

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2022

Course: Cell Biology

Semester : I

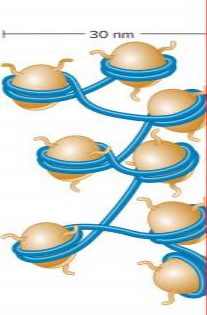
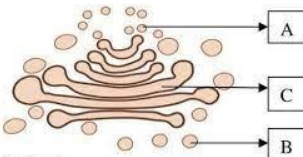
Program: B.Sc. (F, N & D), BSc Microbiology, BSc Clinical Research; Int. B. MSc. Clinical Research, Int. B. MSc. Microbiology, Int. B. MSc. F, N & D

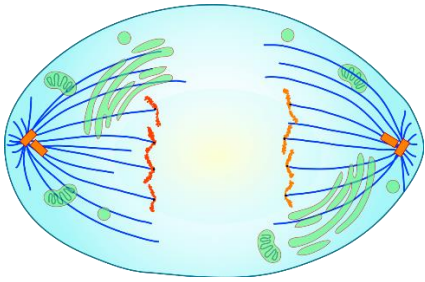
Duration : 3 Hours

Course Code: HSCC 1014

Max. Marks: 100

Instructions:

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	Cos
Q 1	Define a Cell	1.5	CO1
Q 2	List any two requirements of living system	1.5	CO1
Q 3	During the evolution, chloroplast is thought to be developed by engulfing	1.5	CO1
Q 4	List two observations of endosymbiotic theory	1.5	CO1
Q 5	RNA was the first organic material. This statement True is true or false	1.5	CO1
Q 6	Recall the function of clathrin protein	1.5	CO1
Q 7	Define G ₀ phase of cell cycle	1.5	CO1
Q 8	Lysosomes are called powerhouses of the cell. This statement is true or false	1.5	CO1
Q 9	Explain the importance of glyoxylate cycle	1.5	CO2
Q 10	Explain why chloroplast is called as powerhouse of the cell	1.5	CO2
Q 11	Recognize the below given model structure 	1.5	CO2
Q 12	Identify the structures labeled in this diagram 	1.5	CO2

Q 13	Discuss the functions of nuclear pore complex	1.5	CO2
Q 14	Describe the purpose of karyopherin (importin and exportin)	1.5	CO2
Q 15	Identify the below given phase of mitosis 	1.5	CO2
Q 16	Discuss the role of BiP in endoplasmic reticulum	1.5	CO2
Q 17	Discuss the function of signal patch	1.5	CO2
Q 18	Write the function of Ras gene	1.5	CO2
Q 19	Write the use of signal recognition particle (SRP)	1.5	CO3
Q 20	Sketch the zygotene stage of mitosis	1.5	CO3
Section B (4Qx5M=20 Marks)			
Q 1	State the similarities and differences between Animal and plant cells	5	CO1
Q 2	Demonstrate transport of ions through ligand gated and voltage gated ion channels	5	CO3
Q 3	Examine the role of KDEL sequence in retention of proteins in endoplasmic reticulum	5	CO4
Q 4	Evaluate the difference between endocrine and paracrine signaling	5	CO5
Section C (2Qx15M=30 Marks)			
Q 1	Compare and contrast Co-translational and posttranslational translocation of polypeptide chain into endoplasmic reticulum	15	CO4
Q 2	Define cell surface receptor. Describe the process of signal transduction in which G-protein coupled receptor activate phospholipase C	3+12	CO6
Section D (2Qx10M=20 Marks)			
Q 1	Define cell Cycle. Illustrate different phases of mitosis	3+7	CO3
Q 2	Define Necrosis. Support the below given statement with example: Apoptosis is a form of cellular suicide Program cell death while necrosis is a unprogrammed cell death due to injury.	2+8	CO5