

Duration: 2 hours

Total marks: 60

N.B. All questions are compulsory
Numbers to the right indicate marks
Draw neat labelled diagram wherever necessary

Q.1 Answer any four of the following **16**

- a Write a note on monohybrid cross.
- b Explain Epistasis along with its types.
- c Explain the law of independent assortment.
- d Write a note on lethal genes with a suitable example.
- e Explain ABO blood grouping in terms of multiple alleles.
- f Explain in detail about Down's syndrome.
- g A homozygous pink color flower and smooth pod plant is crossed with a plant for white flower and spiny pod. Find out the proportion of offspring in F₂ generation by the punnett square method.
- h Define Codominance and Incomplete dominance.

Q.2 Answer any four of the following **16**

- a Give diagrammatic representation of Hematopoiesis process.
- b Enlist the factors affecting the oxygen dissociation curve.
- c Write down characteristics & functions of blood.
- d Elaborate on blood coagulation cascade.
- e Write down composition of Feces & Synovial fluid
- f Elaborate Chloride shift with diagram.
- g Write a short note on bile.
- h Explain in brief Cerebrospinal fluid.

Q.3 Answer any four of the following **16**

- a Describe the Calvin pathway in detail.
- b Explain the C₄ pathway.
- c Explain Cytokinins.
- d Write a note on Ethylene as a hormone.
- e Write a note on tropic movements.

- f** Explain Brassinosteroids.
- g** Describe alkaloids and give their functions.
- h** Write a note on lignin.

Q.4 Answer any six of the following

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- a** What are lethal genes?
- b** Define Dihybrid cross.
- c** Give characteristics of Patau syndrome.
- d** Define Genotype and phenotype.
- e** Write a short note on granular leukocytes.
- f** Explain the starling hypothesis.
- g** Write a short note on ECF.
- h** What is the T and R form of hemoglobin?
- i** Define terpenes.
- j** What is photoperiodism?
- k** What are tannins?
- l** What are different plant pigments?
