

B.Sc. (NEP) Semester-I
SEC06 - Microbiology : Instrumentation in Microbiology Laboratory

P. Pages : 3

Time : Two Hours



GUG/S/25/15906

Max. Marks : 40

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- i) What is the primary use of a Petri plate in a microbiology lab?
 - ii) What is the purpose of using sterile glassware in microbiology experiments?
 - iii) What is the main function of an incubator in a microbiology lab?
 - iv) At what temperature is an incubator commonly set for growing bacteria?
 - v) At what temperature is a hot air oven typically set for sterilization?
 - vi) Name one type of material that can be sterilized in a hot air oven.
 - vii) What part of the microscope is used to adjust the focus?
 - viii) What is the function of the stage in a microscope?
 - ix) What is the magnification power of the eyepiece in most light microscopes?
 - x) What is the main purpose of an anaerobic jar in microbiology?
 - xi) What indicator is used to confirm anaerobic conditions?
 - xii) What is the principle of gel electrophoresis?
 - xiii) Name one type of gel used in electrophoresis.
 - xiv) What is the pH value of neutral water?
 - xv) What type of electrode is commonly used in pH meters?
 - xvi) What type of filter is used in laminar air flow systems?
 - xvii) What type of work is performed inside a laminar air flow?
 - xviii) What does a spectrophotometer measure?
 - xix) Name one application of a centrifuge in microbiology.
 - xx) What is meant by 'RPM' in centrifugation?

Multiple-Choice Questions (MCQs).

- i) Which glassware is most commonly used to culture microorganisms?
 - a) Petri plate
 - b) Conical flask
 - c) Beaker
 - d) Test tube
- ii) What material are microbiological glass wares typically made of?
 - a) Plastic
 - b) Borosilicate glass
 - c) Wood
 - d) Aluminum
- iii) Which of the following factors is controlled by an incubator?
 - a) Light intensity
 - b) Humidity
 - c) Magnetic field
 - d) Radioactivity
- iv) What is commonly used to monitor incubator temperature?
 - a) Barometer
 - b) Thermometer
 - c) Manometer
 - d) Hygrometer
- v) What is the primary use of a hot air oven?
 - a) Incubation of microbes
 - b) Sterilization of glassware
 - c) Culturing anaerobes
 - d) Moisture removal
- vi) The temperature commonly used in hot air ovens for sterilization is:
 - a) 50°C
 - b) 121°C
 - c) 160°C
 - d) 300°C
- vii) Which microscope is used to visualize bacterial cells?
 - a) Electron microscope
 - b) Light microscope
 - c) Scanning tunneling microscope
 - d) Atomic force microscope
- viii) Which part of the microscope controls the amount of light passing through the specimen?
 - a) Objective lens
 - b) Condenser
 - c) Stage
 - d) Eyepiece
- ix) Anaerobic conditions are essential for growing:
 - a) Aerobic bacteria
 - b) Anaerobic bacteria
 - c) Fungi
 - d) Algae
- x) What is used to create anaerobic conditions inside the jar?
 - a) Oxygen
 - b) Hydrogen gas
 - c) Nitrogen gas
 - d) Helium gas
- xi) Gel electrophoresis is primarily used to separate:
 - a) Cells
 - b) Proteins and nucleic acids
 - c) Bacteria
 - d) Viruses
- xii) The direction of movement of molecules in gel electrophoresis is based on:
 - a) Their color
 - b) Their size and charge
 - c) Their shape
 - d) Their mass alone

- xiii) The pH of a solution measures its:
a) Electrical conductivity b) Acidity or alkalinity
c) Density d) Temperature
- xiv) Which of the following has a pH less than 7?
a) Baking soda b) Lemon juice
c) Soap solution d) Bleach
- xv) A laminar air flow cabinet is designed to maintain:
a) High temperature b) Sterile conditions
c) Low pressure d) Darkness
- xvi) What type of filter is used in laminar air flow cabinets?
a) Charcoal filter b) HEPA filter
c) UV filter d) Carbon filter
- xvii) The main principle behind spectrophotometry is the measurement of:
a) Mass b) Light absorption and transmission
c) Electrical conductivity d) Temperature
- xviii) Before measuring a sample, it is important to:
a) Add more solvent b) Calibrate the spectrophotometer
c) Adjust pH d) Add a dye
- xix) Centrifugation is used to:
a) Increase oxygen concentration b) Separate components by density
c) Remove water from cells d) Create anaerobic conditions
- xx) The speed of a centrifuge is measured in:
a) Rotations Per Minute b) Millimeters
c) Pounds per square inch d) Liters per second
