

## A) Select the best answer (1.5 Mark for each):

الرقم:

الاسم:

1- The following is responsible for protein synthesis?

☒ a) Ribosomes

b) Flagella

c) Mitochondria

2- The number of cells increases exponentially in the :

☒ a) Log phase

b) Lag phase.

c) Stationary phase.

d) Decline phase

3- An example of Gram positive bacteria:

☒ a) *Staphylococcus aureus*.b) *Escherichia coli*

c) Hepatitis C.

4- Types of cell transport:

a) Passive transport

b) Active transport

c) Neutral transport

☒ d) A and B

e) A, B, and C.

5- Which type of transport requires energy:

a) Passive transport

☒ b) Active transport

c) Both A and B.

6- Osmosis is an example of:

☒ a) Passive transport

b) Active transport

c) Non of the above

7- Bacteria divide by:

☒ a) Binary fission

b) Meiosis

c) Mitosis

8- Pyrogen is present in:

a) Gram positive

☒ b) Gram negative

c) Fungi

9- The number of chromosomes in bacteria is :

☒ a) 1

b) 2

c) 3

10- Microbiology is the science dealing with :

a) Ants

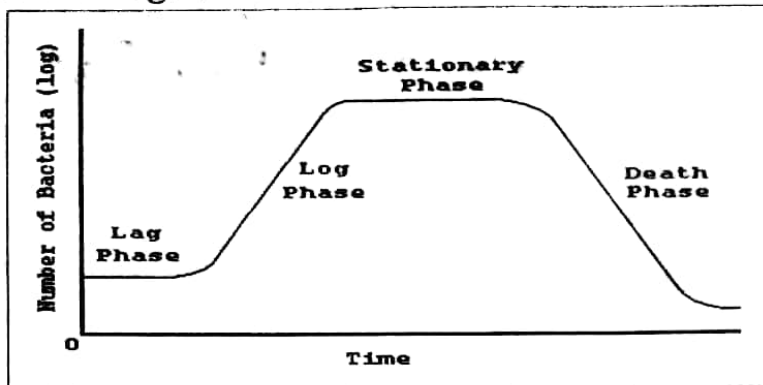
b) Mice

c) Bacteria

d) Fungi

☒ e) c and dTotal  
Marks (20)

**B) Draw the grow curve for bacteria and define each phase (5 marks)**



- (a) Lag phase: cells begin to synthesize inducible enzymes and use stored food reserves to start reproduction (0-2 h from cultivation)
- (b) Logarithmic (log = exponential) phase: The number of cells increases exponentially. (2-7 h from cultivation)
- (c) Stationary phase: The number of cells is constant. (8-20 h from cultivation)
- (d) Death (decline) phase: The number of cells decrease. (After 20 h cultivation)

14