HITSEEE Sample Paper

1. A jet airplane travelling at the speed of 500 km h-1 ejects its products of combustion at the speed of 1500 km h relative to the jet plane. What is the speed of the latter with respect to an observer on the ground?

- 2000 km/h
- -2000 km/h
- 1000 km/h
- -1000 km/h

2. Find the odd one out

- Interia of mass
- Inertia of rest
- Inertia of motion
- Inertia of direction

3. The word RADAR stand for

- Radio amplification detection and ranging
- Radio detection and ranging
- Real time detection and ranging
- Rapid detection and ranging

4. The device used to produce electric current is called

- Generator
- Galvanometer
- Ammeter
- Voltmeter

5. Property of a body to restore its original size and shape as deforming force ceases to act is called

- Energy
- Floating
- Elasticity
- Plasticity

6. A particle is taken around a circle by the application of force. Then the work done

- By the force is zero
- By the force is +ve non zero
- By the particle is +ve non zero
- On the particle is +ve non xero

7. The amount of material found in an object is known as its

- Density
- Mass

- Volume
- Temperature

8. The factors on which one magnetic field strength produced by current carrying solenoids depends are
- Magnitude of current
- Number of turns
- Nature of core material
- All of these.

9. A parallel plate capacitor stores a charge Q at a voltage V. Suppose the area of the parallel plate capacitor and distance between the plates are each doubled which of the quantities will change?
- Capacitance
- Charge
- Voltage
- Energy density

10. The emission of electrons by absorption of heat energy is called
- Photoelectric emission
- Field emission
- Secondary emission
- Thermionic emission

11. A force is said to be conservative if the total work done in moving a particle between two points
- Depends on the path taken
- Depends on the position of the body
- Is zero irrespective of the path taken
- Is independent of the path taken

12. Graphite and diamond are
- Covalent and molecular crystals
- Ionic and covalent crystals
- Both covalent crystals
- Both molecular crystals

13. During electrolysis of molten sodium chloride, the time to produce 0.1 mole of chlorine gas using a current of 3A is
- 55 minutes
- 107.2 minutes
- 220 minutes
- 330 minutes

14. In the electrolytic refining of copper, which one of the following is used as anode
- Pure copper
- Impure copper
- Carbon rod
- Platinum electrode

15. Reaction of acetone with one of the following reagents involves nucleophilic addition followed by elimination of water. The reagent is
- Grignard agent
- Sn/HCl
- Hydrazine in presence of slightly acidic solution
- Hydrocyanic acid

16. Flux is a substance which is used to correct
- Mineral into silicate
- Infusible impurities to soluble impurities
- Soluble impurities to infusible impurities
- All of these

17. The area of a triangle with vertices (-3, 0), (3, 0), and (0, K) is 9 sq units. The value of K will be
- 9
- 3
- -9
- 6

18. Objective function of a linear programming problem is
- A constraint
- Function to be optimized
- A relation between the variables
- None of these

19. Two dices are thrown. If it is known that the sum of number on the dice was less than 6, the probability of getting a sum of 3 is
- 1/18
- 5/18
- 1/5
- 2/5

20. Derivative of a function is unique but a function can have indefinite antiderivatives
- True
- False

21. Formula of bayes theorem is

- P(A)B = P(B|A)P(A)P(B)
- P (A|B) = P(A)P(B)
- P (A|B) = P(B|A)P(B)
- P(A|B) = 1P/B

HITSEEE Sample Questions with Answers

1. What is the probability that the minute and hours hands of a clock will form an acute angle at the given time?

- P > 0.5
- P = 0.5
- P < 0.5
- P = 0.25

Answer : C

2. A single dice is rolled. The probability of getting 1 or even number is

- 1/6
- 4/6
- 5/6
- .3/6

Answer: D

3. The perpendicular bisector of the line segment joining P (1,4) and Q (k,3) has y-intercept-4. Then a possible value of K is?

- 1
- -4
- 3
- 2

Answer: B

4. The mean of the numbers a,b,8,5,10 is 6 and the variance is 6.80. Then which one of the following gives possible values of a and b?

- A =0, b = 7
- A =5, b = 2
- A = 3, b = 4
- A = 2, b =4

Answer: C

5. The first two terms of a geometric progression add up to 12. The sum of the third and the fourth terms is 48. If the terms of the geometric progression are alternately positive and negative, then the first term is

- -2
- -4
- -12
- 8

Answer: C

6. A student is to answer 10 out of 13 questions in an examination such that he must choose at least 4 from the first five questions. The number of choices available to him is

- 140
- 196
- 280
- 346

Answer: B

7. The wave associated with a particle is called

- Electromagnetic wave
- Matter wave
- Micro wave
- All the above

Answer: B

8. De-Broglie concept is significant for

- Electrons
- Protons
- Neutrons
- All of the above

Answer: D

9. The metal with high electron affinity is

- Chlorine
- Cesium
- Gold
- Cadmin

Answer: C

10. Which of the following is an electromagnetic spectrum ?

- Gamma rays
- X rays
- Visible rays
- All of the above

Answer: A

11. When light travels from air to water, which parameter does not charge?
- Wavelength
- Frequency
- Velocity
- All of the these

Answer: B

12. On dipping an electrically conducting rod in boiling water, its conductivity
- Increases
- Decreases
- Remains unchanged
- Decreases for thin rod but increases for thick rod

Answer: B

13. According to the triangle law of forces, A. Three forces acting at a point will be in equilibrium
- Three forces acting at a point can be represented in magnitude by the faces of a
- Triangle taken in order then the three forces are in equilibrium
- Three forces acting at a point can be represented in magnitude and direction by the
- faces of a triangle taken in order then the three forces are in equilibrium
- None of these

Answer: C

14. If young's interference experiment is performed using two separate identical sources of light instead of using two slits and one bulb, then
- Interference fringes will be brighter
- Interference fringes will be colored
- Interferences fringes will be darker
- No fringes will be obtained

Answer: D

15. How many millimeters are in 24 cm?
- 240

- 2400
- 24000
- 240000

Answer: A

16. In a study which cells are found in COVID -19 patients bode well for long term immunity?

- P-Cell
- D-Cell
- T-Cell
- Endothelial cells

Answer: C

17. Which of the following diseases are related to coronavirus?

- MERS
- SARS
- Both A and B
- Neither A and B