SLR-DL-21

Seat No.	

Set P

B.Sc. (Semester - II) (CBCS) Examination Oct/Nov-2019
Biotechnology
Environmental Pollution and Environment Pollution Techniques
(PAPER – II)
MICROBIAL TECHNIQUES

Day & Date: Wednesday, 09-10-2019 Max. Marks: 70
Time: 11:30 AM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Fill in the blanks by choosing correct alternatives given below. 14

1) A chemical agent that kills the microorganisms and is commonly applied to substances used on inanimate objects are _____.
   a) Antiseptics b) Antibiotics
   c) Disinfectants d) Sanitizer

2) The most common form of non-ionizing radiation is _____.
   a) Ultraviolet light b) X-ray
   c) Gamma rays d) None of these

3) _____ is the example of living media.
   a) Nutrient agar b) Peptone water
   c) Embryonated egg d) NaCl

4) Pure culture technique is discovered by scientist _____.
   a) Robert Koch b) Joseph Lister
   c) Louis Pasteur d) Watson

5) Volutin granules are stained by _____ method.
   a) Chance b) Albert's
   c) Manvel's d) Gram

6) _____ is a primary stain used in acid fast staining method.
   a) Crystal violet b) Methylene blue
   c) ZNCF d) Malachite green

7) _____ is a soluble protein formed in the early stage of protein breakdown during digestion.
   a) Meat extract b) Agar
   c) Peptone d) Bile salt

8) _____ are organisms that obtain energy by the oxidation of organic compound (electron donors) in their environment.
   a) Chemotrophs b) Heterotrophs
   c) Autotrophs d) Phototrophs

9) In Gram-staining, iodine is used as a _____.
   a) fixative b) solublizer
   c) stain d) mordant

10) _____ indicator mainly used in MacConkeys agar.
   a) Bromothymol blue b) Neutral red
   c) Crystal violet d) Safranin

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11) An agent that prevents the growth of bacteria are known as _____.
   a) Bactericide b) Antibiotic
   c) Antimicrobial d) Bacteriostatic

12) Lag phase is also known as _____.
   a) transitional period b) period of initial adjustment
   c) generation time d) period of rapid growth

13) The Gas Pak system is suitable for cultivation of _____ bacteria.
   a) Aerobic b) Anaerobic
   c) Facultatively anaerobic d) Microaerophilic

14) The organisms which can use reduced inorganic compounds as electron donors are known as _____.
   a) Phototrophs b) chemotrophs
   c) lithotrophs d) organotrophs

Q.2 A) Answer the following questions. (Any Four) 08
1) Antimicrobial agents
2) Sodium taurocholate
3) Diauxic growth
4) Lyophilization
5) NaCl

B) Write the Notes on (Any Two) 06
1) Describe in detail nutritional requirement of microorganism.
2) Write in detail cell wall staining.
3) Describe in detail growth phases of bacteria in a batch culture.

Q.3 A) Answer the following questions. (Any two) 08
1) Explain in detail Living media.
2) Write in detail anaerobic culture methods.
3) Describe in detail common indicators used in media & their functions.

B) Answer the following questions. (Any One) 06
1) Describe in detail monochrome staining.
2) Write in detail synchronous growth.

Q.4 A) Answer the following questions. (Any Two) 10
1) Write in detail methods of Sterilization.
2) Write in detail classification of stains.
3) Acid fast staining

B) Answer the following questions. (Any One) 04
1) Write in detail capsule staining.
2) Describe in detail nonliving media.

Q.5 Answer the following questions. (Any two) 14
a) Describe in detail Gram staining.
b) Explain in detail pure culture technique.
c) Describe in detail classification of microorganism on the basis of carbon end energy source.

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