GALGOTIAS UNIVERSITY

ADMISSION NUMBER												

School of Biological and Life sciences

Bachelor of Science in General Zoology Botany Chemistry
Semester End Examination - May 2024

Duration : 180 Minutes
Max Marks : 100

Sem VI - P1UG601B - Cytogenetics Plant Breeding and Nanotechnology

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Define the function of centriole.	K1	(2)
2)	Explain how the precipitation method is used to synthesize nanoparticles, mentioning the key parameters involved.	K2	(4)
3)	Explain the structure and function of peroxysomes in a cell.	K2	(6)
4)	Define the term aneuploidy and explain the difference between monosomy and trisomy.	K3	(9)
5)	Describe the various methods used for synthesizing nano-fertilizers and their respective advantages and limitations.	K3	(9)
6)	Discuss the importance of parental selection in hybridization.	K5	(10)
7)	Discuss strategies for mitigating the environmental risks associated with the widespread use of biological nanomaterials, such as green synthesis methods and sustainable manufacturing practices.	K4	(12)
8)	Where does the photosynthesis process occur in the plant cell? Explain and draw a well labelled diagram of that part.	K5	(15)
9)	Discuss the role of various parameters, including temperature, pH, concentration of reactants, and reaction time, in the synthesis of nanoparticles via different methods. Provide examples and case studies to illustrate how optimization of these parameters can affect the size, shape, and properties of nanoparticles, and consequently, their performance in various applications.	K5	(15)
10)	Elaborate the different phases of meiotic prophase- I. Mention the chromosomal events during each stage.	K6	(18)