R I P H A H I N T E R N A T I O N A L U N V I E R S I T Y

Faculty of Engineering and Applied Sciences

Sample Admission Test

Note: All Questions are to be attempted.

Q. No 1 Is 1 a root of the equation ?
$X_3 + 2x_2 + x + 1 = 0$ Prove?

Q. No 2 In a quadratic equation if B2 4ac < 0 then the roots are _____

Q. No 3 Two coins are tossed together. What is the probability of getting a head and a tail?

Q. No 4 240 degree = _____ radians.

Q. No 5 If acceleration is denoted by the function f (x) = x4, then distance will be the first integral of this function. (True/False)

Q. No 6 Two lines given by the equations y = 5x + 4 and -5x + 4 are mutually perpendicular to each other. (True/False)

Q. No 7 The circle $4x_2 + 4y_2 + 8 = 0$ has its center at _____

Q. No 8 In an AP the first term = 2 and common difference d = 3, then 10_{th} term is equal to:

a. 32
b. 31
c. 30
d. 29

Q. No 9 If c, j and k are mutually perpendicular vector then c x j = j x c. (True/False)

Q. No 10 If 1 is a matrix, then 1A is equal to:

a. -A
b. 2A
c. 3A
d. A

Q. No 11 If the length f a rectangle is increased by 20 percent and width is decreased by 20 percent what percentage change occurs in the area:

a. It remains the same
b. It increases 5%
c. It increases 4%
d. It increases 2%

Q. No 12 One side of rectangle is x inches. If the perimeter is p inches, what is the length in inches of the other side?

a. p-x
b. p-2x
c. (p-x)/2
d. (p-2x)/2

Q. No 13 If the circumference of a circle increases from 2p inches to 2 p inches what change occurs in the area?

a. It remains the same
b. It doubles
c. It triples
d. It quadruples

Q. No 14 If y = 5 and xy = 35. Find the value of x

Q. No 15 If $v2+ x2/2 = 3$ then x = _____
$vx+x2/2 = 3$

Q. No 16 For a body to move in a circle:

a. The centripetal force should be zero.
b. The centrifugal force should be zero.
c. The centripetal force should be equal to centrifugal force.
d. The centrifugal force should be greater than the centripetal force.

Q. No 17 When a lift moves upwards with a uniform acceleration a passenger.

a. Experiences no difference in weight.
b. Experiences weight greater than its weight.
c. Experiences weight lesser than its own weight.

Q. No 18 A ball and a train move with the same velocity. The kinetic energies of the two will be equal. (True/False)

Q. No 19 A man climbs a ladder 10 meters high and returns top to the ground. On reaching the ground:

a. The man has done work equal to the product of his weight and the height gone up and down.
b. He has done no work.
c. He has done work equal to the product of his weight and the height goes up only.

Q. No 20 Two friends in a boat found that water was f lowing in from a small crack in the bottom. They can empty the boat by sip honing the water. (True/ False).

Q. No 21 A magnifying glass is a concave lens. (True/False)

Q. No 22 If a gas is cooled its pressure will tend to:

a. Increase
b Decrease
c. Remains the same.

Q. No 23 Water is transferred from a pipe of 0.5 cm dia to a pipe of 2.0 cm dia by mans of a pump. The pressure in the 0.5 cm pipe as compared to the 2.0 cm pipe will be:

a. Lesser
b. Greater
c. Equal

Q. No 24 Ina capacitor the capacitance is inversely proportional to the density of the dielectric. (True/False)

Q. No 25 When two resistance R_1 and R_2 are connected in parallel the total resistance is:

a. $R_1 + R_2$
b. $R_1 + R_2$
$R_1 R_2$
c. $R_1 + R_2 / R_1 + R_2$

Q. No 26 The outer most orbit of Copper has _____ electron.

Q. No 27 Absolute zero is:

a. -273 degree Fahrenheit
b. -273 degree Kelvin
c. -273 Centigrade

Q. No 28 The density of gas varies directly to pressure at a given temperature. (True/False)

Q. No 29 In the compound $C_6H_{12}O_6$ the element presenting highest percentage by weight is Oxygen. (True/False)

Q. No 30 Viscosity of a liquid is directly proportional to density. (True/False)