2017

BIOTECHNOLOGY

[Honours]

(CBCS)

[First Semester]

PAPER – C2T

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

Illustrate the answers wherever necessary

1. Answer any *five* questions from the following : 2×5

(*a*) What is svedberg Unit ? Write its significance.

(*b*) State the difference between Motor and on motor MAPs.

(*c*) What do you men by "hydration shell' in lipid bilayer.

(*d*) True phospholipid is virtually absent in membrane. Comment.

(*e*) What is second messenger ? Name four different 2nd messengers.

(*f*) What is proto oncogene ? Give examples.

(*g*) Which type of vertebrate tissue would you expect to be an excellent source of tubulin, actin and Keratin ?

(*h*) State the role of Ca^{2+} ion in signal transduction.

2. Answer any *four* questions from the following : 5×4

(*a*) State the role of P53 in cell cycle arrest.

(*b*) What is nucleosome ? Illustrate its structure with diagram.

(*c*) Schematically represent different types of

rRNA and ribonucleoprotein in prokaryotic and eukaryotic ribosome.

(*d*) Why orientation of lipid bilayer is fixed in fluid mosaic model ? Justify your answer with suitable reason.

(*e*) What is adhesin and gap-junction. State their physiological role.

(*f*) Describe the structure of integrin. State its function.

3. Answer any *one* question from the following : 10×1

(*a*) (*i*) State the characteristic of mitochondrial membrane.

(*ii*) What do you mean by metastasis ?

(*iii*) Illustrate the structure of kinesin and dynine with diagrams. $3 + 2 + 5$

(*b*) Write notes on (any *four*) : $2\frac{1}{2} \times 4$

(*i*) Trans golgi appratus

(*ii*) Tumor suppressor gene

(*iii*) Lipid raft

(*iv*) Glycosaminoglycans

(*v*) Facilitated diffusion

(*vi*) Porins

(*vii*) Transporters

(*viii*) Nuclear Organizer Center.
