Shree H.N.Shukla group of colleges

PHYSICS
T.Y.B.Sc. (Sem. V) (CBCS)
Unit Test examination
PAPER- 501
UNIT 2, 3 - CLASSICAL MECHANICS

DATE :   **TOTAL MARKS : 30**

Instructions: All questions are compulsory.
The right side figure indicates total marks of the question.
Draw the figure wherever necessary.
Write answers of all the questions in main answer sheets.

SECTION-A

Q.1: One marks questions: **[5 MARKS]**

1   Write the equation of generalized force.

2   Give the expression of hamilton's principle.

3   What is generalized coordinate of a simple pendulum.

4   Write the equation of compound pendulum.

5   Define : phase space.

SECTION – B

Q.2 (A): Short Questions: Write all three : [2 Marks each]   [6 MARKS]

1   Explain configuration space .

2   Explain generlized displacement and velocity.

3   Explain : cyclic coordinate.

Q.2 (B) : Short questions: Write all three: [3 Marks each]   [9 MARKS]

1   Obtain newton's second law of motion from hamilton's principle.

2   Explain rayleigh 's dissipation fucntion.

3   Explain : hamilton's canonical equation.

Q.2 (C): Write Detail Note on [Any two]: [5 Marks each]   [10 MARKS]

1   Explain the classification of constraints.

2   Obtain the langrage's equaiton of motion.

3   Obtain the equation of simple pendulum from langrage's multiplier method.

4   Explain conservation of linera momentum.