

E-JUST Entrance Exam model

**Faculty of Engineering, Computer Science and Information Technology,
(Art & Design) (sustainability Architecture)**

Subject: Physics

Time: 20 minutes

Marks: 20 Marks

Student Name:.....

Application ID No:.....

Undergraduate Entrance Examination Instructions

- 1. Examinees will be provided with question booklet and answer sheet.**
- 2. Questions are on both the front and back of the page.**
- 3. Question booklet contains scratch papers for use in solving exams.**
- 4. Answer ALL questions to the best of your abilities. Be sure to write legibly and choose your answers clearly using HB or B pencil, not pen.**
- 5. Question booklet will be collected back.**

Choose the correct answer for the following questions: (1 Mark for each question)

1. Gravitational potential energy increases when:
A) Speed increases
B) **Height increases**
C) Mass decreases
D) Force decreases

2. The unit of work is:
A) Watt
B) Newton
C) Pascal
D) **Joule**

3. A body moving in a circle at constant speed has:
A) Zero acceleration
B) **Centripetal acceleration**
C) No force
D) Tangential force only

4. Pressure increases when:
A) Area increases
B) **Area decreases**
C) Force decreases
D) Density decreases

5. If force is perpendicular to motion, work done is:
A) Maximum
B) Minimum
C) **Zero**
D) Infinite

6. A 5 kg body under 20 N force accelerates at:
A) **4 m/s²**
B) 5 m/s²
C) 2 m/s²
D) 10 m/s²

7. Energy from the Sun reaches Earth by:
A) Conduction
B) Convection
C) **Radiation**
D) Diffusion

8. At constant volume, pressure is directly proportional to:
- A) Volume
 - B) Density
 - C) **Temperature (in Kelvin)**
 - D) Mass
9. If gas temperature doubles (in Kelvin) at constant pressure, volume:
- A) Halves
 - B) **Doubles**
 - C) Stays same
 - D) Becomes zero
10. Increasing surface area increases rate of:
- A) Conduction only
 - B) Expansion
 - C) **Heat transfer**
 - D) Pressure
11. In reflection from a mirror, incident ray, reflected ray, and normal lie in:
- A) **Same plane**
 - B) Different planes
 - C) Curved line
 - D) Parallel lines
12. Light bends at the boundary between two media due to change in:
- A) Frequency
 - B) Energy
 - C) **Velocity**
 - D) Direction only
13. If object is at focal point of convex lens, image forms at:
- A) Focal point
 - B) Behind lens
 - C) **Infinity**
 - D) Between F and 2F
14. When frequency increases, wavelength (in vacuum):
- A) Increases
 - B) **Decreases**
 - C) Remains constant
 - D) Doubles

15. The equivalent resistance of two resistors 6Ω and 3Ω in parallel is:
A) 9Ω
B) 6Ω
C) **2Ω**
D) 3Ω
16. The unit of electrical power is:
A) Volt
B) Ampere
C) **Watt**
D) Ohm
17. In a series circuit, total resistance is:
A) Product of resistances
B) Same as smallest resistor
C) **Sum of resistances**
D) Zero
18. A generator works based on:
A) Conduction
B) Electrostatics
C) **Electromagnetic induction**
D) Friction
19. The magnetic force on a stationary charge is:
A) Maximum
B) Half
C) **Zero**
D) Infinite
20. In a plane mirror, image distance is:
A) Double object distance
B) Zero
C) Random
D) **Equal to object distance**