

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS X EXAMINATION




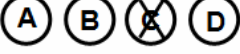

MAY 2015

Physics Paper I

Time: 35 minutes Marks: 25

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 25 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

Correct Way		Incorrect Ways	
1		1	
		2	
		3	
		4	

Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. Which of the following will happen when water waves enter the shallow part of a ripple tank?

	Speed of Water Waves	Wavelength of Water Waves
A	Decreases	Decreases
B	Decreases	Increases
C	Increases	Decreases
D	Increases	Increases

2. All of the following means are used to transfer energy from one place to another EXCEPT

- A. matter.
- B. charges.
- C. mechanical waves.
- D. electromagnetic waves.

3. Wars on Earth are very noisy affairs but a war in space will be very quiet because

- A. space is very far from the Earth.
- B. sound waves cannot travel through a vacuum.
- C. sound waves lose energy as they reach the Earth.
- D. sound waves are blocked by the planets in space.

4. Which of the following is used to determine the pitch of the sound?

- A. Speed
- B. Direction
- C. Frequency
- D. Number of beats

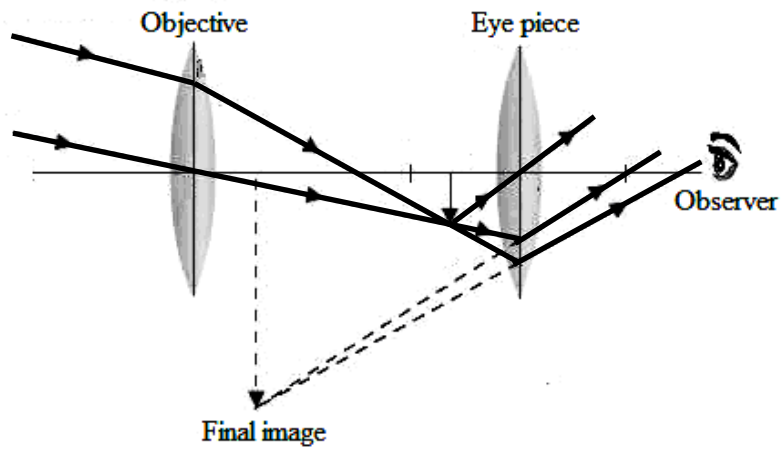
5. If an object is placed at the centre of curvature in front of a converging lens, then the image of the object will be formed

- A. at the principle focus.
- B. at the centre of curvature.
- C. beyond the centre of curvature.
- D. between the principle focus and the centre of curvature.

6. Which of the following phenomena of light occurs in optical fibre?

- A. Refraction
- B. Diffraction
- C. Interference
- D. Total internal reflection

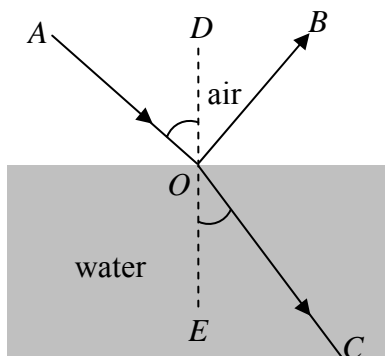
7. The nature of the image formed at objective and eye piece by the given optical instrument will be



	Objective	Eye piece
A	Real	Real
B	Real	Imaginary
C	Imaginary	Imaginary
D	Imaginary	Real

8. According to the given ray diagram which of the following is/ are TRUE?

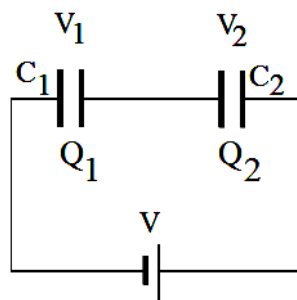
- I. $\angle AOD = \angle BOD$
- II. $\angle AOD = \angle COB$
- III. $\angle AOD$ is greater than $\angle COE$



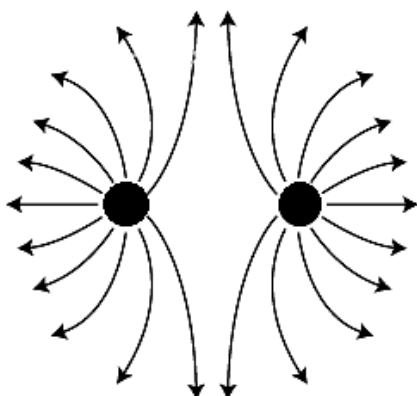
- A. I and II
- B. I and III
- C. II and III
- D. III only

9. Which of the following is/ are TRUE for the given circuit?

- I. $Q_1 = Q_2$
 - II. $V = V_2 - V_1$
 - III. $C_1 = C_2$
- A. I only
 - B. II only
 - C. III only
 - D. II and III



10. Which of the following is TRUE about type and magnitude of charges for the given figure?



	Type of Charges	Magnitude of Charges
A	Both negative	Equal
B	Both positive	Equal
C	Both negative	Unequal
D	Both positive	Unequal

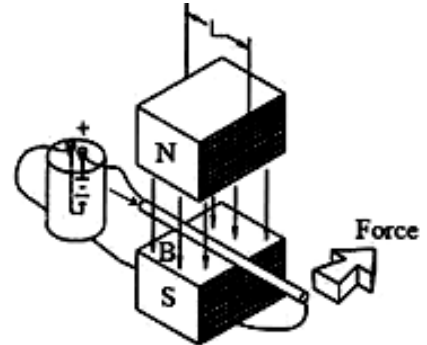
11. Which of the following is NOT representing volt?

- A. electrostatic potential.
- B. electromotive force.
- C. potential difference.
- D. potential energy.

12. Which of the following is the best conductor of electricity?

	Material	Resistivity ($\Omega \cdot m$)
A	Silver	1.6×10^{-8}
B	Copper	1.7×10^{-8}
C	Aluminium	2.7×10^{-8}
D	Tungsten	5.3×10^{-8}

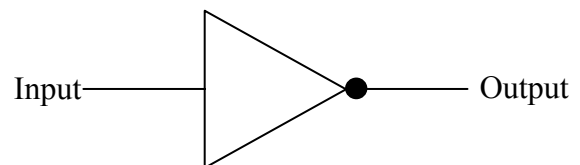
13. If the number of turns of secondary coil is doubled then the alternating voltage of an AC generator will become
- half.
 - double.
 - quarter.
 - four times.
14. All of the following depend upon the electromotive force (e.m.f) induced in the secondary coil of a transformer EXCEPT for the
- power in primary coil.
 - voltage applied to the primary coil.
 - number of turns of the primary coil.
 - number of turns of the secondary coil.



15. All of the following decrease the force on a wire in a magnetic field by decreasing their values EXCEPT for the
- current in the wire.
 - strength of magnetic field.
 - distance between the wire and the magnet.
 - length of the wire inside the magnetic field.
16. All of the following decrease the total force acting on the armature of a DC motor EXCEPT a decrease in
- area of the coil.
 - shape of the coil.
 - current in the coil.
 - number of turns of the coil.

17. The given symbol represents the working of a/an

- NOT gate.
- AND gate.
- NOR gate.
- NAND gate.



18. Which of the following is NOT the part of a cathode rays oscilloscope?
- An armature
 - An electron gun
 - A deflecting plate
 - A fluorescent screen

19. Which of the following is NOT a telecommunication device?
- A. Telescope
 - B. Computer
 - C. Fax machine
 - D. Mobile phone
20. Which of the following is NOT the use of internet?
- A. Transporting goods
 - B. Making telephone calls
 - C. Accessing world wide web
 - D. Sending and receiving electronic mails
21. Which of the following is TRUE about the ionization power of α , β and γ radiations?
- A. $\alpha > \beta > \gamma$
 - B. $\alpha > \gamma > \beta$
 - C. $\gamma > \beta > \alpha$
 - D. $\beta > \gamma > \alpha$
22. Stable elements can be changed into radioactive elements by bombarding them with
- I. neutrons.
 - II. electrons.
 - III. alpha particles.
- A. I only
 - B. II only
 - C. I and II
 - D. I and III
23. Which of the following affects the process of radioactivity?
- A. Mass
 - B. Pressure
 - C. Temperature
 - D. Electric field
24. Which of the following particles is positively charged?
- A. Beta
 - B. Alpha
 - C. Neutron
 - D. Electron
25. All of the following could be uses of radio-isotopes EXCEPT
- A. sterilizing the surgical instruments.
 - B. detecting the presence of a baby in the womb.
 - C. testing the leakage in pipelines and aircraft parts.
 - D. making smoke detectors for homes and businesses.

Please use this page for rough work

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