

**University of Calcutta**  
**City College Centre (Code 112)**  
**BSc Semester II (CBCS) Examination 2020**

**ZOOA**  
**Paper CC2-4**  
**Theory Paper**

(Full Marks 25)

**1. Answer any FOUR questions: -**

**4 x 5 = 20**

- a) How active transport is conducted in plasma membrane?
- b) What are sarcoma and lymphoma?
- c) Mention two functions of peroxisome.
- d) What do you mean by 'tumour suppressor gene'? Give example.
- e) What is Linker DNA?
- f) What do you mean by 'loss of contact inhibition of malignant cell'?
- g) State two differences between co-translational and post-translational protein transport.
- h) What do you mean by 'Beads on a string model' of chromatin?
- i) Mention different steps of Ran Cycle.

**2. Answer any ONE question: -**

**1 x 5 = 5**

- a) What is apoptosome? Mention its role in apoptosis. Mention two differences between desmosome and hemidesmosome. (1½ + 1½) + 2 = 5
- b) Schematically represent the JAK-STAT pathways of cell signalling. Name two free moving electron carriers of mitochondrial respiratory chain. 3 + 2 = 5
- c) What is "retrieval of protein" during protein sorting in different cellular organelles? Where does this retrieval occur? Mention one unique sequence responsible for "retention" of transmembrane proteins. 2 + 2 + 1 = 5