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HPAS (Main)—2012

ZOOLOGY

Paper II

Time : 3 Hours

Maximum Marks : 150

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

1. Giving figures and captions to show formation of a mitotic chromosome starting from DNA. 30

Or

Discuss c-AMP pathway in the regulation of glycogen metabolism.

2. Comment upon any *two* : 2×15=30

(a) The Bombay Phenotype

(b) Bluk flow

(c) Rectal gland

P.T.O.

3. Write in brief on any *two* : 2×15=30
- (a) Metamorphosis in frog
 - (b) Placenta in Metatheria
 - (c) Primitive Streak
4. Discuss any *two* : 2×15=30
- (a) Vestigial organs
 - (b) Ethological isolation
 - (c) Adaptive radiation
5. Give histology of any *two* : 2×15=30
- (a) Pancreas
 - (b) Liver
 - (c) Kidney
6. Write an essay on natural and induced polyploidy. 30
7. Give detailed account of regulation of mammalian renal function.

8. Write in brief on the significant contribution made and prize won by (any two) : 2×15=30

(a) J.B. Gurdon

(b) H.G.Khorana and M.W. Nirenberg

(c) F. Jacob, A.M. L'Woff, J.L. Monod.