

**U.G. 4th Semester Examination - 2020****PHYSIOLOGY****[PROGRAMME]****Skill Enhancement Course (SEC)****Course Code : PHYSIOL(G)-SEC-T-2(A)&(B)**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***Answer all the questions from selected Option.****OPTION-A****PHYSIOL(G)-SEC-T-2(A)****(A) (Histopathological Techniques)**

1. Answer any **five** questions :  $2 \times 5 = 10$
- a) What is the difference between histology and histopathology?
  - b) What do you mean by fixative?
  - c) What is the purpose of dehydration step in tissue preparation?
  - d) What is the utility of cleaning agent in tissue preparation?
  - e) What is microtome?

- f) Give two identifying characters of T/S of ovary.
- g) What is Node of Ranvier?

2. Answer any **two** questions:  $5 \times 2 = 10$

- a) What are the advantages and disadvantages of using the following solutions as fixatives for tissue preparations for permanent slide—
  - i) Bouin's fluid.
  - ii) Carnoy's fluid.
- b) Write four characteristics of epithelial tissue.
- c) What is the purpose of adhesive during fixation?
- d) Name two clearing agents. State the advantages and disadvantages of using cedar wood oil as clearing agent.

3. Answer any **two** questions:  $10 \times 2 = 20$

- a) Briefly discuss the different steps of staining of fixed tissue section by using eosin and heamatoxylin.
- b) Discuss in brief about microtome.
- c) Write short notes on embedding.
- d) Draw the transverse section of stained liver and give two identifying characters.

**OPTION-B**

**PHYSIOL(G)-SEC-T-2(B)**

**(B) (Histopathological Techniques)**

1. Answer any **five** questions:  $2 \times 5 = 10$
- a) State the difference between a stain and a dye.
  - b) What is the difference between histology and histopathology of a tissue?
  - c) What is the purpose of fixation while preparing histological slides?
  - d) Mention two fixatives commonly used in laboratory.
  - e) What is the purpose of dehydration process in tissue preparation for histological slides?
  - f) What are the advantages and disadvantages of using Xylol as clearing agent?
  - g) Write down the composition of Leishman stain.
  - h) What do you mean by acid stain? Give one example.
2. Answer any **two** questions:  $5 \times 2 = 10$
- a) Describe the steps of fixation during preparing tissue for histological slides.
  - b) State the purpose of Wax impregnation or Embedding.

- c) Briefly state the procedure used for staining of the following epithelial tissue samples. Also mention what would you observe under microscope following the procedure.
  - d) What do you mean by progressive method of staining and regressive method of staining?
3. Answer any **two** questions:  $10 \times 2 = 20$
- a) Discuss the process of preparation and staining of blood film.
  - b) Briefly discuss the method of staining of fixed tissue sections using haematoxylin and eosin.
  - c) Briefly discuss the method used for measurement of diameter of megakaryocyte.
  - d) Briefly discuss the process of tissue fixation using formal solution.
- \_\_\_\_\_