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KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

LIFE SCIENCES
MARCH 2022 COMMON TEST
MARKING GUIDELINE

MARKS: 60

This memorandum consists of 6 pages

DULY SIGNED BY:
V.S.T. NYUSWA
A. SINGH
F. MEMELA

PRINCIPLES RELATED TO MARKING LIFE SCIENCES

- 1. If more information than marks allocated is given**
Stop marking when maximum marks is reached and put a wavy line and 'max' in the right-hand margin.
- 2. If, for example, three reasons are required and five are given**
Mark the first three irrespective of whether all or some are correct/incorrect.
- 3. If whole process is given when only a part of it is required**
Read all and credit the relevant part.
- 4. If comparisons are asked for, but descriptions are given**
Accept if the differences/similarities are clear.
- 5. If tabulation is required, but paragraphs are given**
Candidates will lose marks for not tabulating.
- 6. If diagrams are given with annotations when descriptions are required**
Candidates will lose marks.
- 7. If flow charts are given instead of descriptions**
Candidates will lose marks.
- 8. If sequence is muddled and links do not make sense**
Where sequence and links are correct, credit. Where sequence and links are incorrect, do not credit. If sequence and links become correct again, resume credit.
- 9. Non-recognised abbreviations**
Accept if first defined in answer. If not defined, do not credit the unrecognised abbreviation, but credit the rest of the answer if correct.
- 10. Wrong numbering**
If answer fits into the correct sequence of questions, but the wrong number is given, it is acceptable.
- 11. If language used changes the intended meaning**
Do not accept.
- 12. Spelling errors**
If recognisable, accept the answer, provided it does not mean something else in Life Sciences or if it is out of context.
- 13. If common names are given in terminology**
Accept, provided it was accepted at the national memo discussion meeting.
- 14. If only the letter is asked for, but only the name is given (and vice versa)**
Do not credit.

15. If units are not given in measurements

Candidates will lose marks. Memorandum will allocate marks for units separately.

16. Be sensitive to the sense of an answer, which may be stated in a different way.

17. Caption

All illustrations (diagrams, graphs, tables, etc.) must have a caption.

SECTION A**QUESTION 1**

1.1	1.1.1	B✓✓		
	1.1.2	D✓✓		
	1.1.3	C✓✓		
			(3 x 2)	(6)
1.2	1.2.1	Double helix✓		
	1.2.2	Hydrogen✓bond		
	1.2.3	Chiasmata✓		
	1.2.4	Amniotic✓egg		
			(4 x 1)	(4)
1.3	1.3.1	None✓✓		
	1.3.2	Both A and B✓✓		
	1.3.3	None✓✓		
			(3 x 2)	(6)
1.4	1.4.1	C✓ Centromere✓		(2)
	1.4.2	(a) Interphase✓		(1)
		(b) DNA replication✓		(1)
				(4)
TOTAL SECTION A:				20

SECTION B**QUESTION 2**

2.1	2.1.1	(a) Ribosome✓		(1)
		(a) Amino acid✓		(1)
	2.1.2	Transcription✓		(1)
	2.1.3	- Copy the coded message from the DNA molecule✓ - and carry it to the ribosomes✓ - for the synthesis of a required protein✓		(2)
	2.1.4	$\frac{3}{12} \times 100 = 25$		(3)

2.1.5	- Each tRNA carries a specific amino acid✓ - When the anticodon on the tRNA✓ - matches the codon on the mRNA✓ - then tRNA brings the required amino acid to the ribosome✓ - Amino acids become attached to each other by peptide bonds✓ - to form the required protein✓	Any	(5) (13)
2.2	2.2.1 (a) Chromatid✓ (b) Cell membrane✓		(1) (1)
	2.2.2 (a) Anaphase II✓ (b) Crossing over✓		(1) (1)
	2.2.3 - Metaphase II*✓ - Random arrangement of chromosomes along the equator✓ - singly✓ - Chromosomes attach to the spindle fibres with centromere✓ (*compulsory 1 + Any 2)		(3) (7) [20]
QUESTION 3			
3.1	3.1.1 External✓fertilisation		(1)
	3.1.2 Oviparous✓		(1)
	3.1.3 -Lays eggs✓ -young develop in the egg outside the mother's body✓		(2)
	3.1.4 - Prevents drying out of gametes✓ - Allow sperm cells to swim towards eggs cells✓ Mark the first ONE only	Any	(1) (5)
3.2	3.2.1 (a) Men fertility✓ (b) Age✓		(1) (1)
	3.2.2 No answer		

3.2.3	<ul style="list-style-type: none"> - Ask the permission from participants✓ - Decide on recording tool✓ - Decide on place for the investigation✓ - Decide on time for the investigation✓ - Decide on sample size✓ <p style="margin-left: 20px;">Mark the first TWO only</p>	Any	(2)
3.2.4	No answer		(4)
3.3	3.3.1	<ul style="list-style-type: none"> (a) LH✓ (b) Progesterone✓ 	(1) (1)
	3.3.2	As hormone C/oestrogen increases, the endometrium thickness increases✓✓	(2)
	3.3.3	<ul style="list-style-type: none"> - Since no fertilisation has taken place✓ - Progesterone level in the blood decreases✓ - as corpus luteum degenerates✓ - and no inhibition of pituitary gland✓ - from producing FSH✓/hormone B 	Any (4) (8) [17]
TOTAL SECTION B:			37
GRAND TOTAL:			(57)

Use the table below to adjust marks to 60

Marks obtained	
0 - 9	Add 0
10 - 29	Add 1
30 - 48	Add 2
49 -57	Add 3