

GRADE 12 TERM 1 PRACTICAL MEIOSIS **MEMORANDUM**

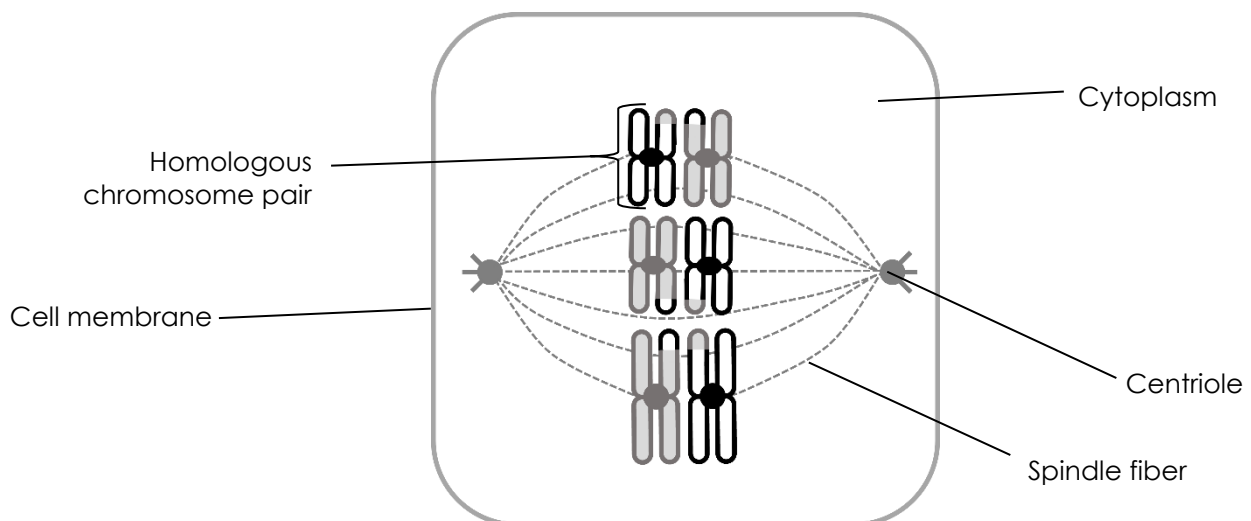
QUESTION 1

MICROGRAPH A

- 1.1. Ovaries✓ & Testes✓ (2)
- 1.2. 46 ✓ (1)
- 1.3. 2 ✓ (2 sets per chromosome) (1)

MICROGRAPH B

- 1.4. Metaphase 1✓ (1)
- 1.5. Double row / homologous chromosome pairs ✓ on the equator✓ (2)
- 1.6. **Metaphase 1** (6)



- ✓ Shading for crossing-over shown (**S**)
- ✓ Descriptive heading with name of phase (**H**)
- ✓ Replicated chromosomes drawn (**R**)
- ✓* 6 chromosomes in total [**compulsory mark**] (**C**)
- ✓* chromosomes drawn in 3 pairs [**compulsory mark**] (**P**)
- ✓ any 1 correct label

MICROGRAPH C

- 1.7. – Homologous chromosome pairs✓
– are separated / move to opposite poles✓ / chromosome number halves (2)

MICROGRAPH D

- 1.8. Telophase 1✓ (1)
- 1.9. 23 ✓ (1)

MICROGRAPH E

- 1.10. Prophase 2✓ (1)
- 1.11. **FIRST ONE ONLY:**
Chromosomes are in a chromatin network✓
Chromosomes are double stranded/have two chromatids each✓
Chromosomes have already replicated✓ (1)
- 1.12. **FIRST ONE ONLY:**
Micrograph A has double the number of chromosomes as Micrograph E✓
Micrograph A has two sets of chromosomes, Micrograph E has only one✓ (1)

MICROGRAPH F

- 1.13. Metaphase 2✓ (1)
- 1.14. Single row✓ chromosomes on the equator✓ of the cell (2)
- 1.15. **FIRST ONE ONLY x 2 MARKS:**
- Micrograph F's chromosomes are attached to spindle fibers on either side of their centromeres✓, Micrograph B's chromosomes are attached to spindle fibers on only one side of their centromeres✓
OR
- Micrograph F's chromosomes are attached to spindle fibers as homologous pairs✓, Micrograph B's chromosomes are attached to spindle fibers as individual chromosomes✓ (2)

MICROGRAPH G

- 1.16. Anaphase 2✓ (1)
- 1.17. – Chromatids move to the poles✓
– Two daughter cells are visible✓ (2)

MICROGRAPH H

- 1.18. Chromosomes in Micrograph D are double stranded✓ (two chromatids with a centromere)
Chromosomes in Micrograph H are single stranded/single chromatids ✓ (2)

TOTAL: [30]