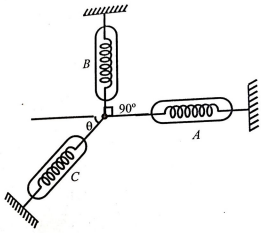
NEW STANDARD ACADEMY

Marks: 60

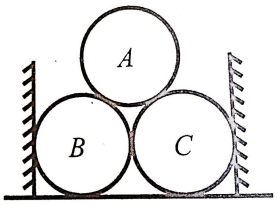
Date : 22-07-24 **CLASS : 11TH NEET** **Time: 3 HRS**

PHYSICS

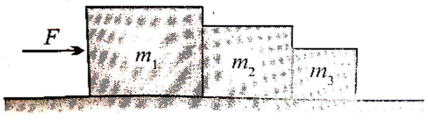
1. Three spring balances are attached to the ring as shown in the figure. There is an angle of 90° between the balance A and balance B. There is a reading of 5 N on balance A and 12 N on the balance B.What is the reading in the balance C?



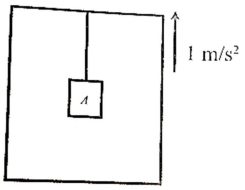
2. Three identical smooth cylinders each of mass $\sqrt{3}$ kg are placed as shown in the figure. Find normal reaction between cylinder A and cylinder B.



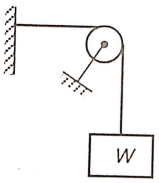
3. Three blocks of masses m_1, m_2 and m_3 kg are placed in contact with each other on a frictionless table. A force F is applied on the heaviest mass m_1 the acceleration of m_3 will be



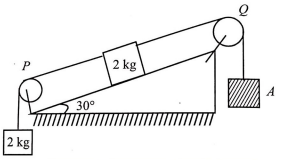
4. The mass of a body measured by a physical balance in a lift at rest is found to be m. If the lift is going up with an acceleration a, its mass will be measured as
5. If the elevator in the shown figure is moving upwards Apply in with constant acceleration 1m /s^2 the tension in the string connected to block A of mass 6 kg would be (g = 10m /s^2) .



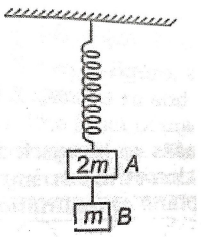
6. In the situation shown in figure the block of weight W is suspended from a string. The pulley is frictionless and massless. Calculate the tension in the string and the force exerted by the clamp on the pulley.



7. In the arrangement shown in figure (i) what should be the mass of block A so that the system remains at rest. (ii) Also find force exerted by string on the pulley Q. (g = 10 m/s²)



8. Two blocks of masses 2 m and m are in equilibrium as shown in the figure. Now the string between the blocks is suddenly broken. The accelerations of the blocks A and B respectively at that instant are



9. A rocket with a lift-off mass 3.5×10^4 kg is blasted upwards with an initial net acceleration of 10m /s^2 Then, the initial thrust of the blast is.

10. In a rocket of mass 1000 kg fuel is consumed at a rate of 40 kg/s. The velocity of the gases ejected from the rocket 6 is 5×10^4 m / s. The thrust on the rocket is.

CHEMISTRY

1. Describe the hydridization of orbitals of N- atom in NO_3^-, NO_2^+
2. Why PCl_5 exists but not NCl_5
3. Draw the shape of X_eF_4 molecule
4. How many sigma and Pi bonds present in between C-C atom of CaC_2
5. H_2S, NH_3,SiH_4,BF_3 arrange then in increasing order of bond angles
6. $H_3\underline{B}O_3$ explain the Hybridization of underlined atom in given molecule.
7. Calculate the σ & π bonds in the following
   a) $CH_3 - CH = CH - CH_3$
   b) CH_2=CH-CH_2-C$\equiv CH$
8. Write the (f) Halides of Alkali metals and arrange then in their increasing covalent character order.
9. N_2 is paramagnetic while O_2 is diamagnetic why
10. For a diatomic molecule the dipole moment is 1.2 D and Bond length is 1.0Å then charge fraction on each atom is-?

BIOLOGY

1. What is a difference between diploblastic and triploblastic animals explain with example.
2. What is Bioluminescence explain with example.
3. What is a tissue level body organisation, give the name of group which show this type organisation.
4. What is coelom? How can you differentiate coelmate and pseudocoelomate.
5. What is corals give the example.
6. What is totipotency in porifera give the name of cell which show totipotency.
7. Define with example
   a Osculum
   b Cnidocytes
8. In roots which type vascular bundle is present explain it .
9. What is stomata draw the labelled diagram.
10. What is conjoint vascular bundle give the example with figure.