

B.Sc.(Hons.) Part III, Examination, 2020

CITY COLLEGE CENTRE

PHYSIOLOGY HONOURS

Paper – VIII

ATTEMPT ALL QUESTIONS

Time 2 Hrs

FM 100

1. (a) The following is a set of data showing the grades achieved by students in their examination.

Grade	Frequency
A	8
B	21
C	12
D	05
E	04

(i) Draw a pie diagram to represent the data.

(ii) What type of variable is the data representing?

(b) Calculate the Mode of the sample having Median—62.26 kg and Mean—60.80kg.

(c) Calculate the Standard Deviation and Standard Error of Mean from the following data:

$$\Sigma f(X-\bar{X})^2 = 444.87; n= 14.$$

(d) Narrate how you will perform a t test for a Single Group Experimental data, mentioning it's significance, formulae and interpretation of data. **(5+1)+2+4+8 =20**

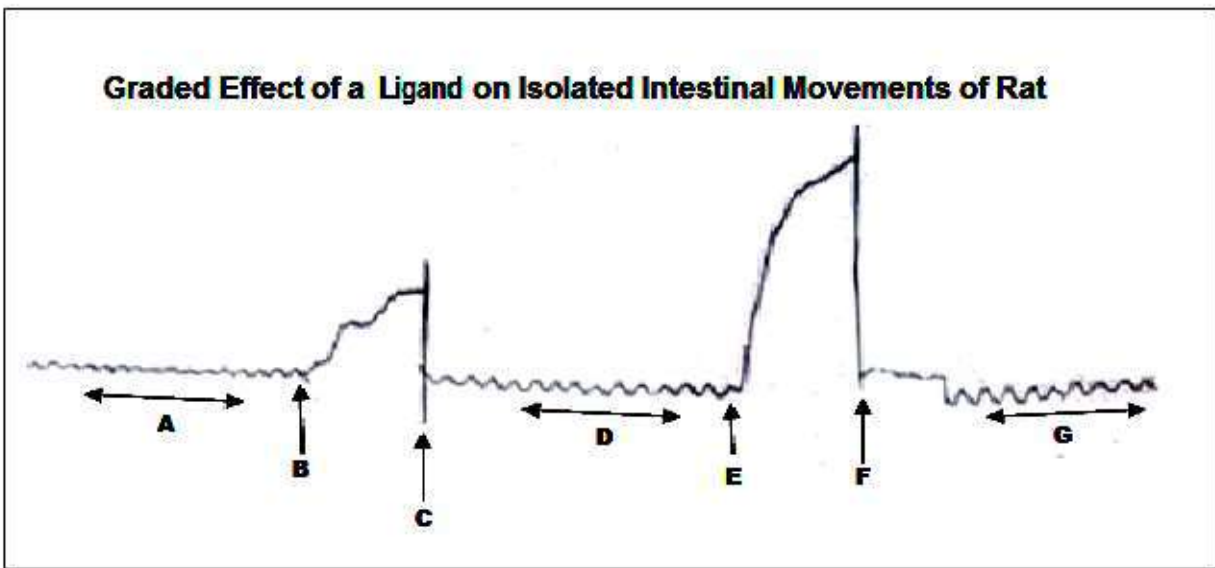
2. (a) Name two fixatives and two clearing agents. What is dehydration? Name the compound that is used for this purpose.

(b) State briefly the procedure for staining of the paraffin embedded tissues with H & E as followed in the class and mention the significance of each step.

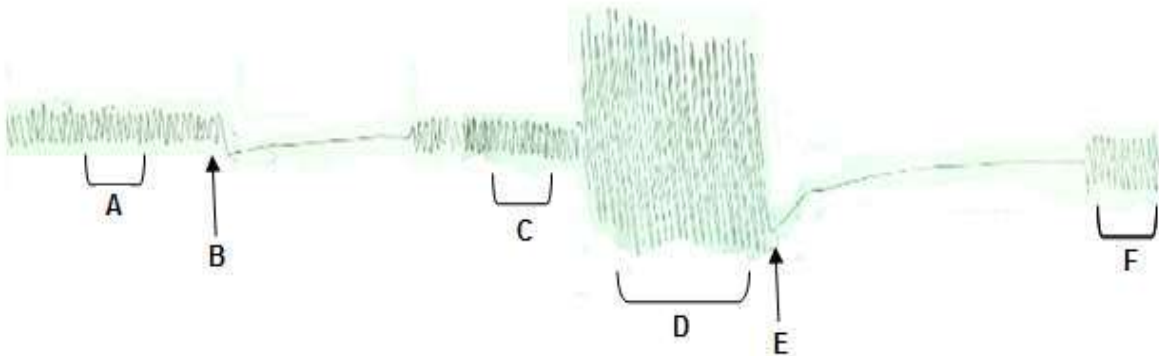
(c) What is a mounting solution? **(2+2+1+1) + (8+4) +2 =20**

3. (a) State the composition of a 250 ml of the working solution of Dale's fluid and express the concentration of each component in gm-mole/lit.

(b) Given below is the kymograph recording that you could obtain using different doses of a bioactive ligand in the routine procedure of Dale's experiment. Identify the physiological significance of each component of the recording. **6+ (2x7) =20**



4. (a) Give the formula of computing the physical fitness index (PFI) in context of the modified Harvard step test.
- (b) Is there any gender difference in the standard scores of PFI? How can you justify your answer?
- (c) Given below is a series of physiological events that you had noticed in a routine pneumographic experiment. Identify the events and interpret the result.



$$5 + (1+2) + (6 \times 2) = 20$$

- 5 (a) Describe the different methods of diet survey.
- (b) Which method did you follow in the diet survey of your family?
- (c) State the requirements of proteins, fats and carbohydrates in a normal diet.
- (d) Define the following: Physiological fuel value, Adult consumption unit and Specific dynamic action of food.

$$8 + 1 + 5 + (2 \times 3) = 20$$
