SAMPLE QUESTION

Class : VIII

PHYSICS + CHEMISTRY + BIOLOGY + MATHS

PHYSICS

1. Light is :
   A) an electromagnetic radiation B) Mechanical wave
   C) Longitudinal wave D) All of these
2. The speed of light in vaccum is :
   A) 3×10^{10}m/s B) 3×10^{6} m/s C) 3×19^{-8} m/s D) 3×10^{8} m/s
3. When a ray of light strikes a surface normally then the angle of incidence is :
   A) greater B) less C) zero D) None of these
4. When a ray of light falls on an object it may be :
   A) Absorbed B) Transmitted C) Reflected D) All of them
5. Light shows :
   A) Random propagation B) Curvilinear propagation
   C) Rectilinear propagation D) Spherical propagation
6. Wood is an example of :
   A) Transparent B) Translucent C) Luminous source D) Opaque
7. At what angle two plane mirrors should be placed to form 5 images of an object :
   A) 20^{o} B) 30^{o} C) 40^{o} D) 60^{o}
8. If the angle of incidence is 60^{o}, then the angle of reflection will be :
   A) 30^{o} B) 60^{o} C) 120^{o} D) 90^{o}
9. Which of the following always produces a virtual image small in size than the object :
   A) Plane mirror B) concave mirror C) convex mirror D) pinhole camera
10. What should be the minimum height of a plane mirror to get a full image of a man whose height is h ?
    A) h B) 2h C) h/2 D) h/4
11. A mirror having a very wide field of view must be :
    A) concave B) convex C) plane D) plano concave
12. What is the position of an object placed 15 cm away from a concave mirror of the radius of curvature 20cm?
    A) At centre of curvature B) between centre of curvature and focus
    C) beyond centre of curvature D) between pole and principle focus
13. A person standing in front of a mirror finds his image smaller than himself and erect. This implies the mirror is :
    A) plane B) concave C) convex D) plano concave
14. At the time of sun set, the sun seems to be :
    A) lower than its actual position B) at its actual position
    C) higher than its actual position D) None of these
15. Velocity of light in vacuum is 3×10^{8} m/s. What will be its velocity in a medium of refractive index 1.5?
    A) 1.5×10^{8} m/s B) 4.5×10^{8} m/s C) 2×10^{8} m/s D) 3×10^{8} m/s

CHEMISTRY

16. The most inferior and the most superior quality of coal are
    A) Peat and Lignite B) Anthracite and Bituminous
    C) Peat and Bituminous D) Peat and Anthracite
17. Bitumen is used in
    A) electric generators B) road surfacing C) coal tar D) natural gas
18. Which of the following is not a fossil fuel?
    A) Oil B) Geothermal C) Natural gas D) Coal
19. Naphthalene balls are obtained from
    A) Carbon B) Coke C) Coal tar D) Coal gas
20. Approximate composition of gasoline?
    A) $C_9 - C_{11}$ B) $C_7 - C_9$ C) $C_{11} - C_{16}$ D) $C_{11} - C_{14}$
21. Which is used as a solvent for dry cleaning
    A) Petrol B) Petroleum ether C) Asphalt D) Petroleum coke
22. Hydrogen gas obtained from natural gas is used in
    A) Motor fuel B) Fertilizers C) Paints D) Stoves
23. Which of them is used in extraction of metals?
    A) Coke B) Coal gas C) Coal tar D) Petroleum
24. Which of the following has lower ignition temperature?
    A) Wood B) Paper C) Vegetable oil D) Keroscene oil
25. Coal is ..... in nature.
    A) soft B) hard C) thin D) hot
26. Which gas is obtained during the processing of coal?
    A) Carbon dioxide B) Coal gas C) Carbon monoxide D) Sulphur dioxide
27. Match the following.

i) Residual oil	a) better fuel than coal
ii) Paraffin wax	b) obtained by primary distillation
iii) Lubricating oil	c) boiling range is 623K to 673K
iv) Fuel oil	d) obtained by fractionation of residual oil

    A) i - b; ii - c; iii - d; iv - a B) i - b; ii - d; iii - c; iv - a
    C) i - c; ii - b; iii - d; iv - a D) i - c; ii - d; iii - b; iv - a
28. The molecular formulae of ethyl mercaptan is
    A) C_2H_6SH B) C_2H_5SH C) C_2H_3SH D) CH_5SH
29. $CH_4 + H_2O \xrightarrow[N_i]{900^oC} X \rightarrow Y$; where x, y are
    A) $CO_2 + H_2$ B) $CO + H_2O$ C) $CO + H_2$ D) $C + H_2$
30. Which of the following is not the product of destructive distillation of coal?
    A) Coke B) Coal gas C) Ammonial liquor D) Producer gas

BIOLOGY

31. The structural and functional unit of all organisms are called :
    A) DNA B) Cell C) Tissue D) Embryo
32. Who did discover a living cell firstly :
    A) Robert Hooke B) Antony von Leeuwenhoek
    C) Theodor Schwann D) M.J. Schleiden

33. Cell theory was proposed by :
A) Theodar Schwann and Rudolph Virchow B) M.J. Schleiden and Rudolph Vrichow
C) Theodar Schwann and M. J. Schleiden D) Purkinje and Theodar Schwann

34. The book "Micrographia" written by :
A) Robert Hooke B) Antony van Leeuwenhoek
C) M. J. Schleiden D) Theodar Schwann

35. The smallest knowing cell is :
A) Bacteria B) Virus C) Micoplasma D) Nerve cell

36. The essential part of a cell are :
A) Plasma membrane and cytoplasm
B) Cytoplasm, plasma membrane and cell wall
C) Mitochondria, Golgibodies, vacuoles and Nucleus
D) Plasma membrane, cytoplasm and Nucleus

37. The fluid mosaic model of plasma membrane proposed by :
A) Singer & Nicolson B) Robertson and Grendel
C) Nageli and Nicolson D) Danielli and Davson

38. The cytoplasmic connection between adjacent cell is :
A) Plasmamembrane B) Plasmalemma C) Plasmodesmata D) Plasma protein

39. The cementing layer in between adjacent cell is :
A) Primary wall B) Middle lamella C) Secondary wall D) Lipid bilayer

40. Protoplasm is :
A) Plasma membrane and nucleus only
B) Plasma membrane and cytoplasm only
C) Cytoplasm and nucleus and plasma membrane
D) Cytoplasm except ribosomes

41. Ribosomes are attached to the surface of :
A) Rough endoplasmic reticulum B) Smooth endoplasmic reticulum
C) Both rough and smooth endoplasmic reticulum D) Mitochondria

42. Protein synthesis occurs in :
A) smooth endoplasmic reticulum B) Rough endoplasmic reticulum
C) Lysosome D) Golgi apparatus

43. Golgi apparatus were discovered by :
A) Camillo Golgi B) Christian de Duve C) Kolliker D) George Palade

44. Lysosome was discovered by :
A) Calmillo Golgi B) Christian de Duve C) Kolliker D) George Palade

45. Which one is popularly known as "Palade Particles"?
A) Golgi bodies B) Ribosomes C) Lysosome D) Nucleus

MATHEMATICS

46. The degree of the polynomial $\frac{3x^3 - 7x^2 + 5x^4 - 8x^6}{2x^2}$ is
A) 2 B) 3 C) 4 D) 6

47. The remainder obtained when $x^6 + 3x^2 + 10$ is divided by $x^3 + 1$ is
A) $x^2 - 11$ B) $3x^2 + 11$ C) $x^3 - 1$ D) $1 - x^3$

48. If $x+\frac{1}{x}=6$, then the value of $x^2+\frac{1}{x^2}$ is

A) 34 B) 36 C) 6 D) 12

49. The value of $\frac{88\times88-78\times78}{10}$ is

A) 166 B) 100 C) 150 D) 176

50. The value of $(67)^2 + (17)^2 - 2 \times 67 \times 17$

A) 1000 B) 1500 C) 2000 D) 2500

51. The value of $(a + 3)^2 - (a - 3)^2$ is

A) $2a^2 - 9$ B) 12a C) $a^2 - 9$ D) None

52. The product of $\left(\frac{2}{5}x^2+2\right)\left(\frac{2}{5}x^2-2\right)$ is

A) $\frac{2}{5}x^4-4$ B) $\frac{4}{25}x^4-4$ C) $\frac{4}{25}x^4-2$ D) $\frac{4}{25}x^4-4$

53. If $x + y = 20$ and $xy = 80$, then the value of $x^2 + y^2$ is

A) 240 B) 400 C) 640 D) 100

54. If $\left(ax^3+2\right)^2 = a^2x^6 + x^3 + 4$ then the value of 'a' is

A) 4 B) $1/4$ C) $1/2$ D) 2

55. Find the value of $0.545 \times 0.545 + 2 \times 0.545 \times 0.455 + 0.455 \times 0.455$ is

A) 3 B) 2 C) 1 D) 0

56 Which of the following is a trinomial

A) $2x^2 + 3x + x$ B) $5x^4 + 6x^2 - 2x^2$ C) 7xy D) $2x^2 + 3x + 4$

57. The value of $\frac{1}{6^{-2}}$ is

A) $\frac{1}{36}$ B) 12 C) 36 D) None

58. If $7^{2x+4} = (49)^{2x-1}$ then the value of x is

A) 3 B) 4 C) 8 D) 2

59. If $\left(\frac{a}{b}\right)^{x-1}=\left(\frac{b}{a}\right)^{x-3}$ then x is equal to

A) 1 B) $1/2$ C) $7/2$ D) 2

60. The value of $\left[(-3)^{-3}\right]^{-2}$ is

A) 81 B) 729 C) can't determined D) none

SAMPLE QUESTION

Class : VIII

P + C + B + M - KEY

PHYSICS		CHEMISTRY		BIOLOGY		MATHEMATICS	
1.	A	16.	D	31.	B	46.	C
2.	D	17.	B	32.	B	47.	B
3.	C	18.	B	33.	C	48.	A
4.	D	19.	C	34.	A	49.	A
5.	C	20.	B	35.	C	50.	D
6.	D	21.	B	36.	D	51.	B
7.	D	22.	B	37.	A	52.	D
8.	B	23.	A	38.	C	53.	A
9.	C	24.	D	39.	B	54.	B
10.	C	25.	B	40.	C	55.	C
11.	B	26.	B	41.	A	56.	D
12.	B	27.	B	42.	B	57.	C
13.	C	28.	B	43.	A	58.	A
14.	C	29.	C	44.	B	59.	D
15.	C	30.	D	45.	B	60.	B