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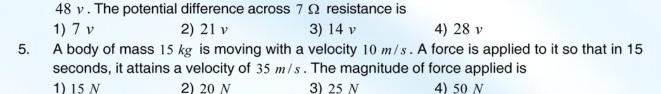
MPC/BIPC:: SAMPLE QUESTIONS

MATHEMATICS

1.	In between 2, 20 there are 8 Arithmetic mean's then the sum of 8 means is				
	1) 94	2) 88	3) 80	4) 90	
2.	If $\sin \theta_1 + \sin \theta_2 + \sin \theta_3 + \dots + \sin \theta_{10} = 10$ $(0 < \theta < 180)$ then the value of				
	$\tan\left(\frac{\theta_1}{2}\right) + \tan\left(\frac{\theta_2}{2}\right) + \tan\left(\frac{\theta_3}{2}\right) + \dots + \tan\left(\frac{\theta_{10}}{2}\right)$ is				
	1) 10	2) 5	3) 8	4) 9	
3.	The probability of getting 52 Sundays in a leap year is $P(E_1)$ and the probability of getting 53				
	Mondays in a Non leap year is $P(E_2)$ then the value of $P(E_1): P(E_2)$ is				
	1) 1 : 5	2) 3:1	3) 6 : 1	4) 5 : 1	

PHYSICS

Three resistances 3Ω , 6Ω and 7Ω are connected in series across a potential difference of



- 6. If acceleration due to gravity on earth is $10 m/s^2$, then what is its value on a planet whose mass is half that of earth and radius is twice that of the earth?
 - 1) $10 \ m/s^2$
- 2) 5 m/s^2
- 3) $20 m/s^2$
- 4) $1.25 \ m/s^2$

CHEMISTRY

- Shapes of CH_4 , NH_3 and H_2O are tetrahedral, pyramidal and v-shape respectively. 7. Hybridisation of central atoms in these species respectively is
 - 1) sp^{3}, sp, sp^{2}
- 2) sp, sp^{2}, sp^{3}

 - 3) sp^3, sp^2, sp 4) sp^3, sp^3, sp^3
- What mass of limestone on thermal decomposition yield, 5,600 ml of CO, gas at STP? 8.
- 2) 50 g
- 3) 12.5 g
- 4) 75 g
- IUPAC nomenclature of $CH_3 \dot{C}H CH_2 \ddot{C} OH$ is: 9.
 - 1) 4 carboxybutan-2-ol
- 2) 3 hydroxybutanoic acid
- 3) 3 hydroxybutanone
- 4) 2 hydroxybutanoic acid

BIOLOGY

- 10. Food after digestion in the stomach is acidic because of the presence of
 - 1) H_2SO_4
- 2) HC1
- 3) HNO₃
- 4) Pepsin
- 11. The number of chambers in the heart of cockroach is
- 2) 4
- 3) 13
- 4) 9
- 12. What will be the genotype of F, plants if a plant with tall and green seeds is crossed with dwarf and yellow seeds. Tall is dominant over dwarf and yellow is dominant over green
 - 1) TTYY
- 2) TtYy
- 3) TTYy
- 4) TtYY

