Electromagnetism

1. Are the magnetic field lines closed? Explain

2.Why does the picture appear distorted when a bar magnet is brought close to the screen of a television? Explain (AS1)

3. Symbol ‘X’ indicates the direction of a magnetic field into the page. A straight long wire carrying current along its length is kept perpendicular to the magnetic field. What is the magnitude of force experienced by the wire? In what direction does it act? (AS1)

4. Explain the working of electric motor with a neat diagram. (AS1)

5. Explain the working of AC electric generator with a neat diagram. (AS1)

6. Explain the working of DC generator with a neat diagram. (AS1)

7. How do you appreciate Faraday’s law, which is the consequence of conservation of energy?(AS6)

8. The value of magnetic field induction which is uniform is 2T. What is the flux passing through a surface of area 1.5m2 perpendicular to the field? (AS1)

9. An 8N force acts on a rectangular conductor 20cm long placed perpendicular to a magnetic field. Determine the magnetic field induction if the current in the conductor is 40A. (Ans: 1tesla) (AS1)

10.Give a few applications of Faraday’s law of induction in daily life. (AS7)

11. Which of the various methods of current generation protects nature well? Give examples tosupport your answer. (AS7)

1.Which of the following converts electrical energy into mechanical energy [ ]
a) motor b) battery
c) generator d) switch

2. Which of the follwing converts mechanical energy into electrical energy [ ]
a) motor b) battery
c) generator d) switch

3. The magnetic force on a current carrying wire placed in uniform magnetic field if the wire is oriented perpendicular to magnetic field is [ ]
a) 0 b) ILB
c) 2ILB d) ILB/2

4. One Tesla = [ ]
a) Newton/Coloumb b) Newton / ampere - meter
c) Ampere / meter d) Newton / ampere second

5. Magnetic flux [ ]
a) dyne b) Oersterd c) Guass d) Weber

6. No force works on the conductor carrying electric current when kept [ ]
a) parallel to magnetic field b) perpendicular to magnetic field
c) in the magnetic field d) away from magnetic field