UDAAN WEEKLY WORKSHEET 2 (20-11-2016)

CLASS XI

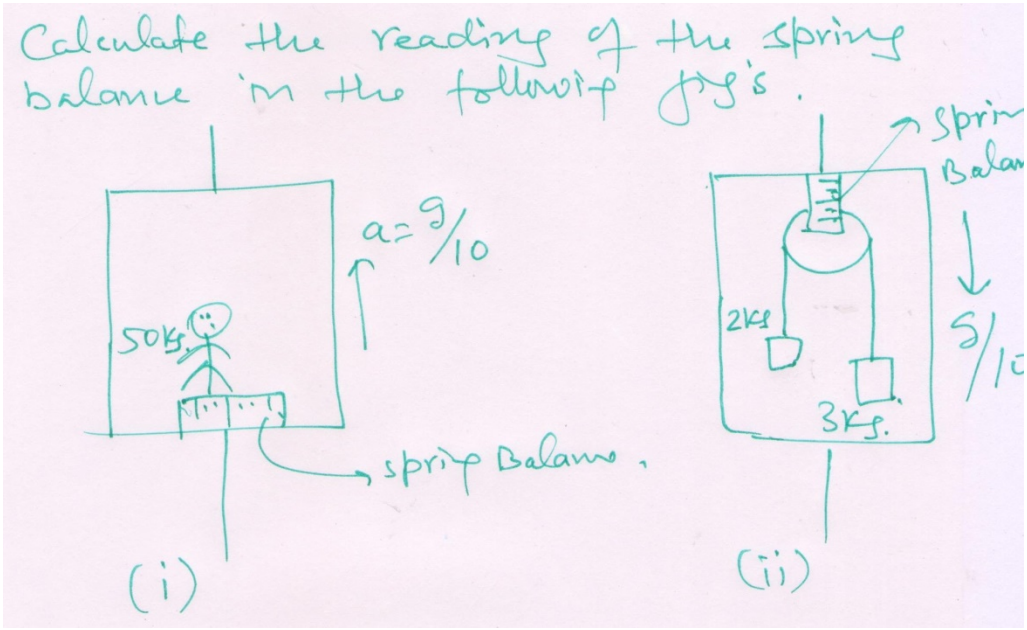
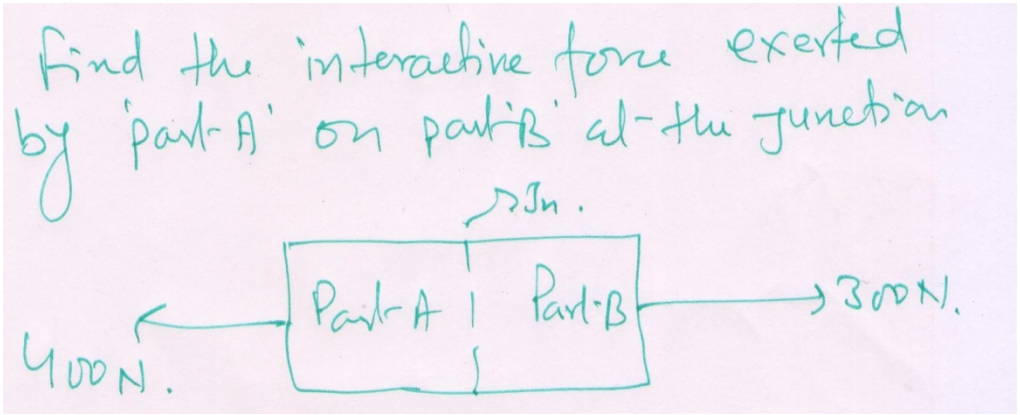
MATHEMATICS

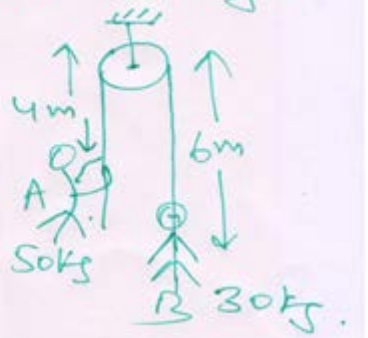
Question 1	For the equation $3x^2 + px + 3 = 0$, $p > 0$, if one of the roots is square of the other, then p is equal to (a) 1/3 (b) 1 (c) 3 (d) 2/3
Solution	
Correct Option	
Question 2	If $b > a$, then the equation $(x - a)(x - b) - 1 = 0$ has (a) both roots in $[a, b]$ (b) both roots in $(-\infty, a)$ (c) both roots in (b, ∞) (d) one root in $(-\infty, a)$ and other in $(b, \propto$
Solution	
Correct Option	

Question 3	If α and β $(\alpha < \beta)$, are the roots of the equation $x^2 + bx + c = 0$, where $c < 0 < b$, then (a) $0 < \alpha < \beta$ (b) $\alpha < 0 < \beta < \lvert\alpha\rvert$ (c) $\alpha < \beta < 0$ (d) $\alpha < 0 < \lvert\alpha\rvert < \beta$ **(I.I.T. 2k, 1)**
Solution	
Correct Option	
Question 4	If α, β are the roots of $ax^2 + bx + c = 0$, $(a \neq 0)$ and $\alpha + \delta, \beta + \delta$ are the roots of $Ax^2 + Bx + C = 0$, $(A \neq 0)$ for same constant δ, then prove that $$\frac{b^2 - 4ac}{a^2} = \frac{B^2 - 4AC}{A^2}$$
Solution	
Correct Option	

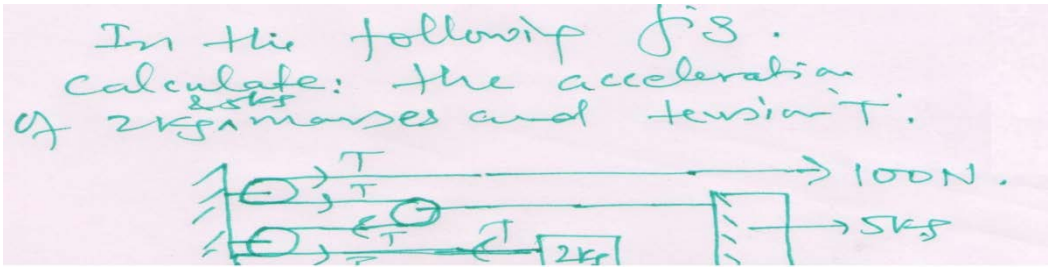
Question 5	(Main exam.) If α, β are the roots of the equation $(x-a)(x-b)+c=0$, find the roots of the equation $(x-\alpha)(x-\beta)=c$
Solution	
Correct Option	

PHYSICS

Question 1	
Solution	
Correct Option	
Question 2	

Solution	
Correct Option	
Question 3	A 5kg rope is used to pull a 50kg man fallen into a ditch.
Solution	
Correct Option	
Question 4	Find the time taken by the monkey 'A' to reach the pulley. starting from rest. 

Solution	
Correct Option	

Question 5	
Solution	
Correct Option	

CHEMISTRY

Question 1	Which of the following is a bridge element? A) Be B) Cl C) K D) P
Solution	
Correct Option	

Question 2	The ionization energy of nitrogen is more than that of oxygen because A. Nitrogen has half-filled p-orbital B. Nitrogen atom is smaller in size than oxygen atom C. Nitrogen atom is smaller in size than oxygen atom D. Nitrogen is less electronegative.
Solution	
Correct Option	

Question 3	In the long form of periodic table, elements are arranged according to A. increasing atomic number B. decreasing atomic number C. increasing atomic mass D. decreasing atomic mass.
Solution	
Correct Option	

Question 4	4. The most electronegative and the most electropositive elements of the first period is/are A. H and He B. Na and Cl C. Li and F D. H and H
Solution	
Correct Option	

Question 5	Which of the following statements is not correct? A. Among halogens, oxidizing behaviour increases down the group B. Among alkali metals, reducing character increases down the group C. Fluorine is the most electronegative elements D. Lithium is the hardest metal among alkali metals.
Solution	
Correct Option	