WAKISSHA JOINT MOCK EXAMINATIONS

MARKING GUIDE

Uganda Advanced Certificate of Education
BIOLOGY P530/1
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WAKISSHA HOMIBBE

SECTION A (40 MARKS)

1	C	11	B	21	D	31	B
2	B	12	A	22	A	32	A
3	C	13	C	23	B	33	C
4	D	14	B	24	D Free	34	D A
5	B	15	C	25	A	35	B
6	C	16	B	26	A	36	C
7	C	17	C	27	A	37	B
8	B	18	B	28	D	38	A
9	A	19	B	29	C	39	A
10	D	20	C	30	D	40	A

1 mark @ 40 X 1 = 40 MARKS

SECTION B (60 MARKS)

41. (a)	Infertility is the inability of a couple to achieve pregnancy; after one year of regular unprotected intercourse;	1mark @ = 2 X 1 = 02 marks
(b) (i)	Blocked oviducts/ damage of the oviducts. these may prevent ova and sperm from meeting;	Any 3 5 X 1 = 03 marks Reject: those associated with ~~marks~~ males
(ii)	Failure to ovulate / non-production of the necessary hormones like LH, FSH, damage to the ovaries, etc;	
(iii)	An irregular menstrual cycle- this may make the chance of fertilization remote;	
(iv)	Uterus damage – this may affect implantation and movement / passage of sperms;	
(v)	Production of antibodies against their husband's sperms.	
(vi)	Cervix damage- may stop secreting cervical mucus needed for the sperm to reach the uterus;	
(c)	This is as a result of feedback; just before ovulation the concentration of oestrogen reaches a point and inhibits pituitory from producing FSH; and stimulates release of LH; increase in progesterone inhibits release of FSH and LH, so ovary doesn't release oestrogen;	Any 3, 5X1 = 05 marks Reject those that are not natural methods
	TOTAL	**= 10 MARKS**

Briefly explain @ pt.

42. (a)	Species E; because E starts photosynthesizing at lower light intensity; and reaches maximum rate at lower light intensity;	3x1 = 03 marks
(b)	- Have larger chloroplasts; - Have more chloroplasts/ chlorophyll; - Have more grana / thylakoids in chloroplasts; - Have broad lamina; - Have more palisade mesophyll cells; - Have leaves with thin lamina; - Have layer of cuticle; - Have hairy lamina;	Any 4 X 1 = 04 marks
(c)	- Light stimulates opening of stomata; allowing diffusion of CO_2; - Light energy excites electrons in chlorophyll molecules in photosystems; to higher energy levels; to generate ATP molecules in the electro transport reactions; - Light energy splits water molecules during photosynthesis to produce hydrogen ions that are used to form reduced NADP; and electrons to replace excited electrons from photosystem II / stabilize PSII;	Any 3 X 1 = 3 marks
	TOTAL	**= 10 MARKS**

43.	Parasites	Saprophytes	
(a) (i)	(i) Are organisms which live in or on a host, where the parasite benefits while the host suffers harm.	Are organisms that live on dead or decaying organic matter;	Any 5 X 1 = 05 marks
	(ii) They obtain energy/ food from living organism	Obtain energy / food from dead organisms or organic matter;	
	(iii) Are very specific to their hosts.	Have a variety of food sources;	
	(iv) Are nutritionally highly adapted.	Employ simple methods of nutrition;	
	(v) Most are aerobic/ aerobes.	Are aerobic/ aerobes and anaerobic / anaerobes;	
	(vi) Have many stages in the life cycle.	Usually have a single adult stage and spore;	

(a) (ii)	Dead plant material ie deficient in nitrogen which limits microbial activity feaces of detritivoves contain nitrogen so plant material is readily used by decomposers. (04)	- Release nutrients - Aerate soil; providing O_2 for decomposers - Breakdown organic matter, hiring SA for microbes
(b)	-Temperature ; favourable temp fastens decomposition; -Soil pH ; favourable pH favour decomposition. (warm temp) -soil moisture ; Adequate moisture favours decomposition; -O_2 concentration ; Sufficient O_2 supply fastens decomposition -Availability of nutrients.	Any 2 = 2 X 1 = 02 marks
		= 10 MARKS

Half for stating.

44. (a)	- Percent seed germination is higher /more for long day than for short day illuminated sample; - From 2-4 days, percentage germination in long day illuminated sample increases rapidly while for short day illuminated seed sample increases gradually; - After 7 days, percentage germination remained almost constant for	4 X 1 04 marks

- Max. point attained earlier in long day illuminated sample while later in short day illuminated sample.

	long illuminated sample while for short day illuminated sample it increased gradually; - Percentage germination for long day illuminated sample starts immediately but delays for short day illuminated sample	
(b)	Long hours of illuminated provide large/ more amount of red light; that stimulates seed germination at a higher percentage; this stimulation occurs because phytochrome red (Pr) is physiologically inactive and is rapidly converted to phytoclrome far red; which is physiologically active; this conversion to Pfr causes seed germination of positively photoblastic seeds;	Any 3 3X1 03 marks
(c)	- Adequate moisture/ water supply/ availability; - Favourable temperature / warmth; - Enough /adequate oxygen supply.	3 X 1 03 marks
	TOTAL	**= 10 MARKS**
45. (a)	Is a group of organisms of the same species living in a given / particular area at a particular time.	1X1 01 mark
(b)	- Removal of predators in the areas; - Introduction of more abundant food supply; - High biotic potentials; - Introduction/ creation of adequate space/ shelter/ breeding sites; - Creation / introduction of favourable climatic / weather conditions - Low mortality rate;	Any 4 4X 1 04 marks
(c) (i)	Due to absence of environmental resistance; Birth rate exceeds death rate;/ population increases.	03 MRK
(ii)	Population fluctuates about the carrying capacity; as increase in population beyond the carrying capacity; increase environmental resistance; and a decrease lowers environmental resistance;	02
46. (a)	- Lizards migrated to the different islands and were geographically isolated, by natural physical barrier of water; which prevented gene flow between the populations; - Each lizard population met different selection pressures; due to different environmental conditions on the islands; leading to selection of different characters that became adapted to the environment; underwent adaptive radiation. - Those with selective advantage on the different islands; isolated populations evolved into new species.	6X1 06 marks
(b)	- Bats and birds share similar environment and were exposed to same selection pressures; - This caused them to evolve independently; and develop analogous structures the wings which perform same function of flight; so that they are able to share ecological niche;	Any 4 X1 04 marks
	TOTAL	**10 MARKS**

END