Class No. : .....

Name : .....

FY 3026

FIRST YEAR HIGHER SECONDARY SECOND TERMINAL EXAMINATION, DECEMBER 2025

Part – III

BIOLOGY

(Part – A Botany and Part – B Zoology)

Maximum : 60 Scores

Time : 2 Hours

Cool-off Time : 15 Minutes

General Instructions to Candidates :

- *There is a 'Cool off time' of 15 minutes in addition to the writing time. Further, there is a '10 minutes' preparatory time' at the end of the Botany examination and before the commencement of Zoology examination.*
- *Use the 'Cool off time' to get familiar with questions and to plan your answers.*
- *Read questions carefully before answering.*
- *Write answer to the specific number of questions as instructed.*
- *Calculations, figures and graphs should be shown in the answer sheet itself.*
- *Malayalam version of the questions is also provided.*
- *Give equations wherever necessary.*
- *Electronic devices except non programmable calculators are not allowed in the Examination Hall.*

വിദ്യാർത്ഥികൾക്കുള്ള പൊതുനിർദ്ദേശങ്ങൾ :

- നിർദ്ദിഷ്ട സമയത്തിന് പുറമെ 15 മിനിറ്റ് 'കൂൾ ഓഫ് ടൈം' ഉണ്ടായിരിക്കും കൂടാതെ ബോട്ടണി പരീക്ഷയ്ക്കുശേഷം സുവോളജി പരീക്ഷ തുടങ്ങുന്നതിന് മുമ്പ് '10 മിനിറ്റ്' തയ്യാറെടുപ്പുകൾ നടത്തുന്നതിനായി നൽകുന്നതാണ്.
- 'കൂൾ ഓഫ് ടൈം' ചോദ്യങ്ങൾ പരിചയപ്പെടാനും ഉത്തരങ്ങൾ ആസൂത്രണം ചെയ്യാനും ഉപയോഗിക്കുക.
- ഉത്തരങ്ങൾ എഴുതുന്നതിന് മുമ്പ് ചോദ്യങ്ങൾ ശ്രദ്ധാപൂർവ്വം വായിക്കണം.
- എല്ലാ വിഭാഗത്തിലും നിർദ്ദേശിക്കപ്പെട്ട എണ്ണം ചോദ്യങ്ങൾക്ക് മാത്രമേ ഉത്തരം എഴുതേണ്ടതുള്ളൂ.
- കണക്ക് കൂട്ടലുകൾ, ചിത്രങ്ങൾ, ഗ്രാഫുകൾ എന്നിവ ഉത്തരപേപ്പറിൽ തന്നെ ഉണ്ടായിരിക്കണം.
- .ചോദ്യങ്ങൾ മലയാളത്തിലും നൽകിയിട്ടുണ്ട്.
- ആവശ്യമുള്ള സ്ഥലത്ത് സമവാക്യങ്ങൾ കൊടുക്കണം.
- പ്രോഗ്രാമുകൾ ചെയ്യാനാകാത്ത കാൽക്കുലേറ്ററുകൾ ഒഴികെയുള്ള ഒരു ഇലക്ട്രോണിക് ഉപകരണവും പരീക്ഷാഹാളിൽ ഉപയോഗിക്കുവാൻ പാടില്ല.

PART – B
ZOOLOGY

Maximum : 30 Scores

Time : 1 Hour

Score

I. Answer any 3 questions from 1 to 5. Each carries 1 score. **(3×1=3)**

1) _____ is the excretory organ of annelids.

2) What will happen to the respiratory process in a man who is climbing a hill ?

3) a) Pneumatic skeleton is a feature of _____.

b) Central cavity of sponges is called _____.

4) What is the percentage of oxygen transported by RBCs in blood ?

5) Categorise the following fishes into osteichthyes and chondrichthyes.

(Exocoetus, Trygon)

II. Answer any 9 questions from 6 to 16. Each carries 2 scores. **(9×2=18)**

6) Note the relationship between the first two words and write a suitable word for the second pair.

a) Planaria : Flame cells;

Cockroach : _____

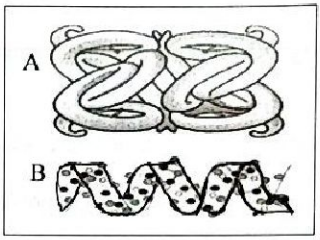
b) Jaw present : Gnathostomata;

Jaw absent : _____

Score

7) a) Identify the protein structures of A and B.

b) Give one example for each.



8) Match the following :

Operculum	Mollusca
Hairs	Porifera
Radula	Aschelminthes
Choanocytes	Osteichthyes
	Mammalia

9) Write whether the following statements are True or False. If the statement is wrong, correct it.

a) During aestivation and hibernation, gaseous exchange takes place through lungs.

b) Frog never drinks water but absorb it through skin.

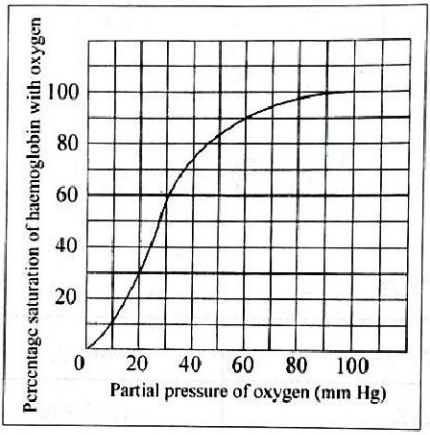
c) Frogs have the ability to change the colour to hide them from their enemies (camouflage).

Score

10) Observe the graph and answer the questions.

a) What is this graph called ?

b) Find out the pressure at which Haemoglobin is 30% saturated with O_2.



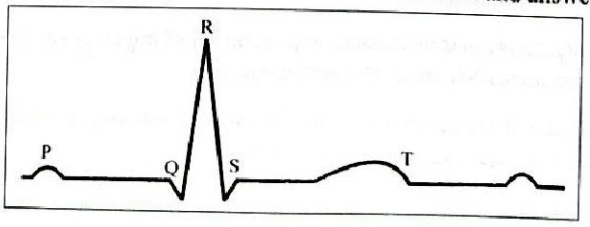
11) Write the function of the following structures in Frog.

a) Nictitating membrane.

b) Feet with webbed digit.

12) *Musca domestica* is the scientific name of Housefly. List the rules to be followed while writing the scientific names.

13) A normal electrocardiogram is shown below. Observe it and answer the questions.



a) What does a T wave in ECG represent ?

b) How can one determine the heart beat rate of an individual using electrocardiogram ?

Score

14) Breathing involves two stages, inspiration and expiration.

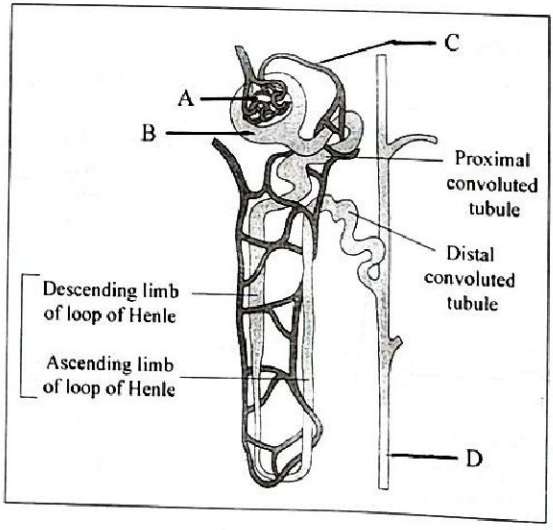
a) Explain the mechanism of inspiration.

b) Name the instrument which helps in the clinical assessment of pulmonary functions.

15) Complete the table.

Blood Group	Antigens on RBCs	Antibodies in Plasma
A	----------	Anti B
B	----------	----------
AB	A, B	nil
O	nil	----------

16) Label the parts marked as A, B, C and D.



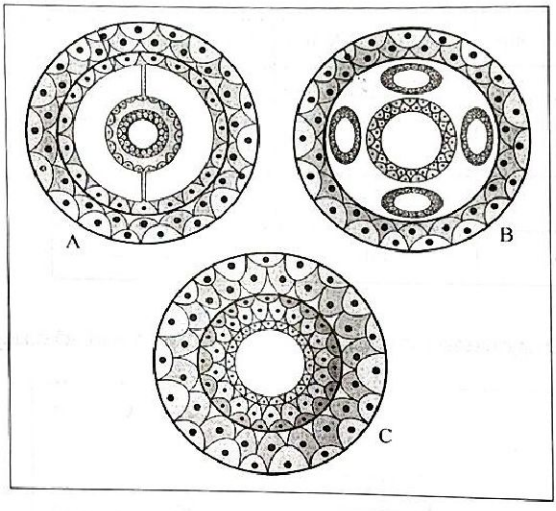
Score

III. Answer any 3 questions from 17 to 20. Each carries 3 scores. **(3×3=9)**

17) Observe the given picture and answer the following.

a) Identify the figures A, B and C.

b) Write the names of phyla which possess each ?



18) a) What will happen if the cofactor is removed from an enzyme ?

b) Name any two kinds of cofactors.

c) Write one difference between cofactor and prosthetic group.

19) Analyse the following statements and identify the disease.

a) Deposition of calcium in coronary artery.

b) Acute chest pain due to the deficiency of Oxygen.

c) Heart not pumping enough blood to meet the needs of the body.

d) Sudden damage of cardiac muscles.

e) Heart stops beating.

f) Blood Pressure above 140/90 mm of Hg.

Score

20) Observe the figure of organism given below.

a) Identify the symmetry of the organism.

b) Name the phylum to which it belongs.

c) Mention any two salient features of the phylum.