JEE Main 2024 Daily Practice Problems (DPP) and Questions

Physics

Ques. If a planet has a mass equal to 16 times the mass of Earth, and a radius of 4 times that of Earth. The ratio of the escape speed of the planet to that of the Earth is:

1. 2:1

2. 1:2

3. $\sqrt{2}$:1

4. 4:1

Ques. Suppose a situation in which two planet orbits around the sun in the same orbit. If the mass of planet 1 is twice the mass of planet 2, then what do they have the same?

1. Potential energy

2. Kinetic energy

3. Total energy

4. Velocity

Ques. The length of a conductor having resistance 160Ω is compressed to 25% of its initial value. The new resistance will be:

1. 10Ω

2. 20Ω

3. 15Ω

4. 17Ω

Chemistry

Ques. The bond order and magnetic properties of acetylide are similar to:

1. NO^+

2. NO^-

3. O_2^+

4. O_2^-

Ques. A gas with MW= 42 AMU will have the same RMS velocity (at 27°C) as that of Vmps of which gas at 27°C

1. CO_2

2. CO

3. N_2O

4. NO_2

Ques. A 12.5 eV electron beam is used to bombard gaseous hydrogen at room temperature. Calculate the total number of spectral lines when electrons return to the ground state.

1. 3

2. 2

3. 4

4. 1

Mathematics

Ques. If a plane 4x-3y+z=2 is rotated by an angle of π/2 at the intersection point of another plane 3x+11z-4y+12 then P(2,3,4) is at what distance from the resultant plane?

Ques. Three numbers a, b, c are in A.p. and they are used to make a 9-digit number using each digit thrice, such that at least 3 consecutive digits are in A.P. Then number of such numbers is.

Ques. Number of 7 digit odd numbers formed using 7 digits 1, 2, 2, 2, 3, 3, 5 will be:

1. 80

2. 420

3. 240

4. 140