

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATIONS-2022

M.Sc. (BT)-I Semester (BT)

COURSE CODE (CREDITS): 18MS1PH11 (2)

MAX. MARKS: 15

COURSE NAME: Basics of Physics and Chemistry

COURSE INSTRUCTORS: Dr. Poonam Sharma/Prof. Sunil Khah

MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1(a). What are the criteria for the spontaneous nature of chemical reaction? Give examples. 2

(b). How principles of bioenergetics are useful in sustaining life? 2

(c). Explain energy coupling with the help of an example. 2

(d). C_p is greater than C_v . Why? 2

Q2(a). Using the concept of internal energy, explain isothermal and adiabatic processes in thermodynamics 2

(b). Write definitions, dimensional formula and SI units of Work, Power. 2

(c). Derive all three Kinematic Relations from the following graph 3

