OPHTHALMIC TECHNIQUES (Vocational)
BIOLOGY
(Theory) Paper I

नेत्रविज्ञान की प्रविधियाँ (व्यावसायिक)
जैविकी
(सैद्धान्तिक) प्रश्न-पत्र I

Time allowed : 3 hours
Maximum Marks : 30

Note :
(i) Attempt any ten questions.
(ii) All questions carry equal marks.

निर्देश :
(i) किन्हें दस प्रश्नों के उत्तर दीजिए।
(ii) सभी प्रश्नों के अंक समान हैं।

1. List the three major points of the cell theory.
kośīka siddhanāt kī tīn muḥkì vātā khyā hāı, sūdhī bānāıē.

2. Name the structural unit of DNA. Describe its composition very briefly.
DNA kī sārvajñātmak īkāi kā nām līkhiē. īsākī sāmbānā kā bahūt sāṃsēpā mē vānān kējīē.
3. Name any two human genetic disorders caused due to sex-linked inheritance. Why do mostly only the males suffer from these and the females very rarely?

4. List the differences between mitosis and meiosis pertaining to the following:
   (i) Kinds of cells where they occur
   (ii) Number of daughter cells produced
   (iii) Purpose served

5. Define quantitative inheritance. Briefly describe its any one example in humans.

6. Both the father and the mother in a family had B type of blood group. Their one son was born with O type blood group and the daughter was born with B type. How was it possible?

7. Define cleavage. Name and differentiate between the types of cleavage found in frog and chick.

8. Differentiate between the terms haploid and diploid. How do you relate these two terms with the stages showing alternation of generations in the fern *Dryopteris*?
9. Write about the pathogen, one major symptom and a preventive method for each of the following diseases:
   (i) Cholera
   (ii) Rabies

10. Name one disease each caused by a fungus, a helminth and a protozoan. Which part of the human body is affected by the diseases you have named?

11. Name the micro-organism used in fermentation for producing alcoholic preparations. Draw a labelled diagram of a single cell of this organism.

12. Describe any three ways how forests help in improving the natural environment.