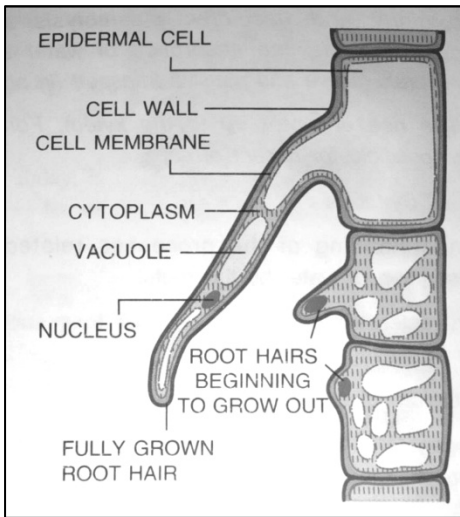


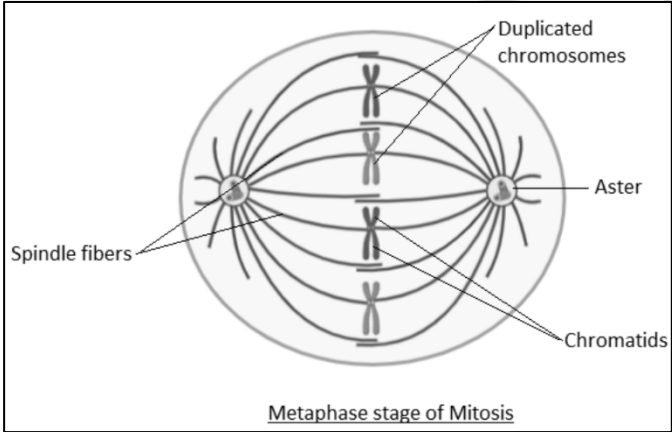
ICSE 2027 SPECIMEN

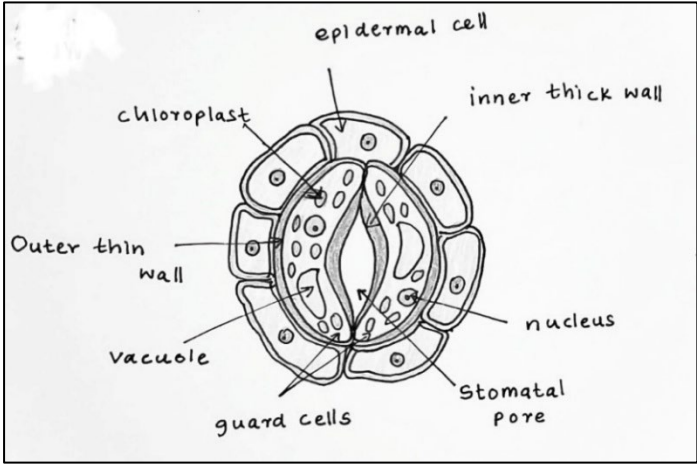
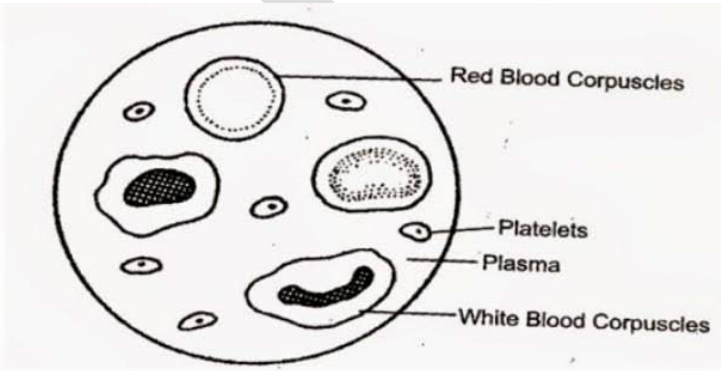
DRAFT MARKING SCHEME – BIOLOGY (SCIENCE PAPER 3)

Question 1		[15x1]
(i)	(a) diffusion	
(ii)	(d) Excessive perspiration	
(iii)	(c) Both (A) and (R) are true, and (R) is the correct explanation of (A).	
(iv)	(b) Renal Artery - High ; Renal Vein - Low	
(v)	(a) passes very little urine due to severe dehydration.	
(vi)	(d) Q and S	
(vii)	(c) exosmosis	
(viii)	(b) Renal Cortex – 1,2,3,4,5 ; Renal Medulla – 6,7	
(ix)	(c) acquired reflex	
(x)	(a) Right auricle, Right ventricle, Pulmonary artery, Lungs, Pulmonary veins, Left auricle.	
(xi)	(b) primary consumer	
(xii)	(d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).	
(xiii)	(b) 50%	
(xiv)	(a) climate change	
(xv)	(c) P and R	
Question 2		
(i)	(a) Lenticels (b) Aqueous humour (c) Inguinal canal (d) Meiosis (e) Acetylcholine	[5x1]
(ii)	(a) ova (b) ovulation (c) fertilisation (d) uterus (e) 40	[5x1]

(iii)	(a) O – Monocyte C – Granulocytes (b) O – ADH C – Secreted by anterior lobe of pituitary gland (c) O – Tongue C – Vestigial organs (d) O – Haemoglobin C – Components of blood clotting (e) O – Endometrium C – Parts of male reproductive system	[5x1]
(iv)	(a) Eustachian tube (b) Ossicles (c) Organ of corti / Spiral organ (d) Prevent dust and other small foreign objects from reaching the ear drum. (e) Transports nerve impulses from the inner ear to the brain for hearing and body balance.	[5x1]
(v)	(a) - Placenta (b) - Umbilical cord (c) - Amnion (d) - Amniotic fluid (e) - Cervix	[5x1]
Question 3		
(i)	Transpiration	[1]
(ii)	It is the loss of water as water vapour from the aerial parts of the plant.	[2]
(iii)	Stomata Leaves and young green stems.	[2]
(iv)	Rate of transpiration will be less as the atmosphere will have more humidity. Diffusion of water vapour from the plant to outside will be slow.	[2]
(v)	Narrow leaves, thick cuticle, fewer stomata	[3]

Question 4		
(i)	(a) Adrenal virilism	[1]
	(b) Cortical hormones / Androgens. Adrenal gland	[2]
	(c) Secretions of Endocrine glands which are directly released into the blood and act on target organs or tissues to regulate physiological processes.	[2]
	(d) 1. TSH - Thyroid Stimulating Hormone 2. ACTH - Adreno Cortico Tropic Hormone	[2]
(ii)	Diagram of a turgid root hair cell: 	[3]
Question 5		
(i)	To protect our environment, factories should not be constructed near residential areas.	[1]
(ii)	Air, water	[2]
(iii)	High birth rate, lack of awareness of family planning methods	[2]
(iv)	Respiratory diseases, allergies, skin infections (Any two)	[2]
(v)	Food, fossil fuels, minerals	[3]

Question 6		
(i)	Mitosis	[1]
(ii)	46 or 23 pairs in each human body cell. Daughter cells- 46 or 23 pairs	[2]
(iii)	Pairs of alleles separate during gamete formation.	[2]
(iv)	Females have 2 X chromosomes. If one carries the recessive gene, the dominant gene suppresses the disease. Whereas males have only one X chromosome and if it has the recessive gene, they show the disease.	[2]
(v)		[3]
Question 7		
(i)	To prove that CO ₂ is necessary for photosynthesis.	[1]
(ii)	$6\text{CO}_2 + 12\text{H}_2\text{O} \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} + 6\text{O}_2$ Magnesium	[1+1]
(iii)	Plant X – CO₂ was absorbed by KOH. Photosynthesis did not take place. Starch was absent. Plant Y- CO₂ was available for photosynthesis. Starch was prepared. So the leaves turn blue black during iodine test.	[2]
(iv)	Auxins. Phototropism	[2]

(v)	Diagram of stomatal apparatus 	[3]
Question 8		
(i)	Charles Darwin	[1]
(ii)	Lack of chin, body covered by hair.	[2]
(iii)	Shortening of eyeball from front to back or the lens is too flat. Convex lens.	[2]
(iv)	Identical twins- a single fertilised egg divides into two, to form two separate individuals of the same gender, i.e. either 2 boys or 2 girls. Fraternal twins- two fertilised eggs form two individuals. They may either be 2 boys or 2 girls or 1 boy and 1 girl.	[2]
(v)	Diagram of blood smear 	[3]