M.Phil 1st Semester Examination, 2019

LIFE SCIENCE

(*Advanced Cell Biology*)

PAPER –LSC-113

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

1. Answer any *four* questions : 2 × 4

(*a*) What is Pyknosis ?

(*b*) What is Karryorrhexis ?

(*c*) What are initiator caspases ?

(*d*) Write briefly on Myosin I.

(*e*) State the role of dynamin in vesicle budding.

(*f*) What is transcytosis ?

GROUP – B

2. Answer any *four* questions : 4 × 4

(*a*) Describe the functions of selections. 4

(*b*) Write notes on Confocal Microscopy. 4

(*c*) What are dynein and state this functions ? 2 + 2

(*d*) How does Kinesin I and Kinesin II differ ? Name a disease associated with kinesin deficiencies. 3 + 1

(*e*) Write a brief note on the structure and functions of integrins. 4

(*f*) Mention the importance of collagen as an important ECM protein. 4

GROUP – C

3. Answer any *two* questions : 8 × 2

(*a*) Name an actin capping protein. How is

polarity defined in actin. Describe the role of actin in maturation of oocytes and fertilization. 1 + 1 + 6

(*b*) What do you mean by TOM and TIM complexes ? What are cardiolipin ? How does mitochondria participate in urea synthesis ? 2 + 2 + 4

(*c*) (*i*) What are intermediate filaments ?

(*ii*) Give a brief account of types of intermediate filaments found in different structures. 3 + 5
