Step Academy official

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STUDENT NAME	
PAPER CODE	55624
TIME ALLOWED	40
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CLASS	New 1st Year (FSC/ICS)
SUBJECT	Physics
TOTAL MARKS	25
Paper Type	

Q2. Choose the correct answer. **25X1=25**

1. Relative motion is defined as the motion of one object:

(A) W.r.t the ground **(B)** W.r.t time **(C)** W.r.t one another **(D)** W.r.t itself

2. In relative motion, if object A is stationary and object B is moving, the velocity of B relative to A is:

(A) Equal to velocity of B **(B)** Zero **(C)** Equal to velocity of A **(D)** Negative of velocity of A

3. The coordinate system in which law of inertia is valid is called:

(A) Special frame of reference **(B)** Inertial frame of reference **(C)** Non-inertial frame of reference **(D)** Standard frame of reference

4. An inertial frame of reference is one in which:

(A) Newton's laws of motion are not valid **(B)** Newton's first law is valid **(C)** Objects always accelerate **(D)** The speed of light is variable

5. Which of the following is a non-inertial frame of reference?

(A) A train moving at constant speed on a straight track **(B)** A stationary table **(C)** A car accelerating forward **(D)** A spaceship drifting in deep space with no forces acting

6. A freely falling elevator is an example of:

(A) Inertial frame **(B)** Non-inertial frame **(C)** Rotational frame **(D)** Stationary frame

7. A rotating merry-go-round is an example of:

(A) Inertial frame **(B)** Static frame **(C)** Non-inertial frame **(D)** Geostationary frame

8. If a nucleus has 20 protons and 22 neutrons, its mass number and atomic number respectively are:

(A) 42 and 20 **(B)** 20 and 22 **(C)** 22 and 20 **(D)** 42 and 22

9. The stability of a nucleus depends mainly on the:

(A) Number of electrons **(B)** Mass number **(C)** Neutron-to-proton ratio **(D)** Binding energy of electrons

10. When a particle and its anti-particle meet, what happens?

(A) They bounce off **(B)** They fuse **(C)** They annihilate, releasing energy **(D)** They become dark matter

11. In matter anti-matter annihilation, the energy released appears in the form of:

(A) Alpha particles **(B)** Neutrinos **(C)** Photons (gamma rays) **(D)** Electrons

12. In annihilation, an electron and a positron combine to produce:

(A) One gamma photon **(B)** Two gamma photons **(C)** Three gamma photons **(D)** A proton and a neutron

13. Which of the following is not affected by electric and magnetic field?

(A) Alpha particles **(B)** Beta particles **(C)** Gamma rays **(D)** Electrons

14. The SI unit of radioactivity is:

(A) Curie **(B)** Becquerel **(C)** Rutherford **(D)** Sievert

15. The particle emitted in alpha decay is:

(A) Helium nucleus **(B)** Electron **(C)** Neutron **(D)** Position

16. Which radiation is deflected by electric and magnetic fields?

(A) Alpha and beta **(B)** Gamma only **(C)** Alpha only **(D)** Gamma and beta

17. In Beta-plus decay, which particle is emitted?

(A) Electron **(B)** Neutron **(C)** Positron **(D)** Proton

18. Which of the following is a fundamental particle?

(A) Proton **(B)** Neutron **(C)** Electron **(D)** Alpha partical

19. Which of the following is not a lepton?

(A) Electron **(B)** Neutrinos **(C)** Muon **(D)** Proton

20. Which of the following particles is massless?

(A) Neutron **(B)** Photon **(C)** Electron **(D)** Neutrino

21. Which particle is hypothetical and has not yet been experimentally confirmed?

(A) Gluon **(B)** Higgs boson **(C)** Graviton **(D)** Electron

22. Which field is associated with the Higgs boson?

(A) Magnetic field **(B)** Gravitational field **(C)** Higgs field **(D)** Quantum field

23. What is quark composition of a neutron?

(A) uud **(B)** uuu **(C)** ddd **(D)** udd

24. The fiield associated with Higgs boson is called:

(A) Electromagnetic field **(B)** Higgs field **(C)** Gravitational field **(D)** Quantam chromodynamics field

25. The Higgs boson is a type of:

(A) Lepton **(B)** Quark **(C)** Boson **(D)** Fermion