JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Make-up Examination-Nov-2025

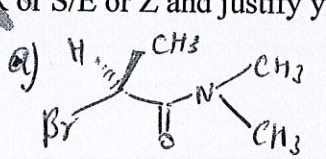
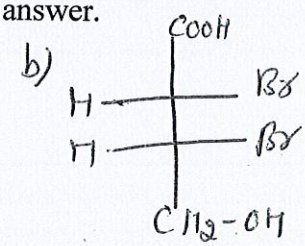
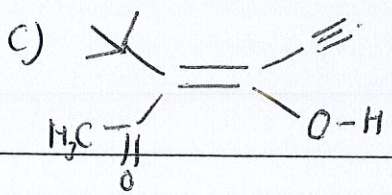
COURSE CODE (CREDITS):20MS1PH111 MAX. MARKS: 25

COURSE NAME: Basic of Chemistry and Physics

COURSE INSTRUCTORS: GPL & RRS MAX. TIME: 1 Hour 30 Min

Note: Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	Marks
Q1	a) Define kinetic and potential energies with formulas, units and proper examples b) What are x-rays and gamma rays? Discuss their uses also c) What are the properties of photons? d) Classify the waves (i) By what they move through (ii) How medium vibrates	[2] [2] [1] [2]
Q2	a) Convert the following: i. 3 m to Km ii. 55 mm to meter iii. 15 mm to Km iv. 5 cm^2 to m^2 b) Differentiate between a. Balanced and unbalanced forces b. mass and weight c) The width of the door is 100 cm, if it is opened by applying a 50 N force at its edge. Calculate the torque produced which causes the door to open.	[0.5x4=2] [2] [2]
Q3	Answer the following questions. a) Analyze the formation of thermodynamically favored and kinetically favored product. Sketch their energy diagram. b) How will you prepare 600 mL of 0.35 N sulphuric acid solutions from a stock of conc. sulphuric acid solution having sp. gr. 1.84 and purity 98%. Write all the steps (Consider safety protocol). a) Compare enantiomers with diastereoisomers. How will you separate enantiomers? c) Assign R or S/E or Z and justify your answer.   	[3] [3] [3] [3]

79