

CELL BIOLOGY LECTURE 1 QUESTIONS

QUESTION 1: WHICH LENS OF THE LENSES BELOW IS RESPONSIBLE FOR HIGH RESOLUTION IN LIGHT MICROSCOPY?

- a) Condenser lens
- b) Fine focus
- c) Objective lens
- d) Coarse lens
- e) Ocular lens

QUESTION 2: ONE OF THE FOLLOWING IS FALSE ABOUT CONFOCAL LASER MICROSCOPE?

- a) Uses a beam of electrons as a source of light
- b) The specimen should be labelled by fluorescent molecules
- c) It is connected to a computer system to reconstruct the full image of the specimen

QUESTION 3: THE RESOLUTION POWER OF LIGHT MICROSCOPY

- a) 0.2 nanometer
- b) 0.2 micrometer
- c) 0.2 millimeter
- d) 10 nanometer

QUESTION 4: MICROSCOPE USED FOR STUDYING LIVING CELLS

- a) Phase contrast microscope
- b) Light microscope
- c) Electron microscope
- d) Confocal microscope

QUESTION 5: THE RESOLUTION POWER OF ELECTRON MICROSCOPE

- a) 0.2 nanometer
- b) 0.2 micrometer
- c) 0.2 millimeter
- d) 10 nanometer

QUESTION 6: ONE OF THE FOLLOWING IS INCORRECT REGARDING ELECTRON MICROSCOPE

- a) Has very high magnification power
- b) Images of specimens can be saved
- c) Uses beams of light

QUESTION 7: IF YOU WANT TO EXAMINE A TISSUE COMPOSED OF DIFFERENT TYPES OF CELLS. THE CELLS TO EXAMINE CAN BE DISTINGUISHED BY EXTERNAL SHAPE, SIZE AND THREE DIMENSIONAL CHARACTERISTICS, WHICH WOULD BE THE OPTIMUM METHOD FOR YOUR STUDY?

- a) Light microscopy using living unstained samples
- b) Cell fractionation electron microscopy
- c) Light microscopy using routine H and E stain
- d) Scanning electron microscopy

QUESTION 8: HOW IS THE RESOLUTION POWER AFFECTED WHEN USING DIFFERENT TYPES OF MICROSCOPES?

- a) Remains constant across all types
- b) Worsens in electron microscopy
- c) Only improves in light microscopy
- d) Improves with more advanced techniques

QUESTION 9: IN WHICH TYPE OF MICROSCOPY DO ELECTROMAGNETIC COILS ACT AS LENSES?

- a) Light microscopy
- b) Electron microscopy
- c) Phase contrast microscopy
- d) Fluorescence microscopy

QUESTION 10: WHAT CONSTITUTES THE EXTRACELLULAR MATRIX?

- a) A type of muscle tissue
- b) Only collagen
- c) Plasma membrane of cells
- d) Non-cellular substance secreted by cells

QUESTION 11: WHAT DOES THE TERM CELL FRACTIONATION MEAN?

- a) Isolating and growing cells
- b) Separating cellular components
- c) Observing live cells
- d) Analyzing genetic material

QUESTION 12: WHAT FUNCTION DOES THE BASEMENT MEMBRANE SERVE BESIDES ANCHORING CELLS?

- a) Nutrient absorption
- b) Pathway for cell migration
- c) The site of nerve impulse generation
- d) Mechanism of contraction

QUESTION 13: WHAT IS THE ROLE OF BASAL LAMINA IN EPITHELIAL TISSUE?

- a) Facilitate muscle contraction
- b) Forms a barrier against pathogens
- c) Provides nutrition to cells
- d) Anchors epithelial cells to underlying tissue

QUESTION 14: WHAT STRUCTURE IS OFTEN NECESSARY FOR PERMANENT RECORDS IN ELECTRON MICROSCOPY?

- a) Plastic slides
- b) Stained tissue sample
- c) Glass slides
- d) Copper grids

QUESTION 15: WHICH TYPE OF CELL LACKS A NUCLEUS

- a) Prokaryotic cell
- b) Eukaryotic cell
- c) Stem cell
- d) Neuron

QUESTION 16: WHICH MICROSCOPY TECHNIQUE USES A SPECIAL LAMP EMITTING ULTRAVIOLET RAYS?

- a) Fluorescence microscopy
- b) Differential interface contrast microscopy
- c) Confocal microscopy
- d) Phase contrast microscopy

QUESTION 17: WHICH STRUCTURE FORMS THE BASIS OF THE BASEMENT MEMBRANE?

- a) Collagen type IV
- b) Ribosomes
- c) Epithelial cells
- d) Cytoplasm