QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions:

There are EIGHT questions divided in Two Sections and printed both in HINDI and in ENGLISH.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, THREE are to be attempted choosing at least ONE from each section.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.

Word limit in questions, wherever specified, should be adhered to.

Illustrate your answers with suitable sketches and diagrams, wherever considered necessary.

Attempts of questions shall be counted in chronological order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the answer book must be clearly struck off.
Q. 1 (a) Describe the organs and mode of locomotion in Paramaecium.

Q. 1 (b) Give an account of the structure of cnidoblast and various types of nematocysts of Hydra.

Q. 1 (c) Draw a transverse sectional diagram of female Ascaris and label it.

Q. 1 (d) Differentiate the structural variation of mouthparts in Insecta diagrammatically and label them.

Q. 1 (e) "Balanoglossus of Pseudodox (Koirde) is the forerunner of chordates"—Justify the statement.

Q. 2 (b) What is Parasitism? Give an account of the life cycle of Wucheraria bancrofti and add a note on the pathogenicity and control of the disease caused by this parasite.

Q. 2 (c) Make a labelled diagrammatic representation of the basic forms and diversities in Echinoderm larvae and describe their evolutionary significance.

Q. 3 (a) Describe "Torsion and Detorsion" in Gastropoda. Add a note on the significance of this phenomenon.
Q. 3(b) शुचिप्रीट चित्रों की सहायता से कशीकियों में महाधमनी कल्पों के भूणी विन्यास एवं रूपांतरण का वर्णन कीजिये।

With the help of labelled diagrams describe the embryonic disposition and modification of aortic arches in different vertebrates.

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Q. 3(c) उपराणियमय एवं अस्थित मछलियों के सूट लक्षणों में विभिन्न चित्रों की सहायता से विभेद कीजिये।

Differentiate the basic characters of cartilaginous and Bony fishes with relevant diagrams.

15

Q. 4(a) प्रताश्माणी कायांतरण (मेटाउमोफॉलिस) क्या होता है ? 'हर्ड्मेनिया' में जननांगों, परिवर्धन के अनुसार और कायांतरण का संचाल विवरण प्रस्तुत कीजिये।

What do you mean by Retrogressive metamorphosis? Give an illustrated account of the Gonads, developmental sequences and metamorphosis in Herdmania.

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Q. 4(b) लताघाटियों (मैमल्स) में अध्यायार्जी व्युजन्नों (इन्टेग्रेयुलेट्री डिटेलिक्स) का संचाल वर्णन कीजिये।

Describe the Integumentary derivatives in Mammals along with labelled diagrams.

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Q. 4(c) पक्षियों के प्रजाति का विस्तृत विवरण प्रस्तुत कीजिये। प्रजाति के समय उनके जिन समस्याओं का सामना करना पड़ता है उस पर रिपोर्ट भी लिखिये।

Give an elaborate account on the Migration of Birds. Add a note on the problems faced by them during migration.

15

SECTION—B

Q. 5 निम्नलिखित में से प्रश्न का उत्तर लगभग 150 शब्दों में दीजिये —

Answer the following in about 150 words each —

10×5=50

Q. 5(a) ऐज्जा, बार्डर एवं इकोटोन में विभेद कीजिये। क्या कारण है कि जातियों की बृहत्तर विविधता में समिपस्थ समुदायों की अपेक्षा ऐज्जेन्ट तथा इकोटोन अक्सर सहायक होते हैं?

Distinguish between edge, border and ecotone. Why do edges and ecotones often support a greater diversity of species than the adjoining communities?

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Q. 5(b) प्रामुख्यन (क्रोकायनिक) के बारे में आप क्या समझते हैं? प्रातिभिक उदाहरणों के द्वारा स्पष्ट कीजिये।

What do you understand about conditioning? Explain with relevant examples.

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Q. 5(c) एनालासिस ऑफ वेरियेन्ट्स (एनोवा) का एक विवरण प्रस्तुत कीजिये एवं इसके महत्त्व का प्रकाश कीजिये।

Give an account of “Analysis of variance” and mention its significance.

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Q. 5(d) कोतियों का संबंध (कल्चर) कैसे किया जाता है? कोती-संबंध के आधिक महत्व का वर्णन कीजिये।

How are pearls cultured? Describe the economic importance of Pearl Culture.

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Q. 5(e) ‘फेज कंट्रास्ट’ तथा फ्लोरिएसेंट सूक्ष्मदृश्यक (माइक्रोस्कोपी) में विभेद कीजिये।

Differentiate between the Phase Contrast and Fluorescent Microscopy.

10
Define sustainable development. What are the merits of remote sensing in sustainable development? Give examples.

Give an elaborate account on AIDS.

Describe the Predator-Prey relationship with suitable examples.

Distinguish between a dominant and keystone species. Add a note on the crucial role played by the keystone species on the community structure and structure of a food web.

Give an account on “correlation analysis”, its application and significance.

Describe the principle, structure and function of Liquid scintillation counter and mention its application.

Give an account of Orientation, Navigation and Homing behaviour in animals with suitable examples.

What is ozone layer? Describe the mechanism of degradation of ozone layer and its impact.

Describe the principal steps in Apiculture and add a note on various aspects of its rearing techniques.