SEMESTER VI PRACTICAL EXAMINATION

PAPER : CC13 TIME : 2HRS FULL MARKS : 30

ANSWER ANY ONE OF THE FOLLOWING QUESTIONS

. 1 (a) Write down necessary working formula for determining the Brewster's angle for air glass interface using prism. 5

(b) Draw the necessary ray diagram of the above said practical. 5

(c) Make a table for taking necessary data for determining the Brewster's angle for air glass interface using prism. 10

(d) What is the role of polariser in this experiment? 6

(e) What are the factors governing the value of Brewster's angle? 4

2 (a) What is the necessity of leveling a spectrometer? What kind of image is formed by a telescope and what type of eye piece is used? 2+2+1

(b) Why readings of two verniers are taken in a spectrometer? 2

(c) What is diffraction grating? What is grating element and corresponding points? 2+2+1

(d) What will happen if number of rulings per cm is increased or decreased? If the total width of the grating is increased without changing the number of rulings per cm, what will happen? What do you mean by dispersive power and resolving power of grating? 2+2+2+2

(e) Write down the principle for determining the dispersive power of grating using a spectrometer and draw the relevant figure. 3+2

(f) Write down the principle for determining the resolving power of a grating and draw an empty table to determine the wavelength of different lines. 2+3

3. (a) State Malus's Law.

(b) Write Down the relevant Theory for Malus Law verification experiment.

(c) List the components of the apparatus used for the experiment.

(d) Write down the steps for the experiment.

(e) Give sketches of experimental outputs.

(f) State four precautions to be taken for the experiment. 2+10+2+8+4+4

4. (a) What is specific rotation for liquids?

(b)What is the aim of the experiment that is to be done with the polarimeter?

(c)Write down the relevant theory of the above mentioned experiment.

(d)List the components of a polarimeter, stating the function of each of its parts.

(e)Write down the various steps of the experiment briefly.

(f)Give the sketch of the experimental results.

(g) List two precautions for the above experiment. 2+2+6+4+10+4+2