Paper V — PLANNING, ANALYSIS, CONCLUSIONS AND EVALUATION

PLANNING: Q. No. 1

ANALYSIS, CONCLUSIONS AND EVALUATION: Q. No. 2

Duration: 1 h 15 minutes

Total marks: 15 + 15 = 30 (23% in A2) ⇒ 11.5% in A'level

PLANNING QUESTION:-

* Plan an experiment
* Perform the exp. as per plan
* desired results will be evaluated

(a) Defining a Problem [2]

Read the paragraph or use information from given eq to define.

* Independent Quantity :- one quantity
* Dependent Qty :- one quantity

[1]

* Quantities to be kept Constant [1]

two quantities

(b) Methods of data Collection [1+3=4]

Diagram : Draw a well annotated diagram covering the apparatus setup. [1]

Procedure [3]

Write step wise procedure to be opted coveling

1- How the independent qty is varied and measured.

2- How the dependant qty is measured.

3- How the quantities to be kept constant are kept constant.

(c) Method of analysis [3]

1- Specify physical quantities to be taken along x and y-axis.

(2) Specify the trend of graph and get expression of gradient and y-intercept (if any).

(3) Compare the eq. with $y = mx + c$ and put expression of gradient and y-intercept (if any) from graph to evaluate unknown quantities.

(d) Safety Precautions: [1]

List two (maximum) Safety Precautions to be considered for the Safety of observer from apparatus setup or technique to use the apparatus

(e) Additional details [5]

Specify six valid points to be considered for the improvement of results.

(1) How systematic and random errors are reduced.

(2) How the experiment is shielded from external factor ie temp etc.

(3) Any formula ie T/s, f/s^{-1} or V/v using oscilloscope, data loggers to determine time, velocity, acceleration or use of sensors.

(4) How percentage errors in the quantities are reduced for higher degree of accuracy.

(5) Any additional apparatus setup which enhances the design for better result.

(6) Any other additional detail i.e. detail which enhances the steps written in procedure.