

MT

2017 ____ 1100

Seat No.

--	--	--	--	--	--	--

MT - SCIENCE & TECHNOLOGY -I (72) - SEMI PRELIM - I : PAPER - 2

Time : 2 Hours

(Pages 3)

Max. Marks : 40

Note :

- (i) All questions are compulsory.
- (ii) All questions carry equal marks.
- (iii) Draw neat and labelled diagrams wherever necessary.

Q.1. (A) Fill in the blanks : 3

- (1) Phenolphthalein is a _____ type of indicator.
- (2) The phenomenon of splitting of light into its component colours is _____ .
- (3) The device which converts electrical energy to mechanical energy is called as _____ .

Q.1. (B) True or False : 2

- (1) Sodium carbonate is known as baking soda.
- (2) During dispersion red colour deviates the most.

Q.2. Rewrite the following statements by selecting the correct alternative : 5

- (1) Which of the following has pH more than 7?
 - (a) Pure water
 - (b) NaOH solution
 - (c) HCl solution
 - (d) Lemon juice
- (2) Which gas is liberated when bleaching powder comes in contact with atmospheric CO₂ gas ?
 - (a) H₂
 - (b) CO
 - (c) Cl₂
 - (d) NH₃
- (3) A ray of light strikes the glass slab at an angle of 50°. What is the angle of incidence ?
 - (a) 50°
 - (b) 25°
 - (c) 40°
 - (d) 100°

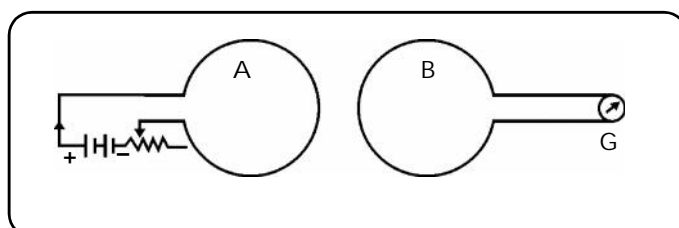
- (4) Rakesh performs the experiments on tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. He observes that in all cases
- $i > r$ but $i = e$
 - $i < r$ but $i = e$
 - $i > e$ but $i = r$
 - $i < e$ but $i = r$
- (5) The magnetic field in solenoid depends on _____ .
- current and number of turns per unit length
 - current only
 - Number of turn per unit length only
 - material

Q.3. Answer the following in short : (Any 5) 10

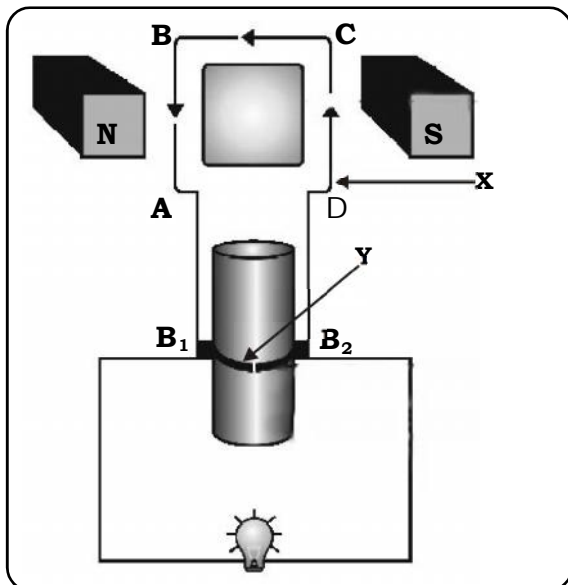
- Distinguish between : Acid and Base
- Give scientific reason : One should not store butter milk in copper vessels.
- Explain the following chemical reaction with the help of balanced equation : Sodium bicarbonate is heated.
- We should not use many electrical appliances simultaneously.
- Give scientific reason : Red colour is used in danger signals.
- State the rules : Right Hand Thumb Rule
- Draw a neat labelled diagram : Solenoid

Q.4. Answer the following in brief : (Any 5) 15

- Write a short note on neutralization reaction.
- What are olfactory indicators ?
- Write the uses of washing soda.
- What do you mean by dispersion? Name the different colours of light in the proper sequence in the spectrum of light.
- Observe the figure. If the current in the coil A is changed, will some current be induced in the coil B? Explain.



- (6) Write short notes on: Dispersion of light.
 (7) Answer the following from the given diagram.



- (a) State the principle on which generator works.
 (b) Label X and Y in the diagram.
 (c) Which type of current is generated in the above figure?

Q.5. Answer in detail: (Any 1)

5

- (1) (a) Define Refraction.
 (b) A coin at the bottom of a jar containing water appear to be raised.
- (2) (a) Take 2 gm of Aluminium carbonate in boiling test tube, add dil. HCl to it. Do not allow the gas to escape. Through the delivery tube allow the gas to pass through decanted solution of chalk with H_2O . What are your observations?
 (b) Take a small amount of red oxide (primer used before paint). Add to it a few drops of dil. HCl. What do you observe? What is chemical formula of red oxide?
 (c) Define the following : Saponification

Best Of Luck 🍀