

**DISTRICT PANCHAYATH KANNUR**  
**MUKULAM MODEL EXAMINATION 2015**

**PHYSICS**

Time: 1½ hrs

Score:40

**Instructions**

1. 15 minute is given as cool off time. This time is to be used for reading and understanding the questions.
2. Write answers for all questions.
3. The score for each question is given along with the question

1. Considering the relation between the items given in the first pair complete the second

Frequency: Hertz; Sound level: ..... (1)

2. Which of the following does not belong to the group?

(Peat, Bauxite, Anthracite, Bituminous coal) (1)

3. Which of the following is equal to one light year?

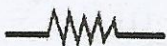
a)  $9.46 \times 10^{14}$  km

b)  $9.46 \times 10^{13}$  km

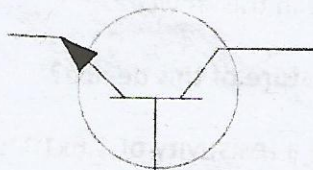
c)  $9.46 \times 10^{12}$  km

d)  $9.46 \times 10^{15}$  km (1)

4. Which of the following is the symbol of the electronic component that cannot include in an IC chip



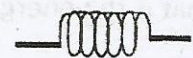
(a)



(b)



(c)



(d)

(1)

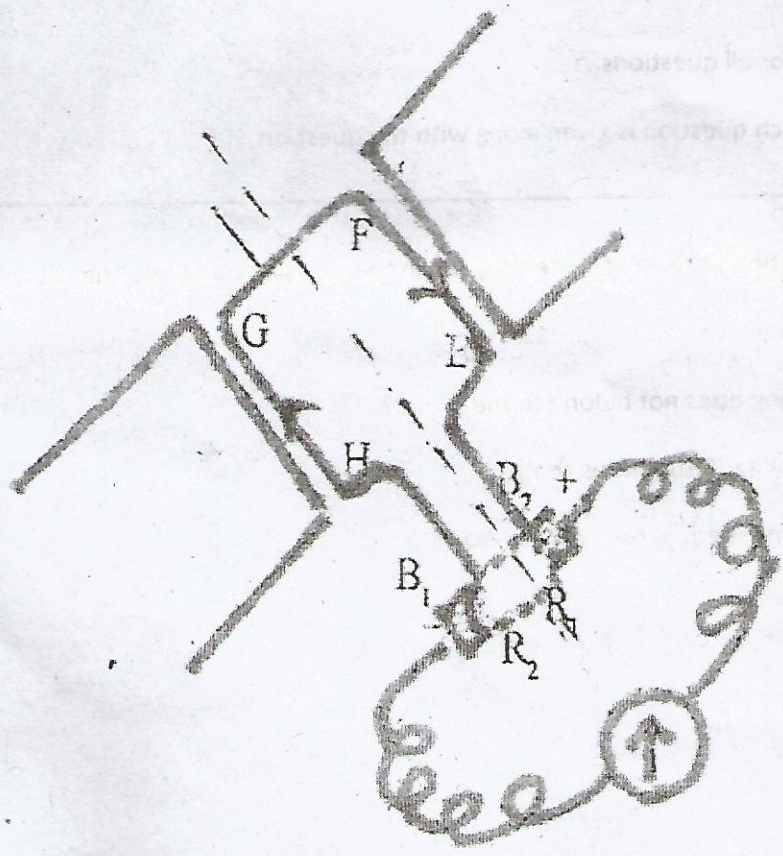
5. What is the advantage of setting up a telescope outside the earth's atmosphere? (1)

6. Fill in the blanks suitably by using the choices given in the box?

Kayamkulam, 230, Armature, Excitor, 11000, Stator, Field Magnet, Pallivasal

One of the hydroelectric power stations in Kerala is ..... (a) ..... Electricity is generated from this power station at ..... (b) ..... v. The part of the power generator which is used as rotor is ..... (c) ..... Auxiliary generator used with this power generator is called ..... (d) .....

7. The figure of an electric device is given below.



a) What is the energy conversion that takes place in this device? (1)

b) Draw the graph of the emf induced in the armature of this device? (1)

8. A copper wire having a resistance of  $100 \Omega$  has a resistivity of  $1.6 \times 10^{-8} \Omega m$ . This copper wire is cut into two equal parts.

a) What is the resistance of one of the part? (1)

b) What is the resistivity of this part? (1)

9. The regions outside the photosphere of the sun are considered as the atmosphere of the sun.

a) Which are these regions? (1)

b) In which situation they are clearly visible? (1)

10. You have known the devices that use solar energy.

a) Write the name of a device used to cook food using solar energy? (1)

b) What are the two advantages of this device? (1)

11. Arun felt a change in the frequency of the siren of the ambulance which passed by him when he was standing beside the road.

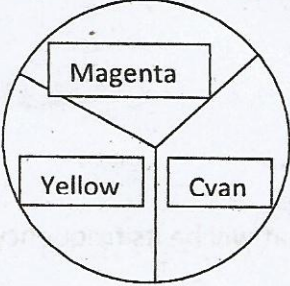
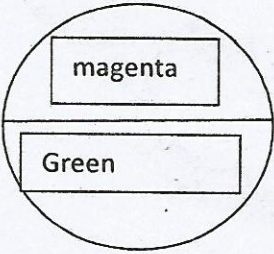
a) What is this phenomenon known as? (1)

b) Write one practical application of this phenomenon? (1)

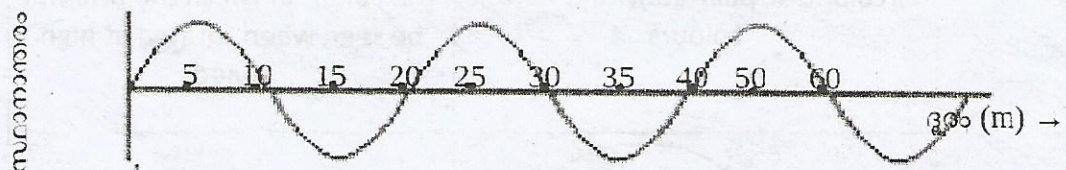
12. Which of the following will change when an electrical signal is amplified?

(frequency, wavelength, velocity, amplitude) (1)

13. Complete the table?

Circular disc painted with different colours	The colour in which the disc will be seen when rotated at high speed
	(a) .....
	(b) .....

- (2)
14. Why does the sky of the moon appear dark during day time? (1)
15. Capacitor is an electronic component used in an electronic circuit.
- a) What is the function of a capacitor? (1)
- b) What is meant by a mica capacitor? (1)
16. Haven't you seen a rainbow?
- a) Name the optical phenomenon responsible for rainbow? (1)
- b) Why is rainbow seen as an arc? (2)
17. In filament lamps the filament gets heated and emits light.
- a) How light is produced in CF lamps? (2)
- b) Write two advantages of CF lamps over filament lamps? (1)
18. The graphic representation of a sound wave is given below?



- a) What is the wavelength of this sound wave? (1)
- b) If the velocity of this sound wave is 340m/s what will be its frequency? (2)
- c) Can human beings hear this sound? Why? (1)