JEE MAIN 7 APRIL2025 SHIFT 2

PHYSICS QUESTION PAPER WITH ANSWER KEY

Q. No.	Questions	Answers
1	Given below are two statements. One is labelled as Assertion (A) and the other is labelled as reason (R). Assertion (A): Refractive index of glass is more than air. Reason (R): Optical density of a medium is directly related to its mass density. In the light of the above statements, choose the correct answer from the options given below	(A) is true but (R) is false
2	The figure shows a circular portion of radius R/2 removed from a disc of mass m and radius R. The moment of inertia about an axis passing through the centre of mass the disc and perpendicular to the plane is 	13/32 mR^2
3	Give below are two statements. One is labelled as Assertion (A) and the other is labelled as Reason (R). Assertion (A): A magnetic monopole does not exist. Reason (R): Magnetic lines are continuous and form closed loops. In the light of the above statements, choose the correct answer from the options given below:	Both (A) and (R) are true but (R) is the correct explanation of (A)
4	Potential energy is not defined for which of the force	friction
5	Which of the following as same dimensions as 	resistance

6	The velocity of a particle of mass 500 gms given by v = 4√x. Find the force acting on the paricle (in Newton)	4
7	An object is released from a plane moving horizontally with a speed 100 m/s at a height 2 km above ground. The horizontal distance travelled (in km) by the object is (take g = 10 m/s²)	2 Km
8	The maimum value of θ (shown in figure) for which total internal reflection can happen at point B is 	$Sin^{-1}(3/4)$
9	Distance between object and image for a convex lens is 40 cm and magnification is -1/4. Find focal length of the lens.	6.4 cm
10	Flux through a plane parallel to x-z plane is 6 Si units. Find area of plane if electric field in the region is E = (î+4 +k)10^3 N/C.	$1.5*10^{-3}$ m^2