JEE Main 2024 Daily Practice Questions

Physics

Question 1: What happens to the inductive reactance and the current in a purely inductive circuit if the frequency is halved?

(1) Both, inductive reactance and current will be halved.

(2) Inductive reactance will be halved and current will be doubled.

(3) Inductive reactance will be doubled and current will be halved.

(4) Both, inducting reactance and current will be doubled.

Question 2: In a series LCR resonance circuit, if we change the resistance only, from a lower to higher value:

(1) The bandwidth of resonance circuit will increase.

(2) The resonance frequency will increase.

(3) The quality factor will increase.

(4) The quality factor and the resonance frequency will remain constant.

Question 3: Which level of the single ionized carbon has the same energy as the ground state energy of hydrogen atom?

(1) 1

(2) 6

(3) 4

(4) 8

Chemistry

Question 1: If the kinetic energy of an electron is increased four times, the wavelength of the de-Broglie wave associated with it would become

(1) Two times

(2) Half

(3) One fourth

(4) Four times

Question 2: In a hydrogen atom, if the energy of an electron in the ground state is 13.6 eV, then that in the 2nd excited state is

(1) 1.51 eV

(2) 3.4 eV

(3) 6.04 eV

(4)13.6 eV

Question 3: Which of the following statements in relation to the hydrogen atom is correct?

(1) 3s orbital is lower in energy than 3p orbital

(2) 3p orbital is lower in energy than 3d orbital

(3) 3s and 3p orbitals are of lower energy than 3d orbital

(4) 3s, 3p and 3d orbitals all have the same energy

Mathematics

Question 1: A doctor is called to see a sick child. The doctor knows (prior to the visit) that 90% of the sick children in that neighbourhood are sick with the flu, denoted by F, while 10% are sick with the measles, denoted by M. A well-known symptom of measles is a rash, denoted by R. The probability of having a rash for a child sick with the measles is 0.95. However, occasionally children with the flu also develop a rash, with a conditional probability of 0.08. Upon examination the child, the doctor finds a rash. Then what is the probability that the child has the measles?

Question 2: The mean and S.D. of the marks of 200 candidates were found to be 40 and 15 respectively. Later, it was discovered that a score of 40 was wrongly read as 50. The correct mean and S.D. respectively are _____.

Question 3: Mean of 100 observations is 45. It was later found that two observations 19 and 31 were incorrectly recorded as 91 and 13. The correct mean is _____.