Katwa College

Internal Examination

Subject: Physiology (Honours) sem- **III** **CC-VI**

Session: 2021-2022

Full marks: 10 Time: 30 minutes

Answer any 5 questions: **[5x2=10]**

1. Why S.A node is called pacemaker ? and why AV node is called reserve pacemaker ?
2. What do you mean by cardic-index ? and stock volume index ?
3. What is starling law of the heart or frank starling law?
4. What do you mean by heterometric regulation and homometric regulation of cardisc out put ?
5. What do you mean by refractory period .and why cardiac muscle dose not fatigue?
6. What do you mean by isometric contraction and isometric relaxation period of cardiac cycle ?
7. .What is protodiastollic period?
8. What are the heartsound in cardiac cycle and when the occour ?
9. What is mareys refelex or cardio-inhibitory refelex ?
10. What is inotropic and chronotropic effect of heart ?

Katwa College

3rd Semester Honours Course

Internal Assessment Examination 2022

Department: Physiology
Subject: Physiology

Course Code: CC-7
Time: 30 minutes

Full marks: 10

Answer any 5 questions: [5x2=10]

1. What is positive Babinski's sign?
2. What is Bell–Magendie law?
3. What are the causes and symptoms of spinal shock?
4. What is tabes dorsalis?
5. What is occlusion and subliminal fringe?
6. What is Brown-Sequard syndrome?
7. What are the neurotransmitters secreted by sympathetic and parasympathetic fibers?
8. What are sympathetic and parasympathetic blockers? Giveexamples.
9. What is REM sleep?
10. What is Alzheimer's disease?

Katwa College

Internal Examination

Subject - Physiology (Honours) Sem- **III** **SEC-1A**

Session: 2021-20

Full marks: 10 Time: 30 minutes

Answer any 5 questions: **[5x2=10]**

1. What is food adulteration?
2. What are the type of food adulteration?
3. Write the five method of food adulteration?
4. How can adulteration be prevented?
5. What are the harmfull effects of food adulteration?
6. Why food adulteration done?
7. Where aluminium foil is use adulterant ,how you detect it what are the harmful effect of aluminium foil?
8. In which food saccharin is found how you detect it in food, what are the harmful effect of saccharin?
9. Where rhodamine B' use as food adulterant, how you detect rhodamine B is present in sweet potato? what are the harmfull effect of rhodamine B'
10. Where metanil yellow use in food .How you identify it in food .Write the harmfull effect of metanil yellow?

KATWA COLLEGE
DEPARTMENT OF BOTANY
(BOTANY GENERAL)
3rd SEMESTER (INTERNAL ASSESMENT)
Paper- CC-4C
(Plant Anatomy & Embryology)

FULL MARKS-10 **TIME-30 MINUTES**

ANSWER ANY TWO OF THE FOLLOWING QUESTIONS: **2X5=10**

1. Draw and describe the ultra structure of mature embryo sac.(5)
   পরিণত ভ্রূণের থলির কাঠামো চিত্র সহ বর্ণনা কর।
2. Write down the structural differences between monocot & dicot stem.(5)
   একবীজপত্রী এবং দ্বিবীজপত্রী কান্ডের মধ্যে গঠনগত পার্থক্য লিখ।
3. Define apomixes & polyembryony with suitable examples.(2.5+2.5)
   উপযুক্ত উদাহরণ সহ apomixis এবং polyembryony সংজ্ঞায়িত কর।
4. What are stomata? Write in brief the mechanisms of seed dispersal. (1+4)
   স্টোমাটা কি? বীজ ছড়ানোর পদ্ধতিগুলো সংক্ষেপে লেখ।

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)

Subject : Physiology

Course : CC-V

(Circulating Body Fluids)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* of the following questions: 2×5=10

(a) What is innate immunity?

(b) Define purpura.

(c) What is aplastic anaemia?

(d) Write any two functions of lymph.

(e) What is erythroblastosis fetalis?

(f) Mention the components of the lymphatic system.

(g) What is the fate of iron released during destruction of RBCs?

(h) Define MCV.

2. Answer *any two* of the following questions: 5×2=10

(a) Briefly explain the heme-heme interactions for oxyhaemoglobin formation.

(b) What is H substance and how blood group A and B antigens are synthesized from it?

(c) Mention the differences between adult and foetal haemoglobin. 'Foetal haemoglobin has higher affinity to oxygen compared to that of adult haemoglobin'. — Explain.

(d) Illustrate the platelet activation and aggregation with schematic diagram.

3. Answer *any two* of the following questions: 10×2=20

(a) Discuss critically the role of erythropoietin and other major controlling factors in erythropoiesis. 5+5

(b) Briefly state with a schematic diagram of cell-based model of blood coagulation focusing (the sequence of events, initiation, amplification and propagation). 3+2+2+3

(c) Explain the basis of inheritance and expression of ABO blood groups in human. Mention the clinical significance of ABO blood group. (3+3)+4

(d) Write the histological structure of lymph gland with diagram. What role does lymphatic system play in body's immune response? (4+2)+4

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)

Subject : Physiology

Course : CC-VI

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer *any five* of the following questions: 2×5=10

(a) Name two hormones which regulate blood pressure.

(b) What do you know about myocardial infarction?

(c) Write major function of chemoreceptors.

(d) What are baroreceptors?

(e) Write any two functions of cerebrospinal fluid.

(f) Define blood-brain barrier.

(g) What is 'Circle of Willis'?

(h) Write the importance of 'Stannius Ligature'?

2. Answer *any two* of the following questions: 5×2=10

(a) Write different kinds of autoregulatory mechanisms of blood flow. State the mechanism of function of EDRF in brief. 2+3

(b) "The Atria function as a primer pumps for the ventricles."— Justify the statement.

(c) Write a brief note on atherosclerosis.

(d) What do you mean by electrocardiographic leads? Describe different types of ECG leads with the help of a diagram. 2+3

3. Answer *any two* of the following questions: 10×2=20

(a) Briefly discuss the mechanism of 'Excitation-Contraction coupling' and relaxation in cardiac muscle with the help of a diagram. 6+4

(b) Briefly state the neural control of blood pressure mentioning the role of buffer nerve activity.

(c) Write the peculiarities of cerebral circulation.

(d) 'Blood vessels play the dual role in haemostasis'— explain.

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)

Subject : Physiology

Course : CC-VII

(Functions of the Nervous System)

Time: 2 Hours **Full Marks: 40**

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all questions as instructed.

1. Answer *any five* of the following questions: 2×5=10

(a) What is cortical evoked potential?

(b) Define aphasia.

(c) What is Brown-Sequard Syndrome?

(d) What is spinal animal?

(e) Define withdrawal reflex.

(f) What is reciprocal innervation?

(g) What is 'Sham rage'?

(h) What is Huntington's chorea?

2. Answer *any two* of the following questions: 5×2=10

(a) How are mammalian sexual behaviours regulated?

(b) Give a brief account about the functions of cerebellum.

(c) Write a short note on the anatomy and function of the reticular activating system. 2+3

(d) Describe in brief about brain monoamine regulation of NREM sleep.

3. Answer *any two* of the following questions: 10×2=20

(a) Describe the gate theory of pain modulation. How is serotonin related to pain modulation. 7+3

(b) Give a brief description about the organization and functions of major hypothalamic nuclei. 5+5

(c) Outline the organization of neural circuitry of basal ganglia and indicates its role in control of motor activity. 7+3

(d) What is central autonomic network (CAN)? State briefly the input and output signaling in the central autonomic network. 2+4+4

B.Sc. 3rd Semester (General) Examination, 2022 (CBCS)

Subject : Botany

Course: CC-1C/GE-3

(Plant Anatomy and Embryology)

Time: 2 Hours **Full Marks: 40**

The figures in the right hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

দক্ষিণ প্রান্তস্থ সংখ্যাগুলি পূর্ণমান নির্দেশক।
পরীক্ষার্থীদের যথাসম্ভব নিজের ভাষায় উত্তর দিতে হবে।

1. Answer *any five* questions from the following: 2×5=10
নিম্নলিখিত প্রশ্নগুলির থেকে যে কোনো পাঁচটি প্রশ্নের উত্তর লেখো ঃ

(a) Define Polyembryony with suitable example.
Polyembryony কাকে বলে? উদাহরণ দাও।

(b) What is 'Double Fertilization'?
দ্বি-নিষেক কাকে বলে?

(c) Define Endosperm. Where do you find liquid endosperm?
Endosperm কাকে বলে? তরল endosperm কোথায় দেখা যায়?

(d) State four important differences between anther and pollen.
Anther ও Pollen-এর চারটি পার্থক্য লেখো।

(e) What is called as Heartwood?
সার বা নীরস কাষ্ঠ কাকে বলে?

(f) Define Apomixis with suitable example.
Apomixis কাকে বলে? উদাহরণ দাও।

(g) What do you mean by 'Hydrophytes'? Give example.
Hydrophyte কাকে বলে? উদাহরণ দাও।

(h) Name the types of Meristematic tissue.
বিভিন্ন প্রকার ভাজক কলার উদাহরণ দাও।

2. Answer *any two* from the following: 5×2=10
নিম্নলিখিত প্রশ্নগুলির থেকে *যে কোনো দুটি* প্রশ্নের উত্তর লেখো ঃ

(a) State the suitable adaptations found in Xerophytes. What are Sunken Stomata? 4+1
Xerophyte-এর অভিযোজনগুলি লেখো। নিমজ্জিত পত্ররন্ধ্র কাকে বলে?

(b) Briefly comment on the seed dispersal mechanism in plants.
সংক্ষেপে বীজ বিচ্ছুরণের পদ্ধতি আলোচনা করো।

(c) Write a short note on the types of Polyembryony.
বহুভ্রূণবীজতার উপর সংক্ষিপ্ত টীকা লেখো।

(d) Write the functions of Vascular cambium. What is Permanent tissue? 4+1
ভাস্কুলার ক্যাম্বিয়ামের কাজগুলি লেখো। স্থায়ী কলা কাকে বলে?

3. Answer *any two* from the following: 10×2=20
নিম্নলিখিত প্রশ্নগুলির থেকে *যে কোনো দুটি* প্রশ্নের উত্তর লেখো ঃ

(a) With suitable labelled diagram describe the anatomy of dicot root. Distinguish between root hair and stem hair.
একটি দ্বিবীজপত্রী মূলের অন্তর্গঠন চিহ্নিত চিত্র-সহ বর্ণনা করো। মূলরোম ও কাণ্ডরোমের পার্থক্য লেখো। 8+2

(b) Draw and label the ultrastructure of a mature embryo sac. Where do you find cork cambium?
একটি পরিণত Embryo Sac-এর আণুবীক্ষণিক গঠনের চিহ্নিত চিত্র অঙ্কন করো। কর্ক ক্যাম্বিয়াম কোথায় পাওয়া যায়? 8+2

(c) With suitable diagram and example elaborate different types of ovules. What is meant by sporopollenin?
উপযুক্ত চিত্র ও উদাহরণসহ বিভিন্ন প্রকার ওভিউল সম্বন্ধে আলোচনা করো। স্পোরোপোলেনিন বলতে কী বোঝো? 8+2

(d) Elaborate different types of secondary growth found in stem. Differentiate between root and shoot apical meristem structure.
কাণ্ডের বিভিন্ন প্রকার গৌণ বৃদ্ধি সম্বন্ধে আলোচনা করো। মূলজ ও কাণ্ডস্থ অগ্রস্থ ভাজক কলার পার্থক্য লেখো। 8+2

Katwa college

3rd Semester honours course

Internal Assesment Examination 2022

Deparetment : Physiology **Course code : CC-5**

Subject : Physiology **Time : 30 minutes**

Full marks : 10

Answer any *five* questions: [5x2=10]

1. What is plasmapheresis?
2. Mention the role of vitamin C and vitamin B12 in erythropoiesis.
3. Differentiate among totopotent stem cell, pluripotent stem cell and committed stem cell.
4. State the significance of ESR.
5. Name the plasma proteins responsible for immunity, colloidal osmotic tension and viscosity of blood.
6. What is polychromatophilic normoblast?
7. Draw the Price-Jones curve
8. What are poikilocytosis, anisocytosis, reticulocytosis and spherocytosis?