ANSWER KEY- PHYSICS

MPM – 107 A

1. L E D (Light emitting diode) — 1 score

2. Split ring (Split ring commutator) — 1 score

3. 50 Hz — 1 score

4. $P= I^2R$ $2\times2\times200 = 800$ W — 1 score
   Amperage= wattage/voltage = 800/230 = 3.47 = 3.5 A — 1 score

5. a) South pole (S) — 1 score
   b) i) The mgnetism is temporary. — 1 score
   ii) Magnetic strength can be changed.(any two points-1/2 score each)

6. a) In to the magnet — 1 score
   b) Direction of magnetic field — 1 score
   direction of current (1/2 score each)

7. a) Heating effect of electric current — 1 score
   b) Low melting point — 1 score
   High resistivity
   Alloy of tin and lead (any two points- 1/2 score each)
   c) The ends of the fuse wire must be connected firmly at appropriate ends.
   The fuse wire should not project out of the carrier base. — 1 score
   Fuse wire of appropriate amperage should be selected.
   (any two points- 1/2 score each)

8. a) Electro magnetic induction — 1 score
   b) Define electromagnetic induction. — 1 score
   c) Brief explanation of working of moving coil microphone. — 1 score

9. a) P- anti clockwise Q- clockwise Draw figure — 1 score
   (any one correct answer- 1/2 mark)
   b) Maxwell's right hand thumb rule. (right hand thumb rule) — 1 score
   c) Definition — 1 score

10. a) high resistivity
   high melting point
   high ductility (an two points- 1/2 score each) — 1 score
   b) No, it didn't emit white light/ it becomes red hot (1+1) — 2 score
   c) To avoid vaporisation of tungsten filament/ to avoid vaporisation — 1 score

11. a) series connection/ series — 1 score
   b) R= R1+R2 = 3+2= 5Ω — 1 score
   c) I= V/R =10/5= 2 A — 1 score
   d) $H= I^2Rt$ $2\times2\times5\times120 = 2400$ J — 1 score

12. a) AC generator — 1 score
   b) Mechanical energy → electrical energy — 1 score
   c) a- armature — 2 score
   b- field magnet (magnetic poles
   c- slip rings
   d- brushes (1/2 score each)