

N 754

Seat No.

2016 III 12 1100 – N 754 – SCIENCE AND TECHNOLOGY (72)—PAPER 1 (E)

Time : 2 Hours

(Pages 5)

Max. Marks : 40

Note :— (i) Draw well labelled diagrams wherever necessary.

(ii) All questions are compulsory.

(iii) Students should write the answers of questions in sequence.

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

(i) The modern periodic table consists of periods.

(ii) The formulae of chloride of metal M is MCl_2 . The metal M belongs to group.

(iii) Corrosion can be prevented by using solution.

(2) Find the odd one out : 2

(i) Voltmeter, ammeter, galvanometer, thermometer.

(ii) Loudspeaker, bar magnet, electric motor, microphone.

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(B) Choose the *correct* alternative and rewrite the following : 5

(1) Reaction of iron nails with copper sulphate solution is an example of :

- (a) Combination reaction
- (b) Decomposition reaction
- (c) Displacement reaction
- (d) Double displacement reaction

(2) Dilute NaOH can be tested with

- (a) red litmus paper
- (b) blue litmus paper
- (c) lime water
- (d) Na_2CO_3

(3) In series combination which remains constant ?

- (a) Voltage
- (b) Current
- (c) Both current and voltage
- (d) Both are variables

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- (4) An object of 10 cm is placed in front of a plane mirror. The height of image will be
- (a) 5 cm
- (b) 15 cm
- (c) 20 cm
- (d) 10 cm
- (5) When a ray of light travels from air to glass slab and strikes the surface of separation at 90° , then it
- (a) bends towards normal
- (b) bends away from normal
- (c) passes unbent
- (d) passes in zigzag way

2. Answer the following questions (any five) :

5×2=10

(1) Define the following :

(i) 1 volt PD

(ii) Electric power.

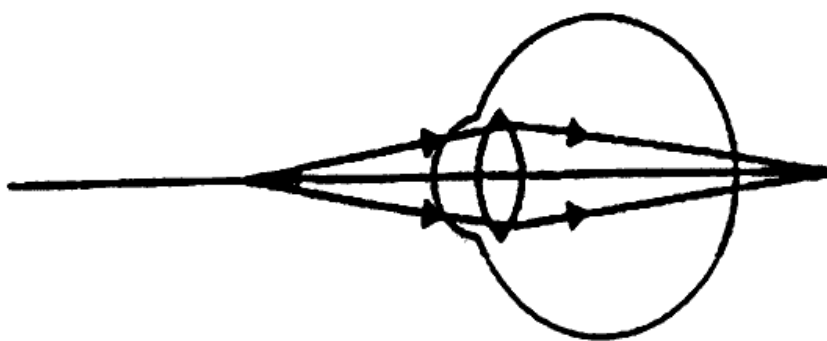
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- (2) What major harm is done to the human beings by air pollution ?
- (3) Calculate the focal length of a corrective lens having power $+2D$.
- (4) Write *two* applications of sodium bicarbonate (baking soda).
- (5) A simple microscope is used by watch repairers. Give reason.
- (6) Draw neat and labelled diagram of pH scale.

3. Answer the following questions (any *five*) : 5×3=15

- (1) What are the main features of Mendeleev's periodic table ?
- (2) Define 'redox reaction'. Give *one* example.
- (3) Given below is a diagram showing a defect of human eye. Study it and answer the following questions :



- (i) Name the defect shown in the figure.
- (ii) Give reason for this defect of eye in human being.
- (iii) Name the type of lens used to correct the eye defect.

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- (4) What is refraction of light ? How is it related to refractive index ?
- (5) Explain how spectrum is formed.
- (6) Suggest measures in the following situations :
 - (i) To avoid noise pollution in classroom.
 - (ii) To minimize electricity consumption at home.
 - (iii) Bursting fire crackers in festivals and processions.

4. Answer any *one* the following questions :

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- (1) Find the expression for the resistors connected in series and write the *two* characteristics of it. (Draw figure).
- (2) Explain 'Electric motor' with the help of the following points :
 - (i) Draw figure
 - (ii) Principle of Electric motor
 - (iii) Name any *four* appliances where electric motor is used.