M.SE. DEGREE EXAMINATION - BIOTECHNOLOGY IRST SEMESTER - NOVEMBER 2018 I/ISPBTINCOI- CELL AND DEVELOPMENTAL BIOLOGY DATA SET SEMESTER - NOVEMBER 2018 I/ISPBTINCOI- CELL AND DEVELOPMENTAL BIOLOGY Detr. S	LOYOL	A COLLEGE (AUT	ONOMOUS)	, CHENNAI –	600 034	
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PART B

Answer the following each within 500 words. Draw diagrams wherever necessary.

21. (a) Discuss the biological significance of actin filaments and microtubules.

OR

(b) Illustrate the mechanism of secretory pathway.

22. (a) Explain the structure and action of nuclear receptors.

OR

(b) Comment on quorum sensing in bacteria.

23. (a)Describe the process of genomic imprinting.

OR

(b)Narrate the steps in embryo sac development.

24. (a) Describe vulva development in *C.elegans*.

OR

(b) Evaluate the significance of SRY gene in sex determination in humans.

25) (a)Write a note on Hammerling's experiment.

OR

(b)Highlight the role of WUSHEL in shoot development.

PART – C

Answer any TWO of the following, each within 1500 words. Draw diagrams wherever necessary. $(2 \times 20 = 40 \text{ Marks})$

 $(5 \times 8 = 40 \text{ marks})$

25. Describe the stages of cell cycle, variations in duration and structure of cell cycle.

26. Explain in detail about the insulin receptor and its signaling pathway.

27. Explain cleavage and dorsal ventral patterning in Drosophila.

28. Discuss the process of gametogenesis in humans.
