

Shri Swami Vivekanand Shikshan Sanstha, Kolhapur's

Vivekanand College, Kolhapur

(Empowered Autonomous)

Department of Physics

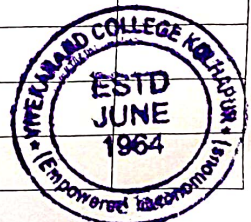
B. Sc. / M.Sc. Part - I, Semester - I, PHYSICS Paper -

Title of the Paper: Mechanics - I (Surprise Test)

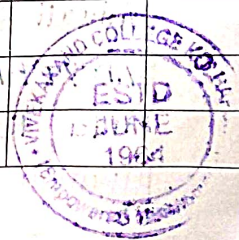
Name of Teacher: Dr. N. A. Narwadikar

Attendance Sheet

Sr. No.	Name of the Student						
		22-8-24					
1)	Ayon S. Shaikh	A.S.S	03				
2)	Sahil Sachin. Pachakatti	Sachin	03				
3)	Harshvardhan M. Kate	M. Kate	05				
4)	Shivtej Vijay Patil	S. Patil	01				
5)	Pranav Dashrath Patil	P. Patil	01				
6)	Alpaj Ramjan Patel	A. R. Patel	05				
7)	Vinit Nikhil Magdum	V. N. H.	05				
8)	Suraj Dharmaraj Jekhe	S. D. J.	02				
9)	Atharva R. Patil	A. R. Patil	01				
10)	Amit . S. Patil	A. S. Patil	04				
11)	Nikhil . S. Salokhe	N. S.	03				
12)	Pandurang. H. Rupnar	P. H. Rupnar	04				
13)	Yash Laxman Dhotre	Y. L. D.	03				
14)	Rushik Umesh Pawar	R. U. P.	02				
15)	Trupti Dattatray Chougale	T. D. C.	04				
16)	Sakshi . D. Sakhedkar	S. D. S.	06				
17)	Shivali Shivaji Kumbhar	S. K.	05				
18)	Shreya Pandurang Powar	S. P.	01				
19)	Arfa Parvej Sayyod	A. P. S.	01				
20)	Mrunali T. Kotmine	M. T. K.	0				



21)	Vaishnavi S. Sawul.	Patil	07				
22)	Anushka J. Patil.	Patil	05				
23)	Shreya S. Patil	Patil	04				
24)	Vaishnavi S. Chougale. vs. chougale.		02				
25)							
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॥ ज्ञान, विज्ञान आणि सुखदिव्यता कोशिकी शिक्षण प्रसार ॥

- शिक्षणमंडळी डॉ. बापूजी साठुंबे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

51569

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

Alpaj Ramjan patel
SUPPLIMENT

Signature
of
Supervisor

03
10

Suppliment No. :

Roll No. : 7266

Class :

Subject : physics.

Test / Tutorial No. :

Div. :

Q1

1]

→ 0/ zero.

2]

→ 0/ opposite.

Q2

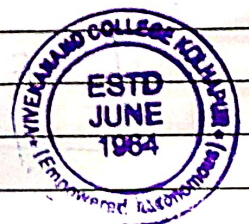
2. Newton's first and second Law's of motion.

* first law :-

The Newton's first law of motion is known as the law of inertia. It can be made clear by more example.

Ex

A book is kept on table at a rest unit its external force is not applied when external force is applied then book is moved to the table.



Statement :-

Every inanimate body continues in state of rest or uniform motion in a straight line unless acted upon by an unbalanced force.

* Second Law's of motion :-

Newton's second is an a rate of change of momentum is directly proportional to impressed force. The place is direction which force is acting. the imp.

ex

Suppose the mass is m and the velocity is v . Let's free space the velocity is $\bar{v}$ and with is time of the substance

$$= mv - m\bar{v}$$

$$= \frac{\text{The change of momentum}}{\text{time}}$$

$$= \frac{m\bar{v} - mv}{t}$$

$$= \frac{m(\bar{v} - v)}{t}$$

$$= ma$$

$$(v - u) = at$$

$$F = ma$$



Anushka J. Patil.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

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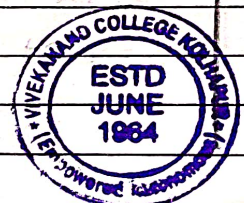
Q1.

1) Acceleration of inertial frame of reference is -----

→ b) Constant

2) According to Newtons third law of motion and reaction act along ----- direction.

→ d) Any random.



QTL

2. Newton's First law

Newton's First law of the motion is known as the inertia. It can be more clear by the following eg.

- ① The book kept on the table & chair is on where act on the force. This book does not apply on the chair.

3. Inertial Frame of reference

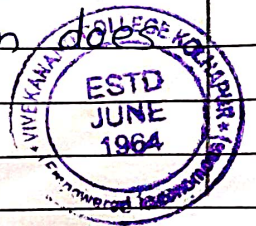
Inertial Frame of reference is defined as - Newton's law of motion hold true.

Eg: The EIFFEL tower is rotating with earth rotation but the people EIFFEL tower don't see the rotational because people is in the frame of the reference.

B)

Non-inertial Frame of reference.

Non-inertial Frame of reference in which Newton's law of motion does not hold true.



1. Given: $m = 2.89 \text{ kg}$, $F = 30.2 \text{ N}$
 $T = 2.16 \text{ s}$

$$F = m \cdot a$$

$$a = \frac{F}{m}$$

$$= \frac{30.2}{2.16}$$

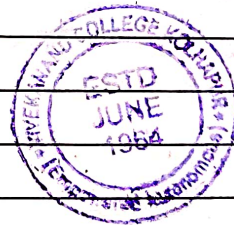
$$= 0.65 \text{ m/s}^2$$

$$a = \frac{v-u}{t} = \frac{v}{t}$$

$$v = a \cdot t$$

$$= 0.65 \times 2.16$$

$$v = 1.38 \text{ m/s}^2$$



Vaishnavi Sachin Sawul.

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Roll No. : 7334

Class : BSc. I

Signature
of
Supervisor

07
10

Subject : Physics

Test / Tutorial No. :

Div. :

Q. 1.

1) Accⁿ of inertial frame of reference is constant.

2) According to Newton's third law of motion action & reaction act along any random.

Q. 2.

1) Given,

$$M = 2.89 \text{ kg}$$

$$F = 30.2 \text{ N}$$

$$t = 2.16 \text{ s}$$

$$\therefore F = M \cdot a$$

$$\therefore a = \frac{F}{M} = \frac{30.2}{2.89} = 0.65 \text{ m/s}^2$$



$$\therefore a = \frac{v-u}{t} = \frac{v}{t}$$

$$\therefore v = a \cdot t$$

$$= (0.65) \cdot (2.16)$$

$$v = 1.38 \text{ m/s}$$

3) • Inertial frame of reference:-

"Inertial frame of reference is defined as the Newton's law of motion hold true."

eg. The EIFFEL tower is rotate with earth rotation but the people near EIFFEL tower don't see the rotation because people is in the # frame of reference.

• Non - Inertial frame of reference:-

"Non-inertial frame of reference in which Newton's law of motion does not hold true is called non-inertial frame of reference."

eg. The earth rotate around itself but we can not see the rotation but the people in space can see the motion because # people is in space is in non-inertial frame of reference.

