



WEST BENGAL STATE UNIVERSITY

B.Sc. Honours Part-II Examination, 2020

ZOOLOGY

PAPER: ZOOA-IV

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.*

1. Answer any **five** questions from the following: 2×5 = 10
- (a) What is X linked inheritance?
 - (b) What are the end products of beta oxidation?
 - (c) What is PAGE?
 - (d) Why sucrose is a non reducing sugar?
 - (e) What is RT-PCR?
 - (f) What do you mean by check point of cell cycle?
 - (g) What is Okazaki fragment?
 - (h) What is TATA box?
 - (i) Define Barr body.
 - (j) State the function of DNA ligase.
2. Answer any **four** questions from the following: 10×4 = 40
- (a) (i) State the principle of TLC. 5+5
(ii) Give a schematic diagram for the steps of glycolysis.
 - (b) Write the ultrastructure of mitochondria with diagram. 6+4
 - (c) State the role of Cyclin-CDK complexes in regulation of cell cycle. Mention the role of P⁵³. 6+4
 - (d) Describe the attenuation process in trp operon system. Comment on the synthesis of enzyme in presence or absence of lactose for the following: 5+5
$$\frac{I^-O^+P^+Z^+}{I^+O^-P^+Z^+}$$
 - (e) (i) Write Michaelis Menten equation. Define K_m. 5+5
(ii) Write the steps of a beta oxidation.

- (f) (i) Why alpha helix form a helical pattern? 5+5
(ii) Write the structure of a tRNA with a suitable diagram.
- (g) (i) Write down the principle of DNA fingerprinting. 5+5
(ii) Draw and describe the fluid mosaic model of plasma membrane.
- (h) Write short notes of any **four** of the following: $2\frac{1}{2} \times 4$
(i) Michaelis Menten Constant
(ii) HMP shunt
(iii) ABO blood group
(iv) Silent mutation
(v) B and Z forms of DNA
(vi) Western blotting.

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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