

S.S.L.C. EXAMINATION, MARCH - 2013

PHYSICS (English)

Time : 1 ½ Hours

Total Score : 40

Instructions :

- 1) Fifteen minutes are given as 'cool off time'.
- 2) This time is given to read and understand the questions well.
- 3) For choice questions only one of them need to be answered.
- 4) The score of each question is given along with it.

[SCORE]

Q1) Choose the correct answer.

[1]

Colour of a star depends upon its T .

- a) .radius
- b) distance from the earth
- c) temperature
- d) mass

Q2) Which of the following is not a fossil fuel.

[1]

- a) Coal
- b) Petroleum
- c) Natural gas
- d),Hydrogen



Q3) Match Suitably.

[2]

A

B

A.C. Generator

Self Induction

Transformer

Slip rings

D.C. Generator

Mutual Induction

Inductor

Split rings.

Q4) Analyse the first pair and complete the second pair

[1]

Frequency : Hertz

Intensity of Sound : —

Q5) Given below are a few characteristics of ultraviolet and infrared rays. Classify them as those belonging to ultraviolet and infrared rays.

[2]

- a) Excess radiation causes skin cancer.
- b) Helps to take photograph of distant objects.
- c) Has wavelength greater than that of visible light.
- d) Produces vitamin D in our body.



Q6) Which has greater resistance?

[2]

A 1 kW heater or 100 W tungsten bulb. Why?

(Both are marked for 230 V)

Q7) In a distribution transformer, wires are connected in star connection in the secondary.

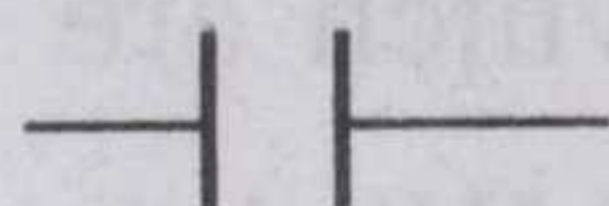
a) How many lines come out of a distribution transformer? [1]

b) How many of them are phase lines? How many are neutral lines? [1]

c) What is the potential difference between the neutral line and earth? [1]

Q8) Depict a typical graph representing the displacement of the particles of the medium, with distance when a sound wave advances. [1]

Q9) a) Write what is indicated by the symbol given below. [1]



b) Write its function in a circuit. [1]



Q10) L.P.G is commonly used as a domestic fuel.

- a) What are its main constituents?
- b) Write the expanded form of L.P.G.
- c) L.P.G is a colourless, odourless gas. However LPG used for domestic purposes has an odour. What is the reason?

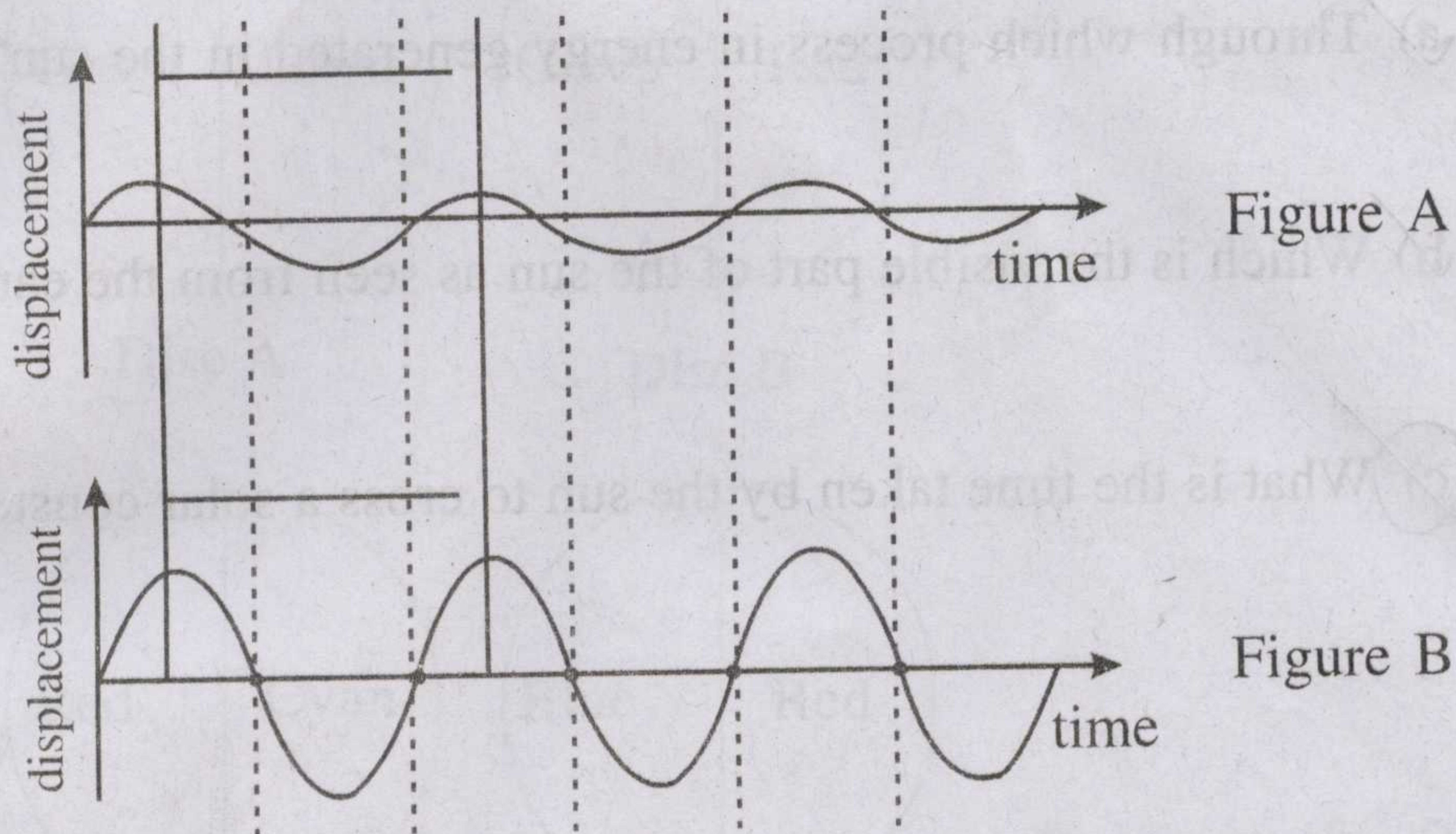
Q11) The primary voltage of a transformer is 6V and its secondary voltage is 240 V.

- a) What type of transformer is this?
- b) Which coil has greater number of turns.
- c) In which coil will the current be greater.
- d) What is the relationship between the power in the primary and secondary coils.

Q12) In a house there are five 100 W bulbs, which are used daily for 5 hours. Calculate the energy consumed in kWh in a day.



Q13) The graphic representation of two sound waves are given below.



- a) Which graph represents sound of higher loudness? [1]
- b) Which has got greater amplitude? [1]
- c) Which characteristic of sound is the same for both waves. [1]
- d) What happens to the energy of a sound wave when its amplitude increases? [1]

Q14) A diode, a torch cell a torch bulb, and a switch are connected in series. Draw the circuit diagram, if they are connected in such a way that no current passes through the circuit. [2]



Q15) The sun is the centre of the solar system.

- a) Through which process is energy generated in the sun? [1]
- b) Which is the visible part of the sun as seen from the earth? [1]
- c) What is the time taken by the sun to cross a solar constellation? [1]

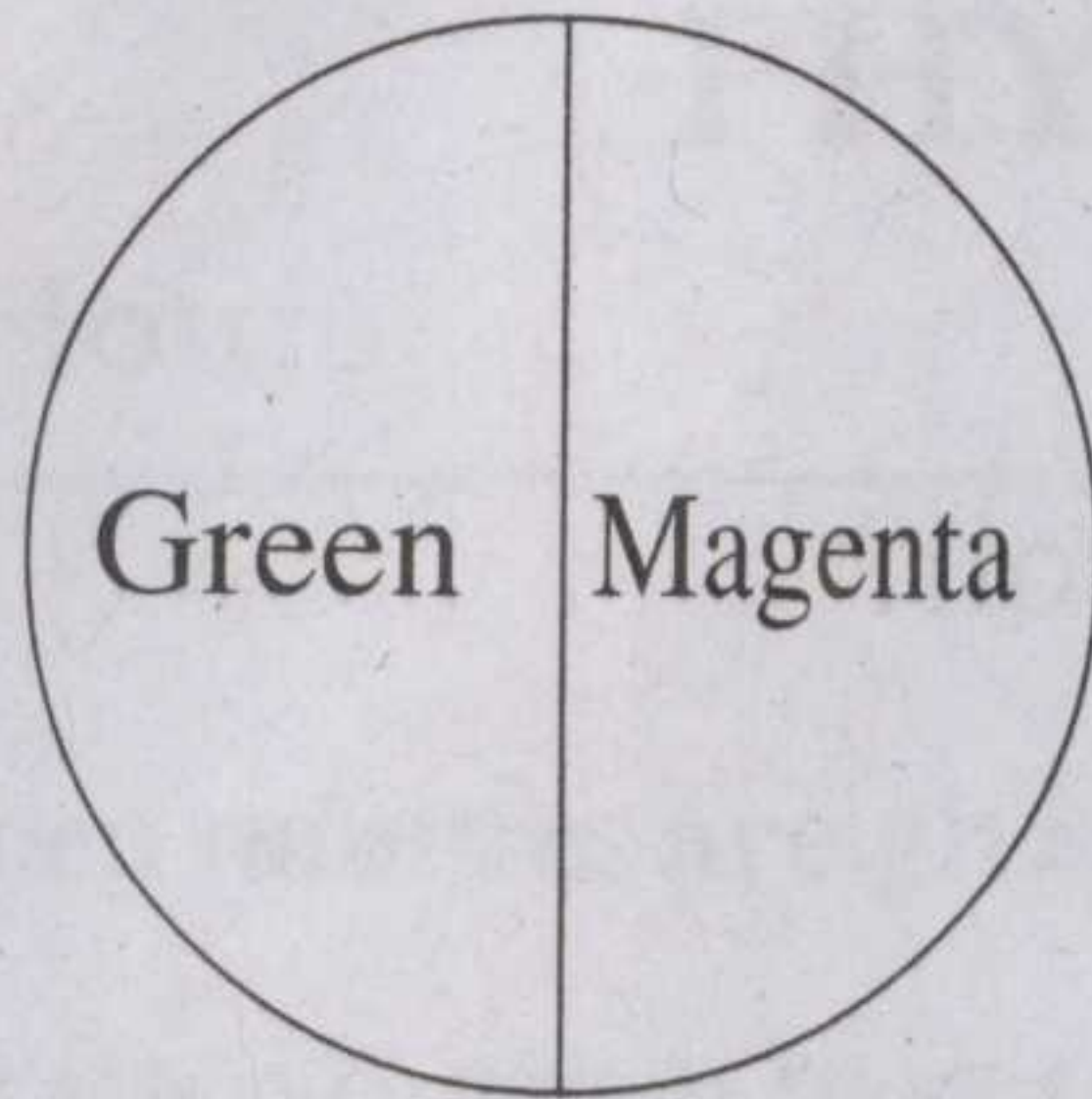
Answer 16 (I) OR 16 (II)

- Q16) (I) a)** How is the deviation of white light into its constituent colours related to its wavelength? [1]
- b) Write the colours Green, Red, and Indigo in the order of decreasing wavelength. [1]
- c) Sun light and laser beam are incident obliquely on an equilateral glass prism. Represent diagrammatically what happens to the beam in the 2 laser. [2]

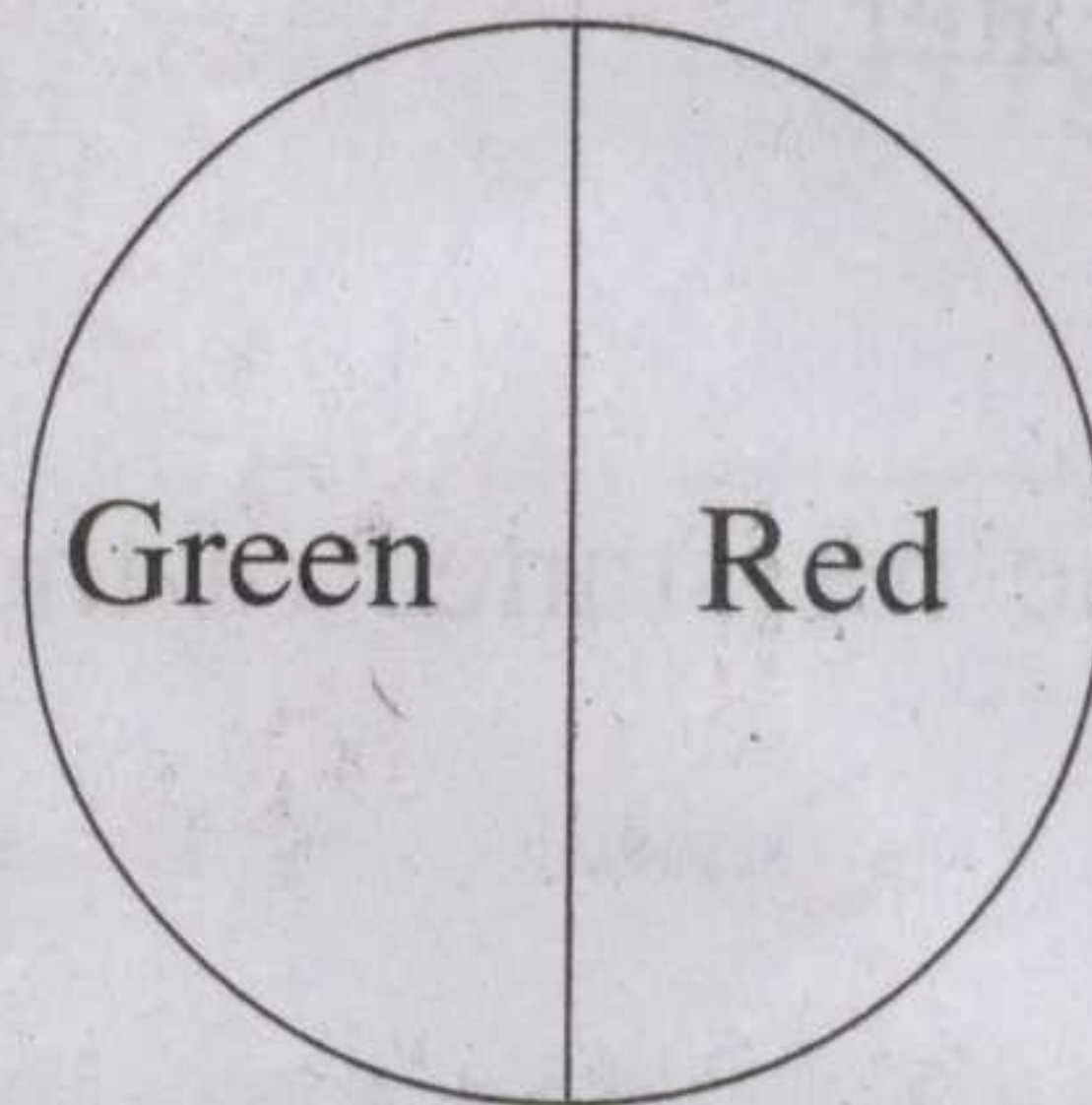
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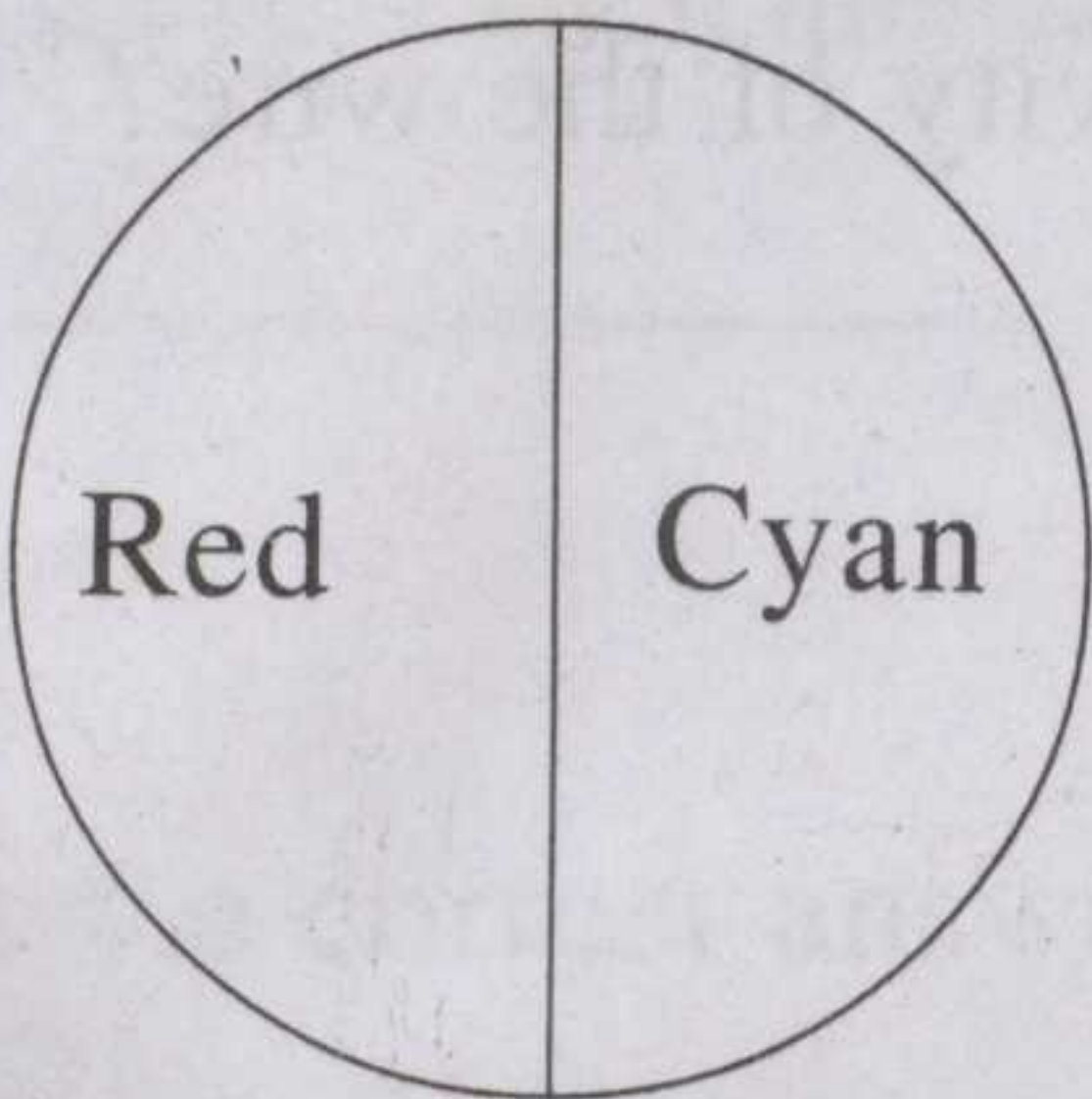
Q16/ (II)



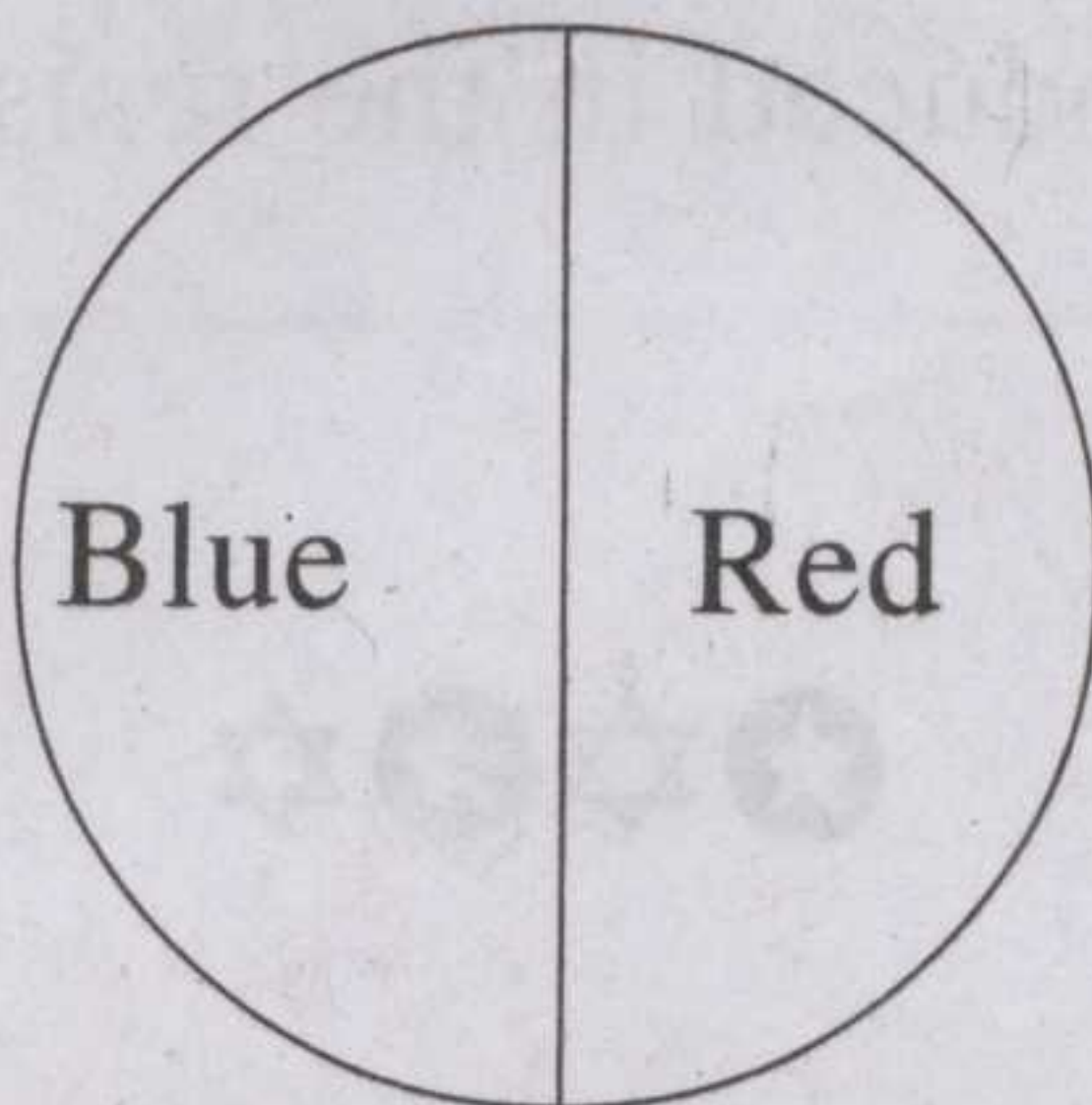
Disc A



Disc B



Disc C



Disc D

Red Magenta Blue
Yellow Cyan
Green

Given above are 4 discs ABCD with different colours painted on it.

- a) Which are the discs having only complimentary colours? [1]
- b) Which are the discs having only primary colours? [1]
- c) The discs are row rotated very fast. What will be the colour obtained in the four discs? [2]



[SCORE]

Q17) A heater coil is cut into two equal parts. One of them is then used as the coil in the same heater.

a) What happens to the resistance of the coil?

[1]

b) What happens to the heat produced?

[1]

c) What change is produced in the resistivity of the wire?

[1]

