SAAT Tahsili Final Revision

1

SAAT Leaks

Updated For This Year

www.saattahsili.com

SAAT leak - 1

1. **Which of the following is <u>not</u> considered as a nutrition method for Fungi?**

   Ⓐ Saprophytism

   Ⓑ Parasitism

   Ⓒ Photosynthesis

   Ⓓ Mutualism

2. **In the table below, which of the following from the first generation when polination of red tall plant (RT) with a white short (rt) ?**

No	phenotype	Homogenous gene	Heterogeneous gene
a	RrTT	✓	X
b	RRTT	✓	X
c	RrTt	X	✓
d	rrtt	X	✓

   Ⓐ RrTT
   Ⓑ RRTT
   Ⓒ RrTt
   Ⓓ rrtt

3. **Pheromones are chemicals which are used by some animals in ....**

   Ⓐ Mating

   Ⓑ Communication

   Ⓒ Growth

   Ⓓ Reproduction

4. **Apply your knowledge to find the statement which represents a matter in solid state?**

   Ⓐ Its particles flow over each other.

   Ⓑ It can be contracted to the smallest volume.

   Ⓒ Takes the shape of its container.

   Ⓓ Its molecules are very close.

5. **It's impossible to determine the velocity and the position of a particle according to the theory of**

   Ⓐ Heisenberg

   Ⓑ Bohr

   Ⓒ De Broglie

   Ⓓ Schrodinger

6. **Observe the following chemical equation and answer.**

   $2C + O_2 \rightarrow 2CO$

   What's the volume of carbon monoxide results from the combination between 2 L of oxygen with sufficient amount of carbon?

   Ⓐ 8 L

   Ⓑ 6 L

   Ⓒ 4 L

   Ⓓ 2 L

7. **A spherical mirror of magnification 3, and an object of 10 cm is placed in front of it, what is the length of the image of the object in cm?**
   Ⓐ 60
   Ⓑ 30
   Ⓒ 20
   Ⓓ 10

8. **Which of the following suggestions do you choose to control/combat African sleeping sickness?**

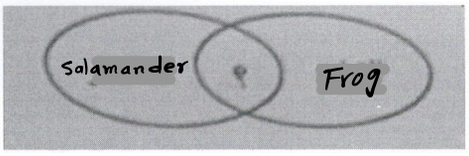
   Ⓐ combating of mosquitos.

   Ⓑ Killing termites.

   Ⓒ combating of tse tse fly

   Ⓓ Well washing of vegetables.

9. **Which of the following is common between frog and salamander?**



Ⓐ Both have limbs.

Ⓑ They don't have limbs.

Ⓒ They don't have tail.

Ⓓ Nick existence.

10. **In case of the lateral line system was infected in fishes, it will not be apple to do**

Ⓐ Nutrition process

Ⓑ Reproduction process

Ⓒ Growth

Ⓓ Movement

11. **From the organs which prevents food from getting in the respiratory system is**

Ⓐ nasal septum

Ⓑ Trachea

Ⓒ Epiglottis

Ⓓ Larynx

12. **Which of the following refers to the genotype of klinefelter syndrome?**

Ⓐ XO

Ⓑ XXY

Ⓒ XYY

Ⓓ OY

13. **Edge effect phenomena occur due to**

Ⓐ Overexploitation

Ⓑ Habitat loss

Ⓒ Environmental pollution

Ⓓ Habitat fragmentation

14. **The crystal lattice energy of $CaCl_2$ is larger than KCl because of**

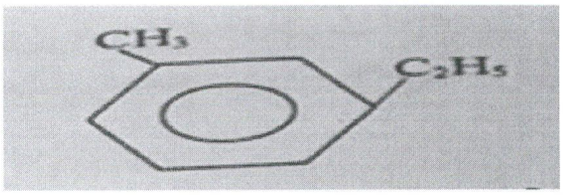
Ⓐ The charge of Ca is greater than K

Ⓑ The charge of K is greater than Ca

Ⓒ The volume of Cl is greater than K

Ⓓ The volume of Cl is greater than Ca

15. **The IUPAC name of the following compound.**



Ⓐ 2-methyl-1-ethyl benzene

Ⓑ 1-ethyl-3-methyl benzene

Ⓒ 1-methyl-6-ethyl benzene

Ⓓ 1-ethyl-5-methyl benzene

16. **If the central atom is surrounded by one pair of electrons and three bonds, what is expected molucule?**

Ⓐ H_2O

Ⓑ CH_4

Ⓒ $AlCl_3$

Ⓓ NH_3

17. **Calculate the kinetic energy in joule unit of a car its mass is 2000 kg and its velocity is 5 m/s.**

Ⓐ 2500

Ⓑ 5000

Ⓒ 10000

Ⓓ 25000

18. **If equilibrium constant K_{eq} for a reaction has a large value, this mean that**

Ⓐ The rate of the backward reaction is greater than the forward one.

Ⓑ The concentration of reactants is greater than the products.

Ⓒ There is no chemical reaction

Ⓓ The concentration of the products is greater than the reactants.

19. **The number of neutrons in $^{132}_{55}Cs$ equals**

Ⓐ 55

Ⓑ 77

Ⓒ 132

Ⓓ 187

20. **The capacitance of a parallel plated capacitor can be increased by**

Ⓐ Decreasing the surface area of the two plates

Ⓑ Increasing the distance between the two plates

Ⓒ Decreasing the distance and increasing the area between the two plates.

Ⓓ Increasing the distance and decreasing the area between the two plates.

21. **Which of the following is considered as a daily behavioral adaptation?**

Ⓐ Birds migration

Ⓑ Waking up and sleeping

Ⓒ Fighting

Ⓓ Hibernation

22. **One of the biodiversity protection which is done by Human .....**

Ⓐ The rains

Ⓑ megareserves

Ⓒ Sunlight

Ⓓ Habitat fragmentation

23. **Scientific research indicates that stem cells are a glimmer of hope in treating many pathological conditions and genetic abnormalities, as they are .....**

Ⓐ Specialized-cells can replace damaged organs.

Ⓑ Unspecialized-cells can be directed to become specialized cells to replace the damaged cells in the body

Ⓒ Hormone-producing cells that stimulate the immune system in the body

Ⓓ Cells producing natural antibodies

24. **A car started its movements from rest with an acceleration of 3 m/s², what's the time taken to achieve the speed of 33 m/s?**

Ⓐ 11 sec

Ⓑ 30 sec

Ⓒ 36 sec

Ⓓ 99 sec

25. **Which of the following living organisms doesn't contain nervous system?**

Ⓐ Deer

Ⓑ Falcon

Ⓒ Fishes

Ⓓ Sponge

26. **Which of the following can distinguish smells by using Jacobson's organs?**

Ⓐ Salamander

Ⓑ Crocodile

Ⓒ Frog

Ⓓ Snake

27. **All of the following increase genetic diversity except**

Ⓐ Mitosis division

Ⓑ Meiosis division

Ⓒ Crossing over

Ⓓ Increasing the number of chromosomes

28. A pollination happened in pea plants, all the produced seeds of the first generation are hybrid yellow this means that

Ⓐ The parents have hybrid yellow seeds.

Ⓑ One of the parents has hybrid yellow seeds.

Ⓒ The yellow color trait is recessive.

Ⓓ The yellow color trait is dominant over the other color during the pollination of parents

29. All of the following processes are considered as mechanical digestion in human digestive system <u>except</u>

Ⓐ Mixing food with saliva in the mouth

Ⓑ Chewing and cutting food in the mouth.

Ⓒ Contraction of muscles of stomach to break down food.

Ⓓ Pushing food by peristalsis to the small intestine

30. The emission of electrons when electromagnetic radiation strikes a surface of metal

Ⓐ Photoelectric effect

Ⓑ X-ray

Ⓒ De Broglie waves.

Ⓓ Maxwell theory

31. Momentum = mass X _____

Ⓐ Angular acceleration

Ⓑ Centripetal acceleration

Ⓒ Angular velocity

Ⓓ Velocity

32. Desert plants adapt with the rarely existence of water by modification of their leaves by all of the following <u>except</u>

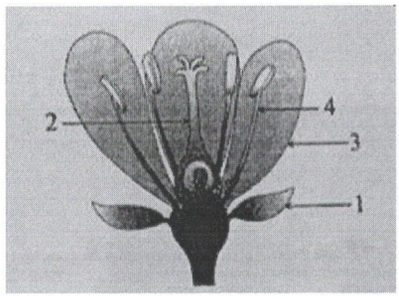
Ⓐ Existence of stomata

Ⓑ Leaves wrapping

Ⓒ Decreasing of stomata numbers

Ⓓ Increasing of leaves surface area

33. Observe the following picture and answer.



Which of the following arrows refers to petals?

Ⓐ 1
Ⓑ 2
Ⓒ 3
Ⓓ 4

34. Which of the following hormones controls the male sexual characteristics?

Ⓐ Estrogen

Ⓑ Growth hormone

Ⓒ Progesterone

Ⓓ Testosterone

35. The bird that feeds on the nectar of flowers has a ..... beak

Ⓐ Thin and long

Ⓑ Sharp and hooked

Ⓒ Wide and big

Ⓓ Short and triangular

36. Color blindness (Achromatopsia) patients can't distinguish between_____ and _____ colors.

Ⓐ Red, green

Ⓑ Grey, brown

Ⓒ Black, white

Ⓓ Yellow, orange

37. **The enzyme which affects a piece of bread during its chewing is**

Ⓐ trypsin

Ⓑ amylase

Ⓒ lipase

Ⓓ pepsin

38. **All vital areas on Earth unite to form the highest level of organization called ....**

Ⓐ Community

Ⓑ Biome

Ⓒ Biosphere

Ⓓ Ecosystem

39. **A patient was infected by a kind of worms during his running with naked feet, depending on your knowledge expect what the kind of worms.**

Ⓐ Ascaris

Ⓑ Schistosoma

Ⓒ Pinworms

Ⓓ Hookworms

40. **Which of the following animals is considered as monotremes?**

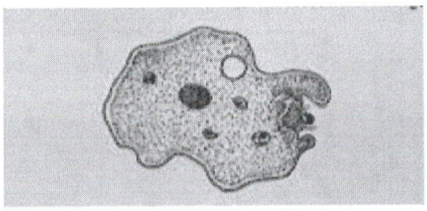
Ⓐ Duck-billed platypus

Ⓑ Kangaroo

Ⓒ Wheels

Ⓓ Monkey

41. **Observe the following diagram and answer.**



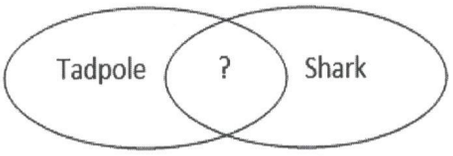
Ⓐ Flagellum

Ⓑ Cilia

Ⓒ Pseudopods

Ⓓ Capillaries

42. **What's the common between shark and tadpole?**



Ⓐ Lungs

Ⓑ Jaws

Ⓒ Fins

Ⓓ Gills

43. **Components of the blood that give an indication of the occurrence of infections**

Ⓐ Red blood cells

Ⓑ Platelets

Ⓒ white blood cells

Ⓓ Plasma

44. **Which of the following organelles abound in the brain cells?**

Ⓐ Ribosomes

Ⓑ Nucleus

Ⓒ Endoplasmic reticulum

Ⓓ Mitochondria

45. Observe the following equation and answer.

$$AX + BY \longrightarrow AY + BX$$

What's the type of this chemical reaction?

Ⓐ Decomposition

Ⓑ Double replacement

Ⓒ Synthesis

Ⓓ Single replacement

46. Calculate the molarity of a solution contains 20 g of solute in 2 L of solvent, knowing that the molar mass of solute is 100 g/mol.

Ⓐ 0.01

Ⓑ 0.1

Ⓒ 0.21

Ⓓ 0.3

47. The 3 dimensional structure in which every positive ion surrounded by negative electrons and every negative ion is surrounded by positive electrons is known as

Ⓐ Crystal lattice

Ⓑ Diamond lattice

Ⓒ Molecular lattice

Ⓓ Metallic lattice

48. Calculate the quantity of thermal energy (heat) results from combustion of 6 g of Carbon according to the following equation.

$$2C + O_2 \longrightarrow 2CO_2 + 52\ kcal$$

Knowing that that atomic mass of carbon = 12

Ⓐ 0.5 kcal

Ⓑ 2 kcal

Ⓒ 6 kcal

Ⓓ 13 kcal

49. Observe the following law and answer.

$$F.\Delta t = m.\Delta v$$

Which of the following quantities are vector?

Ⓐ Mass, velocity and Impulse

Ⓑ Time, force and velocity

Ⓒ Force, time and mass

Ⓓ Velocity, force and Impulse

50. Calculate the volume of water to added to an acidic solution its volume is 300 ml and its concentration is 5 M to be diluted into 2 M?

Ⓐ 750 ml

Ⓑ 450 ml

Ⓒ 250 ml

Ⓓ 120 ml

51. An object is located 12 cm away from a concave mirror its radius is 24 cm,Apply your knowledge to expect the image position.

Ⓐ Behind the center of curvature.

Ⓑ At infinity.

Ⓒ Between the focal point and the center of curvature.

Ⓓ Behind the mirror

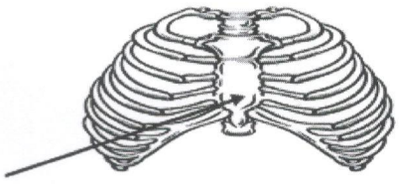
52. An electric heater consumes 600 W, What is the thermal energy produced from it in minute with joule unit?

Ⓐ 1
Ⓑ 6
Ⓒ 600
Ⓓ 36000

53. What's the number of produced cells due to binary fission in bacterial cell after one hour at normal conditions?

Ⓐ 2
Ⓑ 4
Ⓒ 6
Ⓓ 8

54. **Observe the following diagram and answer.**



The arrow refers to

Ⓐ Trachea

Ⓑ Sternum

Ⓒ Shoulder

Ⓓ Ribs

55. **Bony fishes are distinguished from cartilaginous fishes by existence of**

Ⓐ Gills

Ⓑ Jaws

Ⓒ Swim bladder

Ⓓ Paired Fins

56. **which of the following, animals are more exposed to extinction?**

Ⓐ forests
Ⓑ desert
Ⓒ islands
Ⓓ ocean

57. **The number of atoms in one mole of sodium $^{23}_{11}Na$ and one mole of Aluminum $^{27}_{13}Al$ are**

Ⓐ equal in both

Ⓑ Sodium is less than Aluminium

Ⓒ Aluminium is less than Sodium

Ⓓ can't be compared

58. **What is the type of bond that is formed between two hydrogen atoms?**

Ⓐ Metallic
Ⓑ Ionic
Ⓒ Hydrogen
Ⓓ Covalent

59. **Which of the following bonds exists in esters?**

Ⓐ Ionic
Ⓑ Covalent
Ⓒ Hydrogen
Ⓓ Metallic

60. **One of the following is a property of acidic compounds**

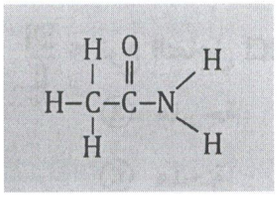
Ⓐ Changing litmus paper color into blue

Ⓑ Reacting with metals producing hydrogen

Ⓒ Slippery

Ⓓ their solutions do not conduct electricity

61. **Observe the following compound and answer.**



The following compound is considered as a/an

Ⓐ Amines

Ⓑ Ketones

Ⓒ Carboxylic acids

Ⓓ Amides

62. **3 minutes =**

Ⓐ 0.5×10^{-3} hour

Ⓑ 0.8×10^{-3} hour

Ⓒ 18×10^{2} second

Ⓓ 0.18×10^{3} second

63. **Formation of rainbow is due to**

Ⓐ Light refraction

Ⓑ Light diffraction

Ⓒ Light interference

Ⓓ Light reflection

64. **The two electric charges A= 5 X 10^{-6} C , B = 15 X 10^{-6}**

If the distance between their centers is 1 cm, the force by which the charge A affects on the charge B is _____ the force by which the charge B affects on charge A.

Ⓐ Equal

Ⓑ 6 times

Ⓒ 3 times

Ⓓ 9 times

65. **Electrons and protons are**

Ⓐ Equal in both mass and charge.

Ⓑ Different in both mass and charge.

Ⓒ Equal in masses and different in charges.

Ⓓ Different in masses and equal in charges.

66. **Some insects have the ability to walk on the water surface due to**

Ⓐ Fluidity

Ⓑ Viscosity

Ⓒ Surface tension

Ⓓ Cohesive and Adhesive

67. **(Energy is neither created nor destroy but changes from one form to another)**

The previous statements is known as

Ⓐ Chemical potential energy.

Ⓑ Law of conservation of mass

Ⓒ Heat content (enthalpy)

Ⓓ Law of conservation of energy.

68. **The rate of changing in the reactants or products in one second is known as**

Ⓐ Chemical equilibrium

Ⓑ Catalyst

Ⓒ Neutralization

Ⓓ Speed of reaction

69. **Changing in heat content (enthalpy) which is accompanied to formation of one mole of a substance at STP is**

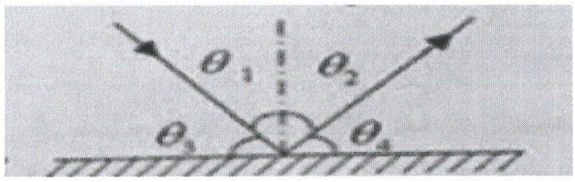
Ⓐ Potential energy

Ⓑ Melting point

Ⓒ Specific heat

Ⓓ Standard heat of formation

70. **Observe the following picture and answer.**



Which of the following choices represents the picture.

Ⓐ $\theta_2 = \theta_3$

Ⓑ $\theta_3 = \theta_4$

Ⓒ $\theta_1 = \theta_4$

Ⓓ $\theta_2 = 2\theta_4$

71. **Which of the following is considered as a polar compound?**

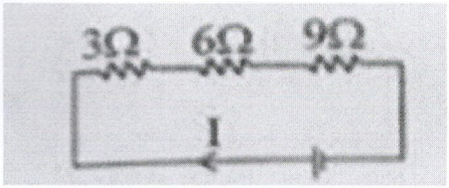
Ⓐ H_2O

Ⓑ Cl_2

Ⓒ CO_2

Ⓓ CH_4

72. **Observe the following electric circuit and answer.**



Calculate the electric resistance of this electric circuit.

Ⓐ 4 Ω

Ⓑ 6 Ω

Ⓒ 9 Ω

Ⓓ 18 Ω

73. **The composition of stars and galaxies are in _____ state.**

Ⓐ solid

Ⓑ Liquid

Ⓒ Gas

Ⓓ Plasma

74. **Which of the following is not considered as electromagnetic waves?**

Ⓐ Radio waves

Ⓑ TV waves

Ⓒ Sound waves

Ⓓ Microwaves

75. **Which of the following branches of chemistry studies bonds, shapes of orbits and electronic configuration?**

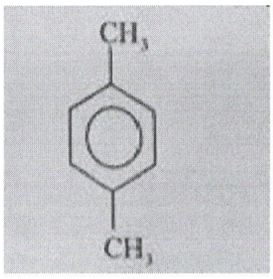
Ⓐ Analytical chemistry

Ⓑ Organic chemistry

Ⓒ Biochemistry

Ⓓ Nuclear/atomic chemistry

76. **According to IUPAC system, name the following compound.**



Ⓐ 1,3-dimethyl cyclohexane

Ⓑ 1,4-dimethyl benzene

Ⓒ 1,4-dimethyl cyclohexane

Ⓓ 1,2-dimethyl benzene

77. **Neon element is located in group 18 in periodic table, Which of the following refers to its electronic configurations**

Ⓐ $1S^2\ 2S^2$

Ⓑ $1S^2\ 2S^2\ 2P^4$

Ⓒ $1S^2\ 2S^2\ 2P^6$

Ⓓ $1S^2\ 2S^2\ 2P^6\ 3S^1$

78. **Which of the following is considered from homogenous solutions properties?**

Ⓐ separation of their components

Ⓑ their components can't be distinduished

Ⓒ occurrence of tyndall effect

Ⓓ occurrence of Brownian motion

79. **Observe the following equation and answer.**

$$2H_2O \longrightarrow 2H_2 + O_2$$

What is the mass of produced oxygen from decomposition of 3 moles of water? (the atomic mass of O = 16 g)

Ⓐ 16 g

Ⓑ 23g

Ⓒ 48 g

Ⓓ 64 g

80. **When you smell food around the house, it is due to one of the properties of gases**

Ⓐ diffusion

Ⓑ expansion

Ⓒ reaction

Ⓓ flow

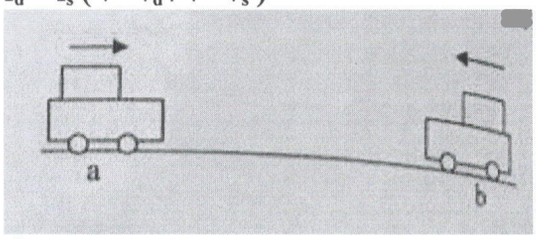
81. **Which of the following statements describes a substance in the solid state?**

Ⓐ its particles slide over one another
Ⓑ it can be compressed to a smaller size
Ⓒ it takes the shape of the container which are placed in it
Ⓓ its particles are firmly attached

82. **If a substance contains a certain composition and it consists of different elements**

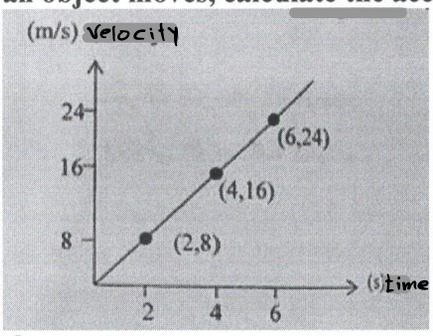
Ⓐ heterogeneous mixture
Ⓑ homogeneous mixture
Ⓒ isotope
Ⓓ compound

83. **In the figure below, two cars are heading towards each other at the same speed. If the driver of car (a) drives at a frequency of 450 Hz, what frequency will the driver of car (b) make in Hz? speed of sound in air = 343 m/s , $f_d = f_s (v - v_d / v - v_s)$**



Ⓐ 107
Ⓑ 225
Ⓒ 450
Ⓓ 900

84. **In the figure below a curve of (velocity - time) an object moves, calculate the acceleration?**



Ⓐ 1/6
Ⓑ 1/4
Ⓒ 4
Ⓓ 6

85. **A wave its periodic time is 10 s, what is the frequency in Hz unit ?**

Ⓐ 0.1
Ⓑ 1
Ⓒ 10
Ⓓ 100

86. **The electron moves perpendicularly to a magnetic field of strength 0.4 T with a speed of 5×10^6 m/s. If the charge of electron is 1.6×10^{-19} C, what is the magnitude of the force acting on the electron in newtons? (F = qBv)**

Ⓐ 2×10^{-13}
Ⓑ 3.2×10^{-13}
Ⓒ 2×10^{13}
Ⓓ 3.2×10^{13}

87. **In a typical food chain each living organism uses part of energy and get it from the organism it feeds on it, which of the following numbers reprsents this series ?**

Energy transfer	1	2	3	4
↓	producer	producer	producer	omnivore
↓	omnivore	herbivore	carnivore	producer
↓	herbivore	omnivore	herbivore	herbivore
↓	carnivore	carnivore	omnivore	carnivore

Ⓐ 1
Ⓑ 2
Ⓒ 3
Ⓓ 4

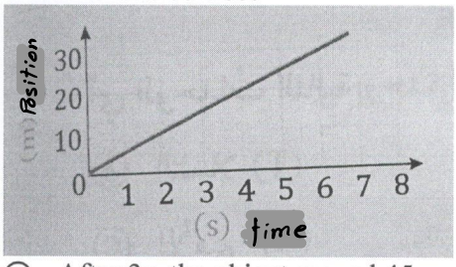
88. **In a reaction rate , $R = k [A]^m[B]^2$ and the whole order of this reaction is 3, so the value of m equals ....**

Ⓐ 1
Ⓑ 2
Ⓒ 3
Ⓓ 4

89. **When 20 g of substance X is reacted with substance Y and 30 g is produced of XY, what is the mass of Y in grams ?**

Ⓐ 10
Ⓑ 20
Ⓒ 30
Ⓓ 50

90. The figure represents the motion of an object , which one is correct

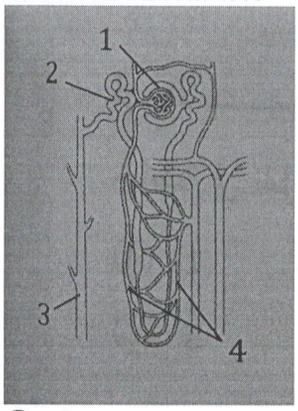


Ⓐ After 3s, the object moved 45 m
Ⓑ After 4s, the object moved 5 m
Ⓒ After 5s, the object moved 20 m
Ⓓ After 6s, the object moved 30 m

91. If the frequency of metal is 4.4×10^{14} Hz , what is the Energy of electron ejected from it, where h represent plank's constant

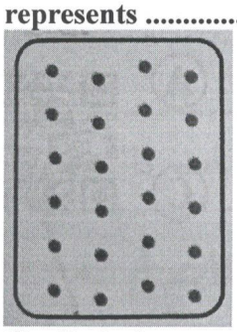
Ⓐ $h + 4.4 \times 10^{14}$
Ⓑ $4.4 \times 10^{14} - h$
Ⓒ $4.4 \times 10^{14} h$
Ⓓ $4.4 \times 10^{14} \div h$

92. In the nephron figure below which number indicates the Fitration of water and dissolved substances



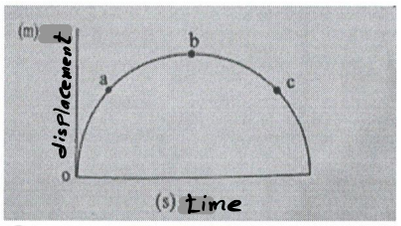
Ⓐ 1
Ⓑ 2
Ⓒ 3
Ⓓ 4

93. Population distribution in the figure below, represents ..... dispersion



Ⓐ limited
Ⓑ clumped
Ⓒ random
Ⓓ uniform

94. The figure represent projectile motion, which one is correct



Ⓐ Va = Vb
Ⓑ Vc = Vb
Ⓒ Va = Vc
Ⓓ Va = Vb = Vc

95. The complete period equals in radian .....

Ⓐ π
Ⓑ 2π
Ⓒ $360°$
Ⓓ $400°$

96. A person his blood type is AB, his genotype ....?

Ⓐ I^Bi
Ⓑ I^Ai
Ⓒ I^AI^B
Ⓓ ii

97. The UV is reflected when it falls on Zinc sheet due to .....

Ⓐ The UV frequency is higher than the Zinc
Ⓑ The UV frequency is lower than the Zinc
Ⓒ The UV frequency is equal to the frequency of Zinc
Ⓓ The Zinc is non-metal

98. **The photoelectric effect occurs when**

Ⓐ light is reflected from a metal surface.
Ⓑ high-frequency light shines on certain metal surfaces.
Ⓒ low-frequency light shines on certain metal surfaces.
Ⓓ all of the above

99. **When a photon falls with a frequency f_0 on a metal , its work function equals hf_0 so the electron .....**

Ⓐ ejects and has kinetic Energy = hf_0
Ⓑ ejects and has no kinetic Energy
Ⓒ can not be ejected and has no kinetic Energy
Ⓓ can not be ejected and its kinetic Energy increases by hf_0

100. **Laser devices produces light which is .....**

Ⓐ monochromatic, coherent, directed, high energy
Ⓑ monochromatic, coherent, undirected, high energy
Ⓒ monochromatic, coherent, directed, low energy
Ⓓ monochromatic, incoherent, directed, high energy

101. **The largest number of individuals of different species that the environment can support in the long term , its is called ....**

Ⓐ Biomass
Ⓑ Population
Ⓒ Carrying capacity
Ⓓ Emmigration

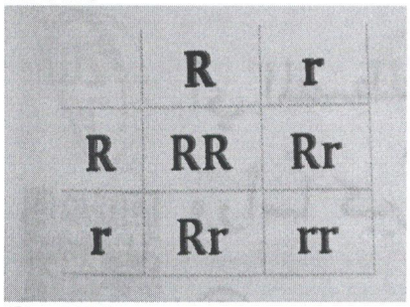
102. **Airbags are among the safety systems that are provided in modern cars, which of the following statements <u>does not</u> apply to the operation of airbags?**

Ⓐ provide the necessary impulse
Ⓑ increase the required force to create the impulse
Ⓒ distribute the force over a larger area
Ⓓ increase the time required to create the impulse

103. **Photosynthesis process in Euglenoid algae occurs in .....**

Ⓐ eyespot
Ⓑ nucleus
Ⓒ chloroplast
Ⓓ pellicle

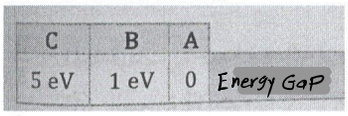
104. **By using the punnett square below, what is the percentage of pink color of snapdragon flowers**



	R	r
R	RR	Rr
r	Rr	rr

Ⓐ 50%
Ⓑ 100%
Ⓒ 75%
Ⓓ 25%

105. **What is the composition of the crystal A, B, C in the table below**



C	B	A	
5 eV	1 eV	0	Energy GaP

Ⓐ Conductor, Semiconductor, Insulator
Ⓑ Insulator, Semiconductor, Conductor
Ⓒ Semiconductor, Insulator, Conductor
Ⓓ Insulator, Conductor, Semiconductor

106. **The work required to lift an object of mass 10 kg up a vertical distance of 1 m is equal to the same work required to change the velocity of the same object horizontally from rest to a velocity ..... in m/s ? (g = 10 m/s^2)**

Ⓐ $\sqrt{10}$
Ⓑ $\sqrt{20}$
Ⓒ $\sqrt{100}$
Ⓓ $\sqrt{200}$