

HISSAN KASKI-Grade XII**Pre- Board Examination – 2071****Biology****Stream: Science****Full Marks: 75****Time: 3hrs****Pass Marks: 27****Shift : Day**

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

1. Attempt any seven questions in very short. 7x1=7

- Define secondary meristem with suitable example.
- What are Casparian strips? Where are they found?
- What is DPD?
- Define interallelic interaction with suitable example.
- What is pleiotropy?
- Name any two plants that can propagate vegetatively by leaves.
- What is the significance of tapetum?
- Define autogamy.
- What is inbreeding depression?
- Name any two plants used as green manure.

2. Attempt any five questions in short. 5x3=15

- Compare the anatomy of dicot and monocot stem. (No figure is required)
- Describe an experiment to demonstrate unequal rate of transpiration through a dorsiventral leaf.
- Describe Mendel's law of independent assortment with suitable example.
- Describe the development of modern day wheat ($6n=42$).
- What is Operon? Describe working of operon in bacterial cell with suitable example.
- Show development of dicot embryo with suitable diagram (No description is required)
- Describe various applications of tissue culture.

3. What are annual rings? Show the process of formation of annual rings in dicot stem with suitable diagrams.**or**

Describe the phenomenon of Glycolysis in detail. 7.5

4. Describe sex linked inheritance in humans with suitable example. 8

Section B (Zoology)**Attempt all questions.****1. Answer any seven questions in very short. 1x7=7**

- Write any two functions of Nissl's granules.
- Distinguish between micromeres and macromeres.
- Which vitamin is also known as phyloquinone? Write a disease name caused by deficiency of this vitamin.
- What is tidal volume?
- Mention two importance of Rh factor.
- Where are islets of Langerhans located? Write their functions.
- What are Sertoli cells?
- Who is surrogate mother?
- What do you mean by amniocentesis?
- Name two common cultivated endemic species of fish in Nepal.

2. Answer any five questions in brief. 3x5=15

- Give an account of hyaline cartilage.
- Define cogenesis. Describe cogenesis in brief.
- Discuss briefly about origin and conduction of heart beat.
- Draw a well labelled diagram of internal structure of human ear.
- What is carrying capacity? Discuss the problems of over population.
- What do you mean by socially significant diseases? Differentiate between benign and malignant tumor.
- Define incubation. Explain the scope of fish farming in Nepal.

3. What is neurotransmitter? Describe the structure and function of various parts of human brain with a well labelled diagram.**OR**

Explain the respiratory organs of human beings. 7.5

4. What are communicable diseases? Describe the causative agents, symptoms and control measures of tuberculosis. 8**Best of Luck**