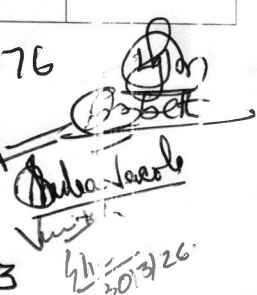


8	a)	ii./ii. Val – His – Leu – Thr – Pro – Val – Glu	1	
	b)	In sickle cell anaemia, glutamic acid is replaced by valine at the sixth position of the β -globin chain / Point mutation / Single base substitution at the sixth codon of the beta globin gene from GAG to GUG. (Any one point)	1	2
9		They can be grown easily on a simple synthetic medium in the laboratory / They complete their life cycle in about two weeks, / A single mating produces a large number of progeny / There is a clear differentiation of sexes — males and females are easily distinguishable / They exhibit many types of hereditary variations that are visible under a low-power microscope. (Any two points)	2	2
10	a)	A-Pituitary gland / Hypophysis / Ant. pituitary B-FSH/Follicle Stimulating Hormone C-Leydig cells / Interstitial cells	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
	b)	Acrosome / Head	$\frac{1}{2}$	
11		Cyclosporin A – Trichoderma polysporum Statins – Monascus purpureus	1 1	2
12		Alec Jeffreys – DNA Fingerprinting James Watson & Francis Crick – Double Helix Model of DNA Erwin Chargaff – The ratios between Adenine and Thymine and Guanine and Cytosine are constant and equal one Frederic Griffith – Transforming Principle	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
13		A - Skin/ Mucus coating of the epithelium lining the respiratory, gastrointestinal and urogenital tracts B - Physiological barriers C - Cellular barriers D - Cytokine barriers	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
14	a)	S.L. Miller / Urey - Miller / Harold Urey	1	
	b)	To create primitive earth condition in laboratory / to investigate the origin of life on Earth / to prove Chemical evolution theory or Oparin Haldane Theory (Any one point)	1	2
15	a)	Finches / Darwin's finches / Galapagos	$\frac{1}{2} + \frac{1}{2}$	2
	b)	Adaptive radiation/ Natural selection / Divergent evolution	1	
16	a)	Structure of an antibody molecule/ Immunoglobulins/Ig	1	
	b)	X- Light chains Y- Heavy chains	$\frac{1}{2}$ $\frac{1}{2}$	2

III		Answer any 3 questions from 17-20. Each carries 3 Score		
17	a)	A- Down's Syndrome B- Turner's Syndrome C- Klinefelter's Syndrome	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	3
	b)	A- Short statured with small round head/Furrowed tongue and partially open mouth/Palm is broad with characteristic palm crease/Physical, psychomotor and mental development is retarded (Any one point).	$\frac{1}{2}$	
		B- Sterile females /Ovaries are rudimentary/ lack of secondary sexual characters. (Any one point).	$\frac{1}{2}$	
	c)	C- Development of breast / Gynaecomastia / Sterile. (Any one point).	$\frac{1}{2}$	
18	a)	Sexually Transmitted Infections.	1	3
	b)	Gonorrhoea/Syphilis/Genital herpes/ Chlamydiasis/ Genital warts/ Trichomoniasis/ hepatitis/ AIDS or HIV infection. (Any two points)	1	
	c)	i. Avoid sex with unknown partners/multiple partners. ii. Always try to use condoms during coitus. iii. In case of doubt, one should go to a qualified doctor for early detection and get complete treatment if diagnosed with infection. (Any two points).	1	
19	a)	A - Habitat loss and fragmentation B - Co-extinctions (Vice versa)	$\frac{1}{2}$ $\frac{1}{2}$	3
	b)	In situ conservation and Ex situ Conservation	1	
	c)	In situ conservation Eg:- National Parks /Wildlife Sanctuaries / Biosphere Reserves/Sacred groves/Hotspot (Any one example). Ex situ Conservation Eg:- Zoological parks/ Botanical gardens /wildlife safari parks/Cryopreservation/Tissue culture/Seedbanks (Any one example). / consider examples of both a and b also.	$\frac{1}{2}$ $\frac{1}{2}$	
20	a)	AUG, Methionine	$\frac{1}{2}$ $\frac{1}{2}$	3
	b)	UAA, UGA, UAG (Any two)	1	
	c)	A single amino acid may be coded by more than one codon.	1	

- 1) Mohammed Ibrahim T 233299 9400933976
 - 2) Elizabeth Teresia 616272, 892160 2492
 - 3) Joju Wilson . P 210140, 8921783324
 - 4) Sheeba Jacob 619265, 9746104155
 - 5) Dr. Vinu. KP 157554, 9447245211
 - 6) Jiji EK 434068, 9947535423
- 

 30/3/26