hg c. Diastolic blood pressure is 130 mm Hg

b. systolic blood pressure is 90 mm Hg d. None of the above

58. Androecium is a

a. Male component of flower c. Both male and Female

b. Female component of flower d. None

59. Dorsal root contains

a. sensory nerve b. motor nerve c. mixed nerve d. all of the above

60. Axom carries nerve impulse

a. away from cell body c. . both direction

b. towards the cell body d. none

ENGLISH

Select the best options.

61. She has ……. ewe

a. a b. an c. the d.no article

62. She always travels by plan ……. she is poor

a. because b. although c. in spite of d. as

63. The …… have caught the thieves

a. police b. man c. policeman d. both a and c

64. Bread and butter …….. their daily food

a. is b. are c. was d. were

65. …….your french …….. better?

a. Does, get b. Is , got c. Is , getting d. Does, gets

66. Get it …….

a. Do b. to done c. had done d. done

67. If I had time, I ……. to the concert

a. Will go
b. Would have gone
c. would go
d. went

68. They are ……..
a. badly beating
b. beating badly
c. badly beaten
d. had been beaten badly

69. She asked me where ……. going
a. Was he
b. is he
c. was
d. he was

70. Ask him how much …….
a. did it cost
b. cost it
c. it costs
d. it costed

71. He has given up…….
a. smoke
b. smoking
c. to smoke
d. being smoked

72. The more you take exercise , ……. you become
a. the more healthy
b. the most healthy
c. the most healthy
d. healthy

73. My wife has worked in this clinic ……. 2002
a. from
b. since
c. in
d. on

74. Come here …….?
a. doesn't you
b. do you ?
c. won't you ?
d. will you ?

75. The word | Kə – ri – kyə – ləm| is correctly spelt
a. curriculum
b. curriculam
c. Kuriculum
d. Kuricullum

76. Look! A ……. of children is coming
a. torrent
b. troop
c. string
d. swarm

77. A person who is hard to please
a. taciturn
b. stubborn
c. fastidious
d. epicure

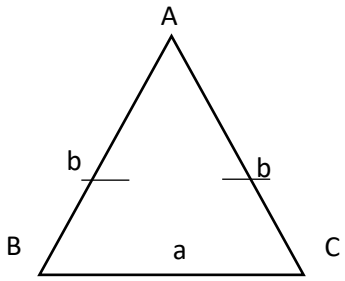
78. The opposite of "decrease" is
a. perish
b. vanish
c. fade
d. flourish

79. The company is going ……. a new brand of sanitizer.
a. to drag in
b. to drag up
c.to drag on
d. to draw in

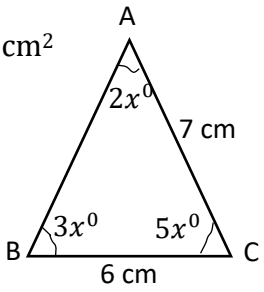
80. The underlined word "eatable" in the sentence" It's Eatable" belongs to the following word class
a. noun
b. verb
c. Adjective
d. none

MATHS

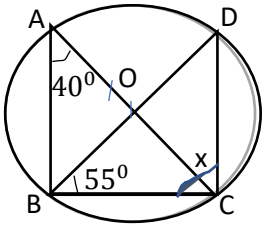
81. If A is a subset of B, which one of the following relation is always true?
    a. $A \cap B = A$ b. $A \cap A = \emptyset$ c. $A \cup U = U$ d. $A \cup \emptyset = \emptyset$
82. If the discount amount given in an item is 50% of its selling price , then the actual rate of discount is
    a. $16\frac{2}{3}\%$ b. $33\frac{1}{2}\%$ c. 45% d. $40\frac{1}{2}\%$
83. If the principal and rate are same in value and time duration is one year then the relation between S.I. and C.I. is
    a. $S.I. < C.I.$ b. $S.I > C.I$ c. $C.I = 2S.I$ d. $S.I = C.I$
84. In adjoining figure, area of ΔABC is
    a. $\frac{b}{4}\sqrt{4a^2 - b^2}$ c. $\frac{b}{2}\sqrt{4a^2 - b^2}$
    b. $\frac{a}{4}\sqrt{4b^2 - a^2}$ d. $\frac{a}{2}\sqrt{4b^2 - a^2}$



85. What is the rationalizing factor of $\sqrt[4]{2}$?
    a. $\sqrt[4]{2}$ b. $\sqrt[4]{4}$ c. $\sqrt[4]{8}$ d. $\sqrt[4]{16}$
86. If $2^a 3^b 5^c = 4500$, then what will be value of a+b+c is
    a. 5 b. 6 c. 7 d. 8
87. A two-digit number is four times the sum and three times the product of its digits, then the number is
    a. 24 b.42 c. 15 d. 51
88. In adjoining figure, the area of ΔABC
    a. $22cm^2$ b. $21\ m^2$ c. $21\ cm^2$ d.$42\ cm^2$



89. For any event A, $P(\bar{A})$ is equal to
    a. -P(A) b. 1 – P(A)
    c. P(A) -1 d. P(A)
90. In the adjoining figure, Find the value of unknown angle
    a. 85^0 b. 95^0
    c. 105^0 d. 75^0



91.If order of matrix A is (x+1) X (y+1) and order of matrix B is (x+2) X y. If AB and BA both are defined then values of x and y are.
    a. 0 and 1 b. 1 and 0 c. 2 and 1 d. 1 and 2
92.If $3\ sec\theta = 4\cos\theta$ then the value of $\theta\ is$
    a. 30^0 b. 60^0 c. 45^0 d. 90^0

93. For what value of k, the line joining $Kx - 3y + 6 = 0$ is perpendicular to the line joining (4 , 3) and (5, -3)?

a. $1/6$ b. $1/4$ c. $1/2$ d. $1/3$

94. If $S_n = n^2 + n \; then \; t_5 \; is$

a. 10 b. 30 c. 20 d. 40

95. If $\left(\vec{x} + \vec{y}\right)^2 = \left(\vec{x} - \vec{Y}\right)^2$ then the vectors $\vec{x} \; and \; \vec{y} \; are$

a. parallel b . perpendicular c. Coincident d. all of the above

96. If $f(4x + 5) = 12x + 18, then \; f^{-1}(x) \; is$

a. $\frac{x-3}{3}$ b . $\frac{x+3}{3}$ c. $\frac{3}{x+3}$ d. $\frac{3}{x-3}$

97. If $Tan\left(\frac{\alpha}{3}\right) = \sqrt{3}$, then the value of $Tan\alpha$

a. -1 b. 0 c. 1 d. $\sqrt{3}$

98. A matrix associated to the reflection in x – axis is

a. $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ b. $\begin{pmatrix} 1 & 1 \\ 0 & -1 \end{pmatrix}$ c. $\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$ d. $\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}$

99. Under which of the following conditions the inverse of the function is possible?

a. one to one b. onto

c. one to one and onto d. None of these

100. If the intersection plane is parallel to the base of cone then what conic does it form?

a. Circle b. Parabola c. Hyperbola d. Ellipse

GOOD LUCK