

Enrollment No: \_\_\_\_\_

Exam Seat No: \_\_\_\_\_

# C. U. SHAH UNIVERSITY

## Summer Examination-2020

**Subject Name : Physics-I**

**Subject Code : 4SC01PHC1**

**Branch: B.Sc. (All)**

**Semester : 1**

**Date : 02/03/2020**

**Time : 02:30 To 05:30**

**Marks : 70**

**Instructions:**

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

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<b>Q-1</b>	<b>Attempt the following questions:</b>	<b>(14)</b>
	a) Define acceleration.	1
	b) State the Universal law of Gravitation.	1
	c) Give value of “Acceleration due to gravity” (g)?	1
	d) Pascal is the unit of ?	1
	e) What is the range of ultrasonic waves?	1
	f) Hertz is the unit of ?	1
	g) Write any one of the Newton’s laws of Motion.	1
	h) Draw the wave forms of : Alternating current & Direct Current.	1
	i) Name the fundamental forces.	1
	j) Name any one unit of temperature measurement.	1
	k) $\frac{\text{Stress}}{\text{Strain}} = \text{_____}$	1
	l) What is the relation between current (I), Resistance (R) and volatage(V)?	1
	m) Name any three physical quantities measured by a Multimeter.	1
	n) What is the unit of force?	1

**Attempt any four questions from Q-2 to Q-8**

<b>Q-2</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) State only Kepler’s three laws of planetary motion	7
	b) Explain Weightlessness.	7
<b>Q-3</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Name any two methods for production of Ultrasonic Waves and explain it.	7
	b) Explain Newton’s law of cooling.	7
<b>Q-4</b>	<b>Attempt all questions</b>	<b>(14)</b>
	a) Discuss the “Work – Energy” theorem and derive necessary formula.	7
	b) Classify the Sound waves and explain the transverse and longitudinal waves.	7



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|------------|--|-------------|
| <b>Q-5</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Discuss Simple pendulum with neat and clean diagram.  | 7           |
|            | b) Explain the measurement of acceleration due to gravity by bar pendulum.                     | 7           |
|            |  |             |
| <b>Q-6</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Define Young's Modulus, Bulk Modulus and Rigidity modulus.                                  | 7           |
|            | b) Explain measurement of moment of inertia using Flywheel.                                    | 7           |
|            |  |             |
| <b>Q-7</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Name any three network theorems. State and prove thevenin's theorem.                        | 7           |
|            | b) Explain Norton's theorem.   | 7           |
|            |  |             |
| <b>Q-8</b> | <b>Attempt all questions</b>   | <b>(14)</b> |
|            | a) Define Angular Velocity, Angular Acceleration, Torque, Angular Momentum, Moment of Inertia. | 7           |
|            | b) Define Escape velocity & obtain the equation for escape velocity from the earth.            | 7           |

