

Physics Q&A – 26th July 2017:

Q1. To draw maximum current from a combination of cells, how should the cells be grouped?

- (a) Series
- (b) Parallel
- (c) Mixed
- (d) Depends upon the relative values of external and internal resistance

Ans: D

Q2. Rectifiers are used to convert

- (a) DC to AC
- (b) AC to DC
- (c) Low voltage to high voltage
- (d) None of these

Ans: B

Q3. A capacitor (condenser) is used in an electrical circuit in order to

- (a) Prevent the flow of electric charge
- (b) Store electric charge
- (c) Produce electric charge
- (d) Switch off the current

Ans: B

Q4. A fuse wire is used to

- (a) Make the electrical circuit strong
- (b) Convert AC into DC
- (c) Convert DC into AC
- (d) Prevent an unduly high electric current from passing through a circuit

Ans: D

Q5. Superconductors are the substance which

- (a) Conduct electricity at low temp.
- (b) Conduct electricity at high temp.
- (c) Offer no resistance to the flow of electricity
- (d) None of these

Ans: C

Q6. In a fusion reaction,

- (a) The nucleus splits up into two fragments and energy is released
- (b) Four hydrogen nuclei unit to form one helium nucleus and energy is absorbed
- (c) Four hydrogen nuclei unit to form one helium nucleus and energy is released
- (d) The nucleus splits up into two fragments and energy is absorbed

Ans: C

Q7. The velocity of neutron in a nuclear reactor is retarded by

- (a) Ordinary water
- (b) Heavy water
- (c) Mercury
- (d) Alcohol

Ans: B

Q8. A radioactive element emits an alpha particle. The mass number of the element, after emission

- (a) Remains unchanged
- (b) Increases by one
- (c) Increases by three
- (d) Decreases by four

Ans: D

- Q9. Cadmium rods are used in a nuclear reactor
- (a) For promoting chain reaction
 - (b) For creating more neutrons
 - (c) For controlling the operation of the Nuclear reactor
 - (d) None of these

Ans: C

Q10. Graphite and heavy water are two common moderators used in a nuclear reactor. The function of the moderator is to

- (a) Slow down neutrons
- (b) Absorb neutrons
- (c) Cool the reactor
- (d) Arrest the chain reaction

Ans: A

Q11. Good conductors have many loosely bound -

- (a) atoms
- (b) protons
- (c) molecules
- (d) electrons

Ans: D

Q12. Astigmatism can be corrected by -

- (a) Bifocal lenses
- (b) Cylindrical lenses
- (c) Concave lenses
- (d) Plano-convex lenses

Ans: B

Q13. The half-life of a radioactive substance depends upon

- (a) Its temperature
- (b) The external pressure
- (c) The mass of the substance
- (d) None of these

Ans: C

Q14. The nucleus of an atom consists of

- (a) Protons + electrons
- (b) Only protons
- (c) Protons + neutrons + electrons
- (d) Protons and neutrons

Ans: D

Q15. Which of the following type of radiation does not originate within the nucleus?

- (a) Alpha
- (b) Beta
- (c) Gamma
- (d) X-rays

Ans: D