



**PROVINCIAL EDUCATION DEPARTMENT  
NORTHERN PROVINCE**



**THIRD TERM EXAMINATION - 2016**

**SCIENCE**

Index No :- .....

GRADE : - 11

Time :- 1 hour

**PART - I**

❖ **SELECT THE MOST SUITABLE ANSWER.**

(01) Which of the following shows a double helix structure?

- (1) Amino acid                      (2) DNA                      (3) RNA                      (4) Fatty acid

(02) What is the electron configuration of  ${}_{12}^{24}\text{Mg}$ ?

- (1) 2, 2, 8                      (2) 2, 8, 2                      (3) 2, 8, 8, 6                      (4) 2, 8, 8, 2

(03) Which of the following indicates the frequency range of sound that is audible to human ears?

- (1) 20 Hz – 2000Hz                      (2) 20 Hz – 20kHz  
(3) 2 Hz – 20000kz                      (4) 2000 Hz – 20000Hz

(04) Which of the following enzyme is found in intestinal juice?

- (1) Trypsin                      (2) Lipase                      (3) Amylase                      (4) Sucrase

(05) Which can be considered as the unit of atomic mass?

- (1) Mass of a  ${}_{6}^{12}\text{C}$  atom  $\times \frac{1}{12}$                       (2) Mass of a  ${}_{6}^{12}\text{C}$  atom  $\times \frac{1}{6}$   
(3) Mass of a  ${}_{6}^{14}\text{C}$  atom  $\times \frac{1}{12}$                       (4) Mass of a  ${}_{12}^{6}\text{C}$  atom  $\times \frac{1}{12}$

(06) Which of the following is the unit of acceleration?

- (1)  $\text{ms}^{-1}$                       (2)  $\text{ms}^{-2}$                       (3)  $\text{MS}^{-1}$                       (4)  $\text{Nm}^{-2}$

(07) The blood pressure of a normal, healthy person is 120/80 mmHg. What is his diastolic pressure?

- (1) 120 mmHg                      (2) 80 mmHg                      (3) 200 mmHg                      (4) 40 mmHg

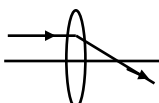
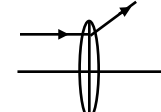
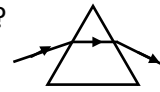
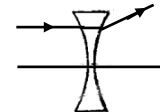
(08) Natural rubber is a polymer. What is its monomer?

- (1) Ethene                      (2) Isoprene  
(3) Vinylchloride                      (4) Phenol

(09) Which of the following actions does not obey Newton's third law?

- (1) Launching a rocket                      (2) Swimming  
(3) A coconut falling from a coconut tree                      (4) rowing a boat with an oar

(10) Which of the following diagrams is incorrect regarding the path of a light ray through an optical instrument?

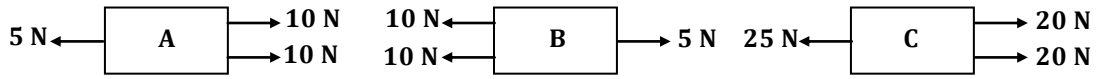
- (1)                       (2)                       (3)                       (4) 

(11) The root of a plant growing towards the earth is

- (1) Positive geotropic movement                      (2) Negative geotropic movement  
(3) Positive phototropic movement                      (4) Thigmonastic movement

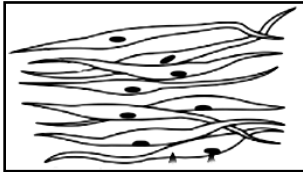
- (12) The element X forms the compound  $X_3(PO_4)_2$ . What is the formula of the carbonate formed by X?  
 (1)  $X_2CO_3$                       (2)  $X(CO_3)_2$                       (3)  $XCO_3$                       (4)  $X_3CO_3$

- (13) In which of these systems is the resultant force equal?

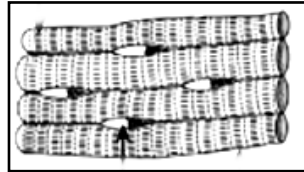


- (1) A, B                      (2) A, C                      (3) B, C                      (4) A, B, C

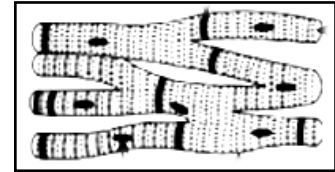
- (14)



A



B



C

Of the muscles shown above, which does not get fatigued?

- (1) A                      (2) B                      (3) C                      (4) All
- (15) In salterns, which substances sediment in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> sedimentation tanks respectively?  
 (1)  $CaCO_3$ ,  $MgCl_2$ ,  $NaCl$                       (2)  $CaCO_3$ ,  $CaSO_4$ ,  $NaCl$   
 (3)  $CaSO_4$ ,  $CaCO_3$ ,  $NaCl$                       (4)  $NaCl$ ,  $CaSO_4$ ,  $CaCO_3$

- (16) When the measurement of a thermometer showing  $40^{\circ}C$  is converted to  $^{\circ}F$ ,  
 (1)  $\frac{32-F}{9} = \frac{40}{5}$                       (2)  $\frac{F-32}{9} = \frac{40}{5}$                       (3)  $\frac{F-32}{5} = \frac{40}{9}$                       (4)  $\frac{F-40}{9} = \frac{32}{5}$

- (17) Which of the following correctly denotes the scientific name of the Naga tree?  
 (1) *mesua nagasarium*                      (2) *Mesua Nagasarium*  
 (3) *Mesua nagasarium*                      (4) *MESUA NAGASARIUM*

➤ Use the following table to answer questions 18 and 19.

Solution	Phenolphthalein	Red litmus paper
A	Red	No change
B	No change	Blue

- (18) Identify solutions A and B.  
 (1) Acid, base                      (2) Base, neutral  
 (3) Base, acid                      (4) Neutral, acid
- (19) Which statement regarding solution A is incorrect?  
 (1) The pH of this solution is greater than 7.  
 (2) It releases  $H^+$  ions in solution state.  
 (3) Inhibits the corrosion of iron.  
 (4) Releases  $OH^-$  ions in solution state.

(20) Where does fertilization take place in a human female?

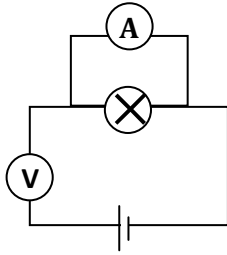
- (1) Uterus                      (2) Vagina                      (3) Fallopian tube                      (4) Ovary

(21) What is the amount of heat energy needed to rise the temperature of 4 kg water from 30°C to 50°C? (The specific heat capacity of water is 4200 J/kg°C)

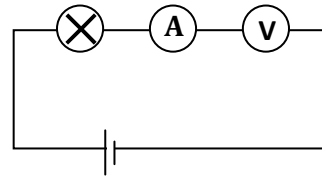
- (1)  $80 \times 4200 \text{ J}$                       (2)  $4 \times 4200 \text{ J}$                       (3)  $20 \times 4200 \text{ J}$                       (4) 4200 J

(22) Which of the following diagrams correctly shows the connection of the apparatus that are used to measure the current flow and potential difference.

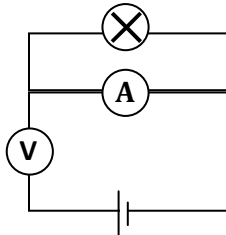
(1)



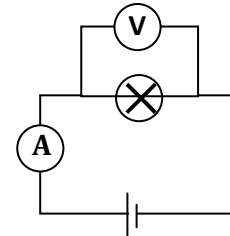
(2)



(3)



(4)



(23) Which vitamins are produced from cyano bacteria by using genetic engineering technology?

- (1) Vitamin A and E                      (2) Vitamins A and B<sub>12</sub>  
 (3) Vitamins E and B<sub>12</sub>                      (4) Vitamins A and C

(24) Which of the following pairs of ions have the same number of electrons?

- (1) Na<sup>+</sup>, F<sup>-</sup>                      (2) Mg<sup>2+</sup>, Ca<sup>2+</sup>  
 (3) O<sup>2-</sup>, Be<sup>2+</sup>                      (4) Al<sup>3+</sup>, K<sup>+</sup>

(25) The height of a dam is 8m. If water is found up to a height of 6m, what is the pressure exerted by the water at the bottom? (The density of water is 1000 kg m<sup>-3</sup>, gravitational acceleration is 10 ms<sup>-2</sup>)

- (1)  $8\text{m} \times 1000 \text{ kg m}^{-3} \times 10 \text{ ms}^{-2}$                       (2)  $6\text{m} \times 1000 \text{ kg m}^{-3} \times 10 \text{ ms}^{-2}$   
 (3)  $\frac{6\text{m} \times 1000 \text{ kg m}^{-3}}{10 \text{ ms}^{-2}}$                       (4)  $\frac{8\text{m} \times 1000 \text{ kg m}^{-3}}{10 \text{ ms}^{-2}}$

(26) The substances produced during the anaerobic respiration of plants

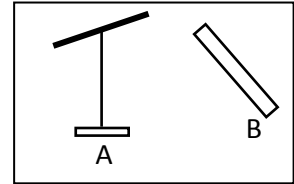
- (1) Lactic acid + energy                      (2) Carbon dioxide + water vapour  
 (3) Lactic acid + ethyl alcohol                      (4) Ethyl alcohol + carbon dioxide

(27)  $\cdot \times \equiv \times \cdot$ : What is the number of electron in the outermost orbit of X?

- (1) 10                      (2) 7                      (3) 5                      (4) 14

(28) When two glass rods, A and B, are rubbed with wool and brought closer, as shown in the figure, what will be the observation?

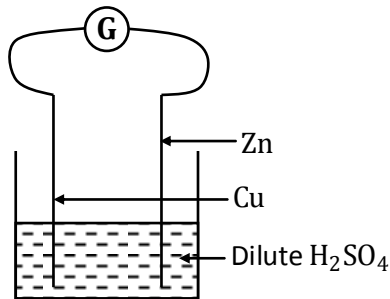
- (1) They will repel each other.
- (2) They will attract each other.
- (3) No change can be observed.
- (4) They will attract each other, and then repel.



(29) Which of the following plants prevent self-fertilization by dichogamy.

- (1) Coconut
- (2) Passion fruit
- (3) Jasmine
- (4) *Tridax*

(30)

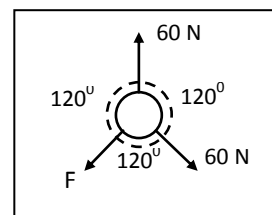


A simple cell is shown in the diagram

What is the reaction taking place in the anode of this cell?

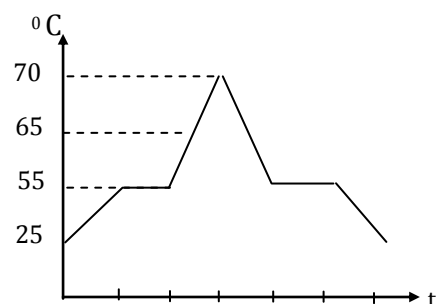
- (1)  $\text{Zn}_{(s)} \rightarrow \text{Zn}^{2+}_{(aq)} + 2e$
  - (2)  $2\text{H}^+ + 2e \rightarrow \text{H}_{2(g)}$
  - (3)  $\text{Zn}^{2+}_{(aq)} + 2e \rightarrow \text{Zn}_{(s)}$
  - (4)  $\text{Cu}_{(s)} \rightarrow \text{Cu}^{2+}_{(aq)} + 2e$
- (31) When the hoop is at equilibrium, find the value of F.

- (1) 120 N
- (2) 30 N
- (3) 20 N
- (4) 60 N



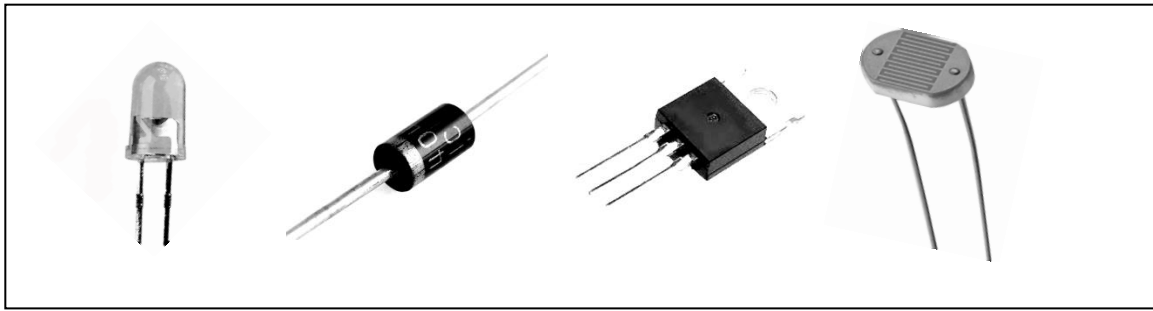
(32) A solid wax sample was heated and then allowed to cool. The temperature – time graph for this activity is given here. Using the graph, find the melting point of wax.

- (1) 70<sup>0</sup> C
- (2) 55<sup>0</sup> C
- (3) 25<sup>0</sup> C
- (4) 65<sup>0</sup> C



- (33) A – Performing protein synthesis  
 B – Producing and transporting lipids and steroids  
 C – Secreting and transporting substances
- Which of the organelles perform the above functions respectively?
- (1) Ribosome, Golgi complex, endoplasmic reticulum
  - (2) Ribosome, endoplasmic reticulum, Golgi complex
  - (3) Mitochondria, lysosome, Golgi complex
  - (4) Lysosome, ribosome, chloroplast
- (34) Which of the following is a nonpolar, inorganic solvent?
- (1) Benzene
  - (2) Carbon tetrachloride
  - (3) Acetone
  - (4) Carbon disulfide
- (35) Which of the following groups of food is responsible for the increase of low density lipoproteins (LDL) in the bloodstream?
- (1) Beef, dhal, egg
  - (2) Beef, prawn, pork
  - (3) Pork, gingelly oil, prawn
  - (4) Pork, dhal, gingelly oil
- (36) If the boiling point of a compound is  $-183^{\circ}\text{C}$  and its melting point is  $-218^{\circ}\text{C}$ , which of the following is a property of this compound?
- (1) It is liquid at room temperature.
  - (2) It is solid at room temperature.
  - (3) It is gaseous at room temperature.
  - (4) It is formed by ions with opposing charges.
- (37) If the speed of light in air is  $3 \times 10^8 \text{ms}^{-1}$  and the refractive index of a glass block is 1.5, what is the speed of light in the glass?
- (1)  $\frac{3 \times 10^8}{2} \text{ms}^{-1}$
  - (2)  $1.5 \times 3 \times 10^8 \text{ms}^{-1}$
  - (3)  $\frac{1.5}{3 \times 10^8} \text{ms}^{-1}$
  - (4)  $\frac{3 \times 10^8}{1.5} \text{ms}^{-1}$

(38) The external appearances of some electronic components are shown below. Find the correct order of the pictures.



A

B

C

D

- |                              |                          |            |                          |
|------------------------------|--------------------------|------------|--------------------------|
| (1) Light emitting diode     | Transistor               | Diode      | Light dependent resistor |
| (2) Light emitting diode     | Diode                    | Transistor | Light dependent resistor |
| (3) Light dependent resistor | Diode                    | Transistor | Resistor                 |
| (4) Diode                    | Light dependent resistor | Transistor | Light emitting diode     |

(39) What is the basic concept used in the disposal of wastes?

- (1) 3 R
- (2) 4 R
- (3) 5 S
- (4) 6 S

(40) In the graph shown here, depicting population growth, in which phase is the carrying capacity found?

- (1) Phase 1
- (2) Phase 2
- (3) Phase 3
- (4) Phase 4

