## JEE Main 29 January 2024 Shift 2 Answer Key Physics

Q.1: A rod of length 2 m is moving with velocity $2 \mathrm{mn} / \mathrm{sec}$ along the positive z -axis and $\mathrm{B}=2 \mathrm{~T}$ along the negative side x -axis. What will be the emf induced in the rod?
A.1: 8 mv
Q.2: What will be the speed of the bob at the lowermost position, if a simple pendulum of length 10 m , the string is initially kept horizontal and the bob is released, and there is a $10 \%$ of energy is lost till the bob hit the lowermost position?
A.2: 6 root $5 \mathrm{~m} / \mathrm{s}$
Q.3: A planet situated at a distance of r from the sun requires 200 days to orbit the sun once. What would be the orbital period for a planet located at a distance of $\mathrm{r} / 4$ from the sun?
A.3: 25 days
Q.4: The intensity at each slit is equal for a YDSE and it is maximum $I_{\max }$ at central maxima. If I is intensity for phase difference $7 \mathrm{pi} / 2$ between two waves at the screen. Then $\mathrm{I} / \mathrm{I}_{\max }$ is ?

## A.4: 1/2

Q.5: A physical quantity $Q$ depends on the physical quantities $a, b$ and $c$ as $Q=a^{4} b^{3} / c^{2}$. If the maximum percentage error in the measurement of $\mathrm{a}, \mathrm{b}$ and c are $3 \%, 4 \%$ and $5 \%$ respectively, then find the maximum percentage error in the measurement of Q .
A.5: 34\%

