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H.P.A.S. (Main)—2011

ZOOLOGY—II

Time : 3 Hours

Maximum Marks : 150

Note :— Attempt total five questions. Question No. 1 is compulsory. Attempt any four from the remaining ones. All questions carry equal marks.

1. Attempt any one : 30

(a) Showing both negative and positive control, explain the working of lac-operon model, giving figures only.

(b) Among Hardy and Weinberg who was Mathematician and who was Physician ? In an ideal population frequency of allele 'A' in both egg and sperm is 0.8 and frequency of allele 'a' is 0.2. Prove that their frequencies shall not change in next generation.

P.T.O.

2. Explain any *two* : 2×15 = 30
- (a) Nucleolus
 - (b) Mutations
 - (c) Fluidity of membranes.
3. Show histology of any *two* : 2×15=30
- (a) Skin of palm or sole
 - (b) Testis
 - (c) Cartilage.
4. Write short notes on any *two* : 2×15=30
- (a) Fertilization
 - (b) ETC
 - (c) Bilateral gynandromorp in *Drosophila*.
5. Write an essay on placentation in Mammals. 30
6. Describe respiratory systems and respiration in Mollusca. 30

7. Describe mammalian reproductive hormones in male sexual development and reproduction. 30

8. Write in brief on any two : 2×15=30

(a) Neurula

(b) Lengthwise section Hen's egg

(c) Presumptive areas in Frog egg.