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.

Q-1   **Attempt the following questions:**   (14)
   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) $\dfrac{\text{Stress}}{\text{Strain}} = _____$ 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

Q-2   **Attempt all questions**   (14)
   a) State only Kepler's three laws of planetary motion   **7**
   b) Explain Weightlessness.   **7**

Q-3   **Attempt all questions**   (14)
   a) Name any two methods for production of Ultrasonic Waves and explain it.   **7**
   b) Explain Newton's law of cooling.   **7**

Q-4   **Attempt all questions**   (14)
   a) Discuss the "Work – Energy" theorem and derive necessary formula.   **7**
   b) Classify the Sound waves and explain the transverse and longitudinal waves.   **7**

Q-5		**Attempt all questions**	**(14)**
	a)	Discuss Simple pendulum with neat and clean diagram.	**7**
	b)	Explain the measurement of acceleration due to gravity by bar pendulum.	**7**

Q-6		**Attempt all questions**	**(14)**
	a)	Define Young's Modulus, Bulk Modulus and Rigidity modulus.	**7**
	b)	Explain measurement of moment of inertia using Flywheel.	**7**

Q-7		**Attempt all questions**	**(14)**
	a)	Name any three network theorems. State and prove thevenin's theorem.	**7**
	b)	Explain Norton's theorem.	**7**

Q-8		**Attempt all questions**	**(14)**
	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**