

Table:5 TABLE OF SPECIFICATION (MODEL PAPER BIOLOGY 10TH)

Ch: No	CH: Name	Topic	Sub Topic	Item	Item+ Marks	Cognitive Level	SLOs Selected for model paper Items (Biology)
10	Gases Exchange	Gaseous exchange in plants	Gaseous exchange in plants	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe the process of gaseous exchange in plants by comparing photosynthesis and respiration.
		Respiratory disorder	Respiratory disorder	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Describe briefly diseases related to respiratory system like bronchitis, emphysema, pneumonia, asthma, and lung cancer.
11	Homeostasis	Disorder of kidneys	kidneys stones	MCQ	1+1	Knowledge	<ul style="list-style-type: none"> Identify the causes of kidney stone.
		Structure of human kidney	Structure of human kidney	RRQ	1+4	Knowledge	<ul style="list-style-type: none"> Locate the different parts of nephrons and relate them with their function.
		Homeostasis in plants	Lungs, skin and kidney as homeostasis organs	RRQ	1+4	Understanding	<ul style="list-style-type: none"> State skin, lungs and kidneys as the major organs involved in homeostasis.
		Contribution of Muslims Scientist to the treatment of kidney problems	Contribution of Muslims Scientist to the treatment of kidney problems	ERQ	1+4	Understanding	<ul style="list-style-type: none"> Describe the contributions of Al-Farabi and Abul-Qasim in introducing the method of removing stone from the urinary bladder.
12	Coordination	Human nervous system	Neuron	MCQ	1+1	Knowledge	<ul style="list-style-type: none"> Name the three types of neuron involved in reflex action.
		Mechanism of hormonal secretion	Negative feedback mechanism	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe the term "Negative feedback" with reference to Insulin and glucagon.
		Coordination in organisms	Coordination in organisms	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Explain what coordination means.

		Coordination in organisms	Mechanism of coordination	RRQ	1+4	Application	<ul style="list-style-type: none"> Differentiate between the modes of coordination i.e electrical in case of nervous and chemical in case of hormonal.
		Chemical coordination	Human endocrine glands	ERQ	1+3	Knowledge	<ul style="list-style-type: none"> Define the terms; hormone and endocrine system.
13	Support an Movement	Role of skeleton system	Role of skeleton system	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe the role of skeleton in support and movement.
		Joints	Hinge joints	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Describe the location and movement of hinge joints.
		Composition of skeleton	Composition of skeleton	ERQ	1+4	Application	<ul style="list-style-type: none"> Define skeleton and differentiate between cartilage and bone.
14	Reproduction	Need of population planning	AIDS	MCQ	1+1	Understanding	<ul style="list-style-type: none"> State the role of National AIDS Control Program and different NGOs in educating people with reference of AIDS.
		Asexual reproduction in unicellular organisms and plants	Vegetative propagation and artificial propagation.	MCQ	1+1	Application	<ul style="list-style-type: none"> Distinguish between vegetative propagation and artificial propagation.
		Life cycle of flowering plants	Structure of a seed	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Describe the structure of seed.
		Seed germination	Conditions necessary for germination of seeds	ERQ	1+3	Understanding	<ul style="list-style-type: none"> Describe the conditions necessary for germination of seeds.
15	Inheritance	Variation and Evolution	Continuous and discontinuous variation	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe variation and explain difference between continuous and discontinuous variation by giving examples like, height, weight, IQ, gender and blood groups in population.
		Chromosomes and genes	Chromosomes and genes	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Describe the composition of chromatin material

		Dominance relations	Incomplete dominance	ERQ	1+4	Understanding	<ul style="list-style-type: none"> Explain incomplete dominance in Japanese 4 O' Clock plant.
16	Man and its Environment	Components of an ecosystem	Components of an ecosystem	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe the interrelationships between different components of the ecosystem.
		Types of pollution	Types of pollution	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Explain causes of air, water, and land pollution.
		Interactions in the ecosystem	Interactions in the ecosystem	RRQ	1+4	Understanding	<ul style="list-style-type: none"> Explain competition, predation and symbiosis (parasitism, mutualism, commensalisms).
		Flow of material and energy in the ecosystem	Pyramid of numbers	ERQ	1+3	Application	<ul style="list-style-type: none"> Interpret pyramids of numbers and biomes
17	Biotechnology	Fermentation	Fermentation in modern biotechnology	MCQ	1+1	Understanding	<ul style="list-style-type: none"> Describe the procedure of using fermenters.
		Importance of biotechnology	Importance of biotechnology	RRQ	1+4	Knowledge	<ul style="list-style-type: none"> Define biotechnology and explain its importance.
		Single cell protein	Single cell protein	ERQ	1+4	Understanding	<ul style="list-style-type: none"> Describe the significance of single-cell protein in animal feed.
18	Pharmacology	Medicinal drugs	Sources of medical drugs	MCQ	1+1	Knowledge	<ul style="list-style-type: none"> Enlist the various sources of drugs i.e. minerals, animals, plants, synthetics, microorganisms.
		Addictive drugs	Addictive drugs	RRQ	1+4	Knowledge	<ul style="list-style-type: none"> Identify the symptoms of addiction.
		Addictive drugs	Hallucinogens	ERQ	1+3	Knowledge	<ul style="list-style-type: none"> Define hallucinogen (drugs that alter ordinary mental and emotional processes) and relate it with Marijuana.