

RUBRICS: SSC II 1 ANNUAL EXAMINATION 2023
SUBJECT: BIOLOGY SSC-II (Local)

Q.# /Part #	Criteria	Level 1 (Marks)	Level 2(Marks)	Level 3 (Marks)	Level 4 (Marks)	Level 5 (Marks)	Level 6 (Marks)
2(i)	Importance of negative feedback with example	Correct description of any two criteria like inhibits already initiated process,output of process inhibits that process, maintains homeostasis, returns conditions to normal, more common etc. with relevant example of hormonal feedback mechanism (3)	Correct description of any one criteria with partially correct example OR correct description of example only (2)	Correct description of any one criteria Or partially correct example (1)	Some relevant information (0.5)	Wrong answer (0)	
2(i/ii)	Difference between Bacteriostatic and Bactericidal antibiotics	Any two correct differences like inhibit bacterial growth vs kill bacteria, keep bacteria in stationary phase vs take bacteria death/decline phase, example of both types, etc. (3)	Partially correct response with any one difference/ one example of each (1.5)	Some relevant information (0.5)	Wrong answer (0)		
2(ii/iii)	Comparison of Hydrophytes and xerophytes	Any two correct differences comparing leaves surface area, presence/absence of cuticle, no of stomata, position of stomata on leaf surface, water loss and storage ability, root anchorage etc. (2)	Any one correct difference (1)	Some relevant information (0.5)	Wrong answer (0)		
	Examples of Hydrophytes and xerophytes	One correct example of each (1)	One correct example any one type (0.5)	Wrong answer (0)			

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2(iii /iv)	Explanation of any Two (a) Glomerulus (b) Bowman's Capsule (c) Selective reabsorption	Correct explanation of any two i.e. Bowman's capsule = double membraned cup like first part of nephron etc., Glomerulus = tuft or cluster of blood capillaries inside Bowman's capsule, Selective reabsorption = reabsorption of useful materials (sugar, water & ions) from renal filtrate as and when required (3)	Partially correct explanation of any two parts (2)	Correct explanation of any one part (1.5)	Partially correct explanation of any one part (1)	Some relevant information (0.5)	Wrong answer (0)
2(iv/v)	Comparison of cellular respiration & Breathing	Any two correct comparisons like cellular respiration = chemical reaction, within the cell, glucose catabolism, ATP formation, aerobic & anaerobic types etc. vs Breathing = physical process, exchange of gasses between respiratory surface & environment, energy may be used, two phases inspiration & expiration etc. (3)	Any one correct comparison (1.5)	Partially correct comparison (1)	Some relevant information (0.5)	Wrong answer (0)	
2(v/vi)	Micropyle & its importance	Correct description with one importance like opening of ovule/seed for entry of pollen tube at fertilization,	Correct description OR importance (1)	Some relevant information (0.5)	Wrong answer (0)		

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		absorption of water while germination of seed etc. (1.5)					
	Embryo & its importance	Correct description with one importance like immature plant within seed, develop from zygote, diploid, components (cotyledon, plumule, radicle, hypocotyl and epicotyl), protected & dormant in seed till its germination etc. (1.5)	Correct description OR importance (1)	Some relevant information (0.5)	Wrong answer (0)		
2(vi /vii)	Diagram of Urinary system	Neat and correctly sketched diagram (1.5)	Partially correct sketch (1)	Wrong answer (0)			
	Labelling of diagram	Any Three correct labelling (1.5)	Any two correct labelling (1)	Any one correct labelling (0.5)	Wrong answer (0)		
2(vii /viii)	Binary fission in unicellular eukaryotes	Correct description of at least three steps of Binary fission (in Amoeba) like nuclear division, cytoplasmic division, invagination/ furrow formation/ pinching of cell membrane and two daughter cell formation, diagram etc. (3)	Correct description two steps without diagram OR Correct description one step with diagram (2)	Some relevant information (1)	Wrong answer (0)		
2(viii /ix)	Names of disorders	Correct Names of both disorders A= Myopia/ short sightedness B= Hypermetropia/ Far sightedness (1)	Correct Name of any one disorder (0.5)	Wrong answer (0)			
	Rectification of disorders	Correct rectification of both disorders i.e. use of concave lens for	Correct rectification of any one (0.5)	Wrong answer (0)			

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		Myopia and use of convex lens for Hypermetropia (1)					
	Vision ability of persons with disorders	Correct description of vision ability of both Myopia = “cannot focus on distant objects”, Hypermetropia = “cannot focus on short distance objects“ (1)	Correct description of vision ability of any one disorder (0.5)	Wrong answer (0)			
2(ix/x)	Antibiotics resistance in Bacteria	Correct description of three reasons/ways of antibiotic resistance like prolonged use of same antibiotics, misuse/over use of antibiotics, mutations in bacteria, transfer of resistant plasmid from one to other bacterium etc. (3)	Correct description of two reasons/ways of antibiotic resistance (2)	Correct description of one reason/way of antibiotic resistance (1)	Some relevant information (0.5)	Wrong answer (0)	
	Causes of Arthritis	Correct cause of anyone type of arthritis such as aging, damage to cartilage, autoimmune response, uric acid accumulation etc. (1)	Wrong answer (0)				
2(x/xi)	Symptoms of Arthritis	Any two correct symptoms of arthritis like swollen, stiff & painful joints, fusion of joints etc. (1)	Any one correct symptom (0.5)	Wrong answer (0)			
	Treatment of Arthritis	Any two correct treatments of arthritis like painkillers, exercise/ physiotherapy, medicine of uric acid control, diet and life style control etc. (1)	Any one correct treatment (0.5)	Wrong answer (0)			

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2(xi /xii)	Genetic cross showing F ₁ & F ₂ generation	Correctly sketched cross up to F ₁ & F ₂ (1)	Partially correct cross (0.5)	Wrong answer (0)			
	Phenotypes of F ₁ & F ₂	Correctly labelled phenotypes of both F ₁ & F ₂ generations (1)	Partially correct labelling of phenotypes (0.5)	Wrong answer (0)			
	Genotypes of F ₁ & F ₂	Correctly labelled Genotypes of both F ₁ & F ₂ generations (1)	Partially correct labelling of genotypes (0.5)	Wrong answer (0)			
2(xii/xiii)	Identification of joint	Correct identification i.e. Ball & Socket joint (1)	Wrong answer (0)				
	Location of joint	Correct location i.e. Shoulder OR hip joint (1)	Wrong answer (0)				
	Function of joint	Correct function i.e. allow movement in all directions/ full circle movement (1)	Wrong answer (0)				
2(xiii /xiv)	Temporary Parasitism	Correct description i.e. associate/ attach to host for temporary/short period e.g. mosquitoes (1)	Partially correct description/ only example (0.5)	Wrong answer (0)			
	Endoparasites	Correct description i.e. lives inside host body e.g. tapeworm, liver fluke etc. (1)	Partially correct description/ only example (0.5)	Wrong answer (0)			
	Commensalism	Correct description i.e. association between organisms where only one of them get benefit/ other not harmed e.g. epiphytes etc. (1)	Partially correct description/ only example (0.5)	Wrong answer(0)			

2(xiv/xv)	Formation of smog	Any correct formation of smog like mixture of smoke and fog OR in winter, cold air and vapors react with pollutants in the presence of light to produce toxic chemicals (1)	Partially correct response (0.5)	Wrong answer(0)			
	Effects of smog	Any four correct effects of smog like fatal health problems, including severe asthma, allergies, eye infections, respiratory tract infections and road accidents etc. (2)	Any two correct effects of smog (1)	Any one correct effect of smog (0.5)	Wrong answer (0)		
3(a)	Description of Mendel's Law of Independent Assortment	Correct description of law with suitable example showing F ₁ & F ₂ generations (2)	Correct description of law without example OR partially correct example (1)	Some relevant information (0.5)	Wrong answer (0)		
	Punnett square formation	Correct Punnett square showing gametes & genotypes (2)	Partially correct Punnett square without gametes or genotypes (01)	Some relevant information (0.5)	Wrong answer (0)		
	Phenotypic and genotypic results of cross	Correct result analysis with phenotypic and genotypic ratios (1)	Some relevant information (0.5)	Wrong answer (0)			
3(b)	Description of Asthma	Correct description like chronic inflammatory disease of lungs etc. (1)	Some relevant information (0.5)	Wrong answer (0)			
	Causes of Asthma	Any two correct causes like allergies to pollen, dust, food, cold, smoking, exercise etc. (1)	Any one correct causes of asthma (0.5)	Wrong answer (0)			
	Symptoms of Asthma	Any two correct symptoms of like difficulty/ pain while	Any one correct symptom (0.5)	Wrong answer (0)			

		breathing out, wheezing / whistling sound, over mucous secretion, inflammation of air passage ways, etc. (1).						
	Preventive measures and treatment of Asthma	Any four correct criteria like avoiding allergic foods, pollens, dust, fumes, seasonal and temperature changes and pollutants, use of masks, vaccines, Use of bronchodilators, inhalers, antibiotics, anti-allergy medications etc. (2)	Any three correct criteria (1.5)	Any two correct criteria (1)	Any one correct criterion (0.5)	Wrong answer (0)		
4 (a)	Male reproductive system of rabbit	Correct description of at least six major components testes, seminiferous tubules, epididymis, vas deferens, prostate, seminal vesicle, Cowper's gland, urethra, semen etc. (3)	Correct description of any five major components (2.5)	Correct description of any four major components (2)	Correct description of any three major components (1.5)	Correct description of any two major components (1)	Correct description of any one major component (0.5)	Wrong answer (0)
	Labeled diagram	Neatly sketched correct diagram with four labelling (2)	Correct diagram with two labelling (1.5)	Partially correct diagram with two labelling OR correct diagram without labeling (1)	Partially correct diagram with one labelling (0.5)	Wrong answer (0)		

4 (b)	Formation of Nitrates in Nitrogen cycle	Correct description of Nitrate formation mentioning Nitrogen fixation (atmospheric, biological & industrial), Ammonification , Nitrification (with name of bacteria involved) (5)	Correct description of any two criteria including nitrogen fixation (4)	Partially correct description of all criteria (3)	Correct description of any two criteria without nitrogen fixation OR correct description of nitrogen fixation (2)	Partially correct description of any two criteria (1)	Some relevant information (0.5)	Wrong answer (0)
5 (a)	Structure of neuron	Correct description of any three parts i.e. cell body, axon, dendrite, myelin, nodes etc. (1)	Correct description of structure mentioning any two criteria (0.5)		Wrong answer (0)			
	Types of neurons	Correct description of types of neurons, i.e. sensory, intermediate, motor neurons (3)	Correct description of any two type of neuron (2)		Correct description of any one type of neuron OR partially correct description of two types of neurons (1)	Some relevant information (0.5)	Wrong answer (0)	
	Diagram of neuron	Correctly sketched diagram with labeling of Axon, cell body and dendrite I (1)	Correctly sketched diagram without labeling (0.5)		Wrong answer (0)			
5 (b)	Scope of Biotechnology in food & agriculture	Any three correct scopes of biotechnology in food & agriculture (3)	Any two correct scopes (2)		Any one correct scope (1)	Some relevant information (0.5)	Wrong answer (0)	
	Scope of Biotechnology in environment	Any two correct scopes of biotechnology in environment (2)	Any one correct scope (1)		Some relevant information (0.5)	Wrong answer (0)		

Note: All the markers must know the solutions of all the question items of the question paper before starting marking.