BOWEN UNIVERSITY, IWO
DEPARTMENT OF BIOLOGICAL SCIENCES
2012/2013 SECOND SEMESTER EXAMINATION

BLY 120: INTRODUCTORY CELL BIOLOGY

Answer all questions. Time: 1hr 30mins.

Name _____ **Matric No:** _____

Department_____ **Programme** _____

SECTION A

1. What is a microscope _____
   _____
2. Light microscope uses _____ type of lens while electron microscope uses_____.
3. _____ and _____ are used for bringing objects into focus either by moving the stage or the nose piece.
4. In animal cell, plastids are absent except in _____.
5. _____, _____ and _____ are the **three** lens systems.
6. Plant and animal cell store carbohydrate as _____ and _____ respectively.
7. _____, _____ and _____ are the three types of plastids found in plant cell.
8. A _____ within the condenser regulates the amount of light that reach the slide.
9. Ribosomes are the site of _____.
10. _____ controls the entry and exit of substances out of the cell.
11. A membrane that permits the free passages of some materials and not other is called _____.
12. _____ is called the power house of the cell.
13. The difference between rough and smooth endoplasmic reticulum is _____.
14. _____ and _____are **two** types of endocytosis.
15. Centrioles are involved in _____.
16. _____ is the shrinkage of plasma membrane from the cell wall due to excessive loss of water molecules from the cell.
17. _____ and _____ are types of passive transport.
18. If an animal cell is observed microscopically with a magnification of 4000 to give an image, 100cm in diameter, calculate the size of the animal cell.
    _____

(30 Marks)

Section A *(30 Marks)*	**Section B** *(20 Marks)*	**Section C** *(20 Marks)*	**Total score** *(70 Marks)*

Name _____ Matric No: _____

SECTION B

1. _____ discovered anumalcules in the sperms of animals. *(2 marks)*

2. _____ proposed that male flowers caused female flowers to ripen. *(2 marks)*

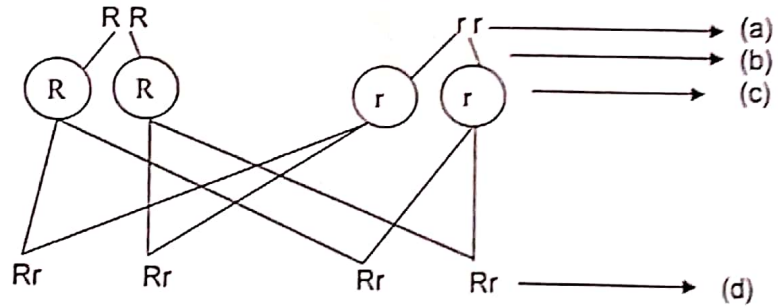
3. The theory that males and females form pangenes in every organ is known as _____ *(1 mark)*

4. _____ is a termed applied to a trait (allele) that is expressed regardless of the second allele. *(2 marks)*

5. List **three** characteristics of the garden pea plant that contributed to the success of mendels experiment.
   (i) _____
   (ii) _____
   (iii) _____ *(3 marks)*

6. The allelic composition for a given character is _____ while the physical expression of the allelic composition is known as _____ *(1 mark)*

7. The nitrate of sperm and egg will result in progeny that will be a blend of the two parents. Yes or No? _____ *(1 mark)*

8. 

   What is: (a) _____
   (b) _____
   (c) _____
   (d) _____ *(4 Marks)*

9. What is a locus? *(2marks)*
   _____
   _____

10. What are genes? *(2marks)*
    _____
    _____

Name _____ Matric No: _____

SECTION C

1. The two chromosomes that are members of the same pair are called
   (a) tetrad (b) homologous (c) haploid
   (d) diploid (e) chromatid
2. During which stage of meiosis does crossing-over occur?
   (a) prophase I (b) anaphase I (c) telophase I
   (d) prophase II (e) anaphase II
3. During which stage of meiosis are the homologous chromosomes arranged along the equator?
   (a) prophase I (b) metaphase II (c) anaphase II
   (d) prophase II (e) metaphase I
4. At which stage of meiosis is each chromosome composed of a single chromatid?
   (a) prophase I (b) metaphase II (c) anaphase II
   (d) prophase II (e) metaphse I
5. During which stage of meiosis do homologous chromosomes separate?
   (a) prophase I (b) anaphase I (c) telophase I
   (d) prophase II (e) anaphase II
6. The events of meiosis II are most similar to
   (a) mitosis (b) meiosis I (c) intephase
   (d) interkinesis (e) the s phase
7. The lining up of chromatids at the equator of a cell during mitosis is a sign of
   (a) prophase (b) metaphase (c) anaphase
   (d) telophase (e) none of the above

Answer **True or False** in questions **8-14**

8. The G, stage of the cell cycle is a period of cellular growth and development _____.
9. Synthesis of DNA occurs in prophase _____.
10. Mitosis produces four new cells, each of which is diploid _____.
11. Crossing over of chromosomes in meiosis contributes to genetic variability _____.
12. Humans have 23 pairs of chromosomes _____.
13. If a cell is in G_2 phase, it is in cytokinesis _____.
14. In plant cell, membrane-enclosed vesicles are formed during cytokinesis _____.

Use the following to answer questions **16 – 20**

A cell has 7 pairs of chromosomes. How many chromatids are in a cell during:

15. Metaphase of mitosis? _____.
16. Telophase of mitosis? _____.
17. Metaphse I of meiosis? _____.
18. Prophase II of meiosis? _____.
19. Telophase II of meiosis? _____.
20. Anaphase II of meiosis? _____.

(20 Marks)