**The Biology Achievement Test (BAT)**

**Section A: Kindly fill and tick in the blank spaces provided below:**

1. Name of School\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Name of Student \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Sex: Male Female
4. Age: \_\_\_\_\_\_\_\_\_\_\_\_\_

**SECTION B: INSTUCTION**

Answer the following questions by circling the correct answer or supplying the correct answer. You have 25 minutes (good luck).

1. Which of the following statement is true about the structure of a chromosome? A chromosome consists of : a. Two chromatids joined at the centromere b. two chromatids joined at the spindle c. two chromatid threads joined at the spindle d. thread-like structure not joined together
2. Chromosome pairs 1- 22 are called a. centromere b. autosomes c. sex chromosomes d. linkage
3. What is the ploidy number of dog? a. 46 b. 48 c. 78 d. 76
4. Two sister chromatids are held together by a. centromere b. centrosome c. DNA d. spindle fibre
5. The chromosome contains the following EXCEPT a. lysosome b. DNA c. genes d. centromere
6. The haploid number of chromosomes in humans are a. 46 b. 72 c. 42 d. 24
7. Which of the following statements is correct about the chromosomes in the gamete? At the end of the second meiotic division, a. each gamete contains only paternal hereditary information b. chromosomes in the four gamete cells are diploid in number c. chromosomes contains only a random mixture of paternal and maternal chromosomes d. chromosomes contains only maternal hereditary information
8. Before a cell divides, all the following will happen EXCEPT -------- a. DNA duplication b. cell elongation c. cell shrinks d. proteins are synthesized or produced
9. How many chromosomes are found in the human female gonad a. 46 b. 23 c.33 d. 13
10. In the cell cycle, the first gap of growth is called \_\_\_ a. G1 b. G0 c. M2 d. S- phase
11. The process by which the cytoplasm separates is called \_\_\_\_\_\_\_\_\_\_ a. plasmolysis b. mitosis c. cytokinesis d. meiosis
12. Cytokinesis of mitosis is a process that ensures that a. each daughter cell gets the necessary organelle b. there is distribution of a complete set of genes in each daughter cell c. daughter cells inherit new genetic combination d. worn out organelles are excluded from daughter cells
13. Which of the following best describes homologous chromosomes? they are: a. a product of the division of a chromosome b. two identical chromosomes from each parents c. chromosomes arranged in spindle fibres during cell division d. daughter cells formed during meiotic division
14. \_\_\_\_\_\_\_ is not one of the functions of mitosis a. growth of organisms b. regeneration of bogy parts c. production of gametes d. increase in organism size
15. Which of the following occurrence is not a feature of meiosis? a. formation of four haploid daughter cells b. two successive nuclear division c. pairing of homologous chromosomes at prophase d. formation of two diploid cells
16. \_\_\_\_\_\_\_\_\_ is the function or role of meiosis a. growth of organisms b. regeneration of body parts c. production of gametes d. making clones
17. \_\_\_\_\_\_\_ takes place in sex cells or gonads a. mitosis b. meiosis
18. Which of the following stages occurs before mitosis begins a. prophase b. metaphase c. interphase d. telophase
19. During which stage does the g1, s and g2 phases occur a. interphase b. metaphase c. telophase d. cytokinesis
20. The mitotic phase in which chromosomes align or arrange themselves in the center of the cell is called a. interphase b. prophase c. metaphase d. telophase
21. At which of the following stages of mitosis do the two daughter chromosomes separate completely? a. prophase b. metaphase c. anaphase d. telophase

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Use the diagram below to answer questions 22 and 23

1. The diagram represents which phase during cell division a. prophase b. interphase c. telophase d. metaphase
2. The part labeled 1 is the -- a. nucleus b. cytoplasm c. chromosome d. cell membrane
3. Which of the following is found in meiosis but not in mitosis a. chromatids b. prophase c. crossing over d. spindle fibres
4. Two chromosomes or four chromatids are called a. diploid b. haploid c. tetrad d. homologous chromosomes
5. The site in which crossing over happens during meiotic division is called \_\_\_\_\_\_ a. chiasmata b. synapsis c. chromatid d. homologue
6. Crossing over occurs during which meiotic phase a. metaphase I b. prophase I c. anaphase I d. metaphase II
7. At what stage in meiosis does the cytoplasm break to give four daughter cells a.anaphase II b. telophase II c. metaphase II d. prophase II
8. A cell containing 20 diploid chromosomes at the beginning of meiosis would, at its completion, produce cells containing how many chromosomes? a. 5 b. 40 c. 10 d. 2
9. Which of the following causes variation in individuals such that offsprings don’t look alike? a. meiosis b. mitosis c. telophase d. cytokinesis