

EXAMINATION SYLLABUS 2020-2021

Grades: XII

Subjects: Biology

This exam syllabus is produced to facilitate teachers, students and the test setters to teach, learn and assess subject specific learning. This syllabus is condensed to align the course content with the teaching learning time during COVID 19.

DETAIL SYLLABUS

Chapter	TOPICS / THEMES	SUB TOPICS	Page number	STUDENT LEARNING OUTCOMES	COGNITIVE LEVELS		
					K	U	A
1. Homeostasis	Homeostasis	Definition of homeostasis, osmoregulation, excretion and feedback system	Page # 3		√	√	
	Osmoregulation in Plant	Types of plant on the basis of osmoregulation	Page # 5-7		√	√	
	Osmoregulation in animals	Osmoregulation In terrestrial and aquatic animals	Page # 7-8		√		
	Excretion in man	Detail structure of organs	Page # 13-16		√	√	

		Urinary system of man Regulatory function of kidney					
	Kidney Problems	Kidney stones Lithotripsy Renal failure Dialysis and kidney transplant	Page # 18-19		√	√	
	Thermoregulation in plants and mammals (man)	Adaptation of plants to low and high temperature. Mechanism of thermoregulation in hot and cold temperature Behavioural mechanism	Page 19-22			√	
2. Support and Movement	Support in plants	Parenchyma, collenchyma, sclerenchyma. Fiber, tracheid's and vessels. Secondary tissues and their significance	Page # 27-30			√	

	Movements in plants	Autonomic and induced movement with types	Page 31-33		√	√	
	Skeletal system in animals	Types and function of skeleton Joint and deformities	Page # 34-40		√	√	
	Muscle and its types		Page # 42-44			√	
	Locomotion in animals		Page # 49-52			√	
3. Coordination and Control	Introduction Control in Plants		Page #58-61		√	√	
	Coordination & Control in Animals	Nervous coordination, neurons and its types	Page # 64 - 66		√	√	
	Reflex action		Page # 68			√	
	Human nervous system	Central nervous system Peripheral nervous system	Page # 70 - 74		√	√	
	Chemical coordination	Hormones and endocrine system	Page # 77-84		√	√	
	Endocrine system in mammals					√	
4. Reproduction	Asexual and Sexual reproduction in plants	Types of sexual and asexual reproduction	Page 93-95			√	
	Pollination, double fertilization		Page # 97-100			√	

	Types of germination		Page # 103-104			√	
	Asexual and Sexual reproduction in animals		Page 107-111		√	√	
	Female reproductive Cycle.	Oestrous cycle and menstrual cycle	Page # 114-116				
5. Growth and Development	Growth and Development in Plants	Phases of growth and secondary growth	Page 125-126			√	
	Growth and Development in Animals.	Process of development and development of chick.	Page 129-133			√	
6. Chromosomes & DNA	Types of chromosomes		Page 144-145		√	√	
	Chemical composition of chromosomes		Page # 145-147		√	√	
	Brief reference to DNA structure	Watson and crick model	Page 149-152		√	√	
	Cells use RNA to make proteins	It include types of RNA, gene expression and genetic code	Page # 155-159		√	√	
	Mutation	Deletion, duplication, translocation and inversion.	Page #160-164				√

		Gene mutation and example of gene mutation					
7. Cell Cycle	Amitosis		Page # 1969-170			√	
	Mitosis	Phases of mitosis and significance	Page 3 170-173		√	√	
	Meiosis	Phases of meiosis, significance and meiotic errors.	Page # 174-178		√	√	
8. Variation and Genetics	Review of Mendel's Laws of inheritance	Law of segregation Single trait inheritance Inheritance of two traits. Test cross	Page # 184-188			√	
	Sex determination and sex linkage in Drosophila		Page # 196-198		√	√	
9. Biotechnology	Genetic Engineering		Page # 206-			√	
	3. Role of Biotechnology in the diagnosis of diseases	Gene therapy Genetic counselling	Page # 214--216			√	
	2, Tissue culture		Page # 216-218			√	
10. Evolution	1. Inheritance of Acquired Characters		Page # 223-224		√	√	

	Theory of Natural Selection	Theory of natural selection Lamarck's theory Weismann theory Darwin's theory	Page #222-228			√	
	Artificial selection and its role		Page # 233			√	
	Endanger species		Page #235				
11. Ecosystem	1. The Ecosystem	Components of ecosystem (biotic and abiotic)	Page # 242-247		√	√	
12. Some Major Ecosystems	Life in fresh and marine water		Page 258-262		√	√	
	Terrestrial Ecosystem	Forest ecosystem Grassland ecosystem Desert ecosystem and tundra .	Page # 262-270		√	√	
13. Man, and his environment	Renewable and non-renewable resources	Definition and Types of renewable resources. Energy and its types.	Page # 277-282			√	
	Pollution (Air, Water. Land, wild life, food.		Page # 284-289		√	√	