

41(Sc)

UG-I/Physiol-II(H)/21

2021

PHYSIOLOGY

[HONOURS]

Paper : II

Full Marks : 75

Time : 4 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.

1. Answer any **five** questions: 1×5=5
- a) State the functions of goblet cells.
 - b) What is anoxia?
 - c) What is the normal respiratory rate?
 - d) State the physiological significance measuring diastolic pressure.
 - e) What is lung surfactant?
 - f) Name the nerve plexuses of the small intestine.
 - g) Why is SA node called the pacemaker of the heart?

2. Answer any **six** questions: 2×6=12
- a) Name two bile acids.
 - b) What is sinus arrhythmia?
 - c) Write the functions of parietal cells and chief cells of the stomach.
 - d) Write two causes of gastric ulcer.
 - e) Why is the first heart sound produced?
 - f) What is pulmonary hypertension?
 - g) What are intercalated discs?
 - h) Define 'lung compliance'.
 - i) What do you mean by pulse pressure and pressure pulse?
 - j) What is Cheyne-Stokes breathing?
3. Answer any **three** questions: 6×3=18
- a) What do you mean by special junctional tissues of the heart? State the functions of SA node. What is vagus escape?
2+(2+2)=6
 - b) Describe the process of secretion of HCL in the stomach. 6
 - c) Describe briefly about the functions of pancreatic juice. What is chyme? 4+2=6

[Turn over]

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- d) Give a brief account of the mechanics of breathing. 6
- e) Discuss briefly about the factors which control cardiac output. 6
4. Answer any **four** questions: 10×4=40
- a) i) What do you mean by 'autoregulation of cerebral blood flow'?
- ii) State the peculiarities of pulmonary circulation.
- iii) Write the normal resting potential of cardiac muscle. 3+6+1=10
- b) i) What do you mean by deglutition?
- ii) Describe about the different types of smooth muscle contractions found in the small intestine which helps to propel the chyme towards the large intestine.
- iii) Discuss about the site of secretion and function of CCK. 2+4+(2+2)=10
- c) Write short notes on : 5×2=10
- i) Ischaemic heart disease
- ii) Chloride shift.

- d) i) Write the effects of 2,3-DPG, pH and temperature on the affinity of haemoglobin for oxygen.
- ii) State the differences between the oxygen dissociation curve of haemoglobin and myoglobin. (2+2+2)+4=10
- e) i) Write briefly about the composition of gastric juice.
- ii) Describe the process of absorption of fats in the GI tract. 4+6=10
