Online Examinations (Even Sem/Part-I/Part-II Examinations 2020 - 2021

Course Name - - Basic Laboratory Sciences And Clinical Techniques Course Code - GEAHS401

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Answer all the questions. Each question carry one mark.

9. 1. Total Magnification is obtained by _____

- Magnifying power of the objective lens
- Magnifying power of eyepiece
- Magnifying power of condenser lens
- Magnifying power of both the objective lens and eyepiece

10. 2. In Phase contrast microscopy, the rate at which light enters through objects is

Mark only one oval.

Constant

- Inversely proportional to their refractive indices
- Directly proportional to their refractive indices
- Exponentially related to their refractive indices
- 11. 3. Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?

Mark only one oval.

- Eyepiece lens
- Condenser lens
- Magnifying lens
- 12. 4. Resolving power of a microscope is a function of _____

- Wavelength of light used
- Numerical aperture of lens system
- Refractive index
- Wavelength of light used and numerical aperture of lens system

13. 5. In fluorescence microscopy, which of the following performs the function of removing all light except the blue light?

Mark only one oval.

- Exciter filter
 Barrier filter
- Dichroic mirror
- Mercury arc lamp
- 14. 6. What do phase-contrast and dark-field microscopes have in common?

Mark only one oval.

They increase contrast between the specimens and their surroundings without staining.

They make specimens appear dark on a bright background

- They make specimens visible that refract light away from the objective.
- None of these
- 15. 7.A microscope that exposes specimens to ultraviolet and forms an image with the resulting light emitted at a different wavelength is called a ______ microscope.

- phase-contrast
- fluorescence
- dark-field
- scanning electron

16. 8. Scanning electron microscopy is most often used to reveal

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surface morphology

- internal structures
- both surface and internal structures simultaneously
- either surface or internal structures, but not simultaneously
- 17. 9. If you wish to change an immunofluorescence stain so it stains a different type of microorganism than it did before, what would you do

Mark only one oval.

- Switch from epifluorescence to transmitted fluorescence
- Change to a different type of fluorescent dye.
- Use a different type of antibody.
- All of these
- 18. 10. The resolving power of unaided human eye is

- _____ 1 cm
- _____ 100 um
- 200nm
- _____ 400nm

19. 11. -Which of the following is used in electron microscope?

Mark only one oval.

electron beams

- magnetic fields
- light waves
- electron beams and magnetic fields
- 20. 12. Which of the following are true for electron microscopy?

Mark only one oval.

specimen should be thin and dry, image is obtained on a phosphorescent screen and electron beam must pass through evacuated chamber

- 📃 electron beam must pass through evacuated chamber
- image is obtained on a phosphorescent screen
- specimen should be thin and dry
- 21. 13. When the power of the objective lens will be 20X, then magnification is

- 30 times
- 20 times
- 200 times
- 2000times

22. 14. Which of the following light is suitable for maximum resolution

Mark only one oval.

\bigcirc	Red
\bigcirc	blue
\bigcirc	green
\bigcirc	orange

23. 15. What mordant is used in Gram staining?

Mark only one oval.

\subset	Crystal violet
\square	safranin
\square	acid-alcohol
(iodine

24. 16.Which type of microscope is especially useful for viewing thick structures such as biofilms?





- confocal scanning laser microscope
- _____ atomic force microscope

25. 17. Who is the probable inventor of the compound microscope?

Mark only one oval.

Girolamo Fracastoro

- Zaccharias Janssen
- Antonie van Leeuwenhoek
- Robert Hooke
- 26. 18.Co-localization analysis can be detected by

Mark only one oval.

- Confocal microscope
- fluorescence microscope
- 🔵 both a and b
- scanning electron microscope
- 27. 19. Fluroscence microscope is a type of

- Electron microscope
- optical microscope
 - Scanning electron microscope
- None of these

28. 20. In fluroscence, mitochondria stained through Mito-tracker appears

Mark only one oval.

\bigcirc	Red
\bigcirc	Green
\bigcirc	blue
\bigcirc	purple

29. 21. In fluroscence, nuclei stained through hoschet 33258 appears

Mark only one oval.

\bigcirc	blue
\bigcirc	Red
\bigcirc	green
\bigcirc	purple

30. 22. In fluroscence, actin cytoskeleton stained through phalloidin derivatives appears

- ____ purple
- Greene
- blue
- ____ pink

31. 23.A toxic substance produced by biological system is specially referred to as a ---

Mark only one oval.

toxicant
 xenobiotic
 toxin
 poison

32. 24. Which of the following was banned under the Delaney clause of the Food Additive Amendment of 1958

Mark only one oval.

\bigcirc	sulfamethazine
\bigcirc	cyclamate
\bigcirc	phytoestrogens
\bigcirc	aflatoxin

33. 25. Which of the following is NOT an initiating event in carcinogenesis

- DNA adduct formation
- mutation of proto-oncogenes
- ____ mitogenesis
- DNA strand breakage

34. 26. The example of local posining is

Mark only one oval.

Oxalic acid

- Sulphuric acid
- Chromic acid
- None of these

35. 27. The major treatment of Lead poisoining

Mark only one oval.

- Chronotherapy
- Chelation Therapy
- Lead replacement
- Chemotherapy
- 36. 28. Chronic poisoining involves

- Targeted organ failure
- 📃 Multi-organ failure
- 🔵 blood loss
- Numbness

37. 29.Which of the following metal toxicity leads to encephalopathy

Mark only one oval.

\bigcirc	Copper
\bigcirc	Iron
\bigcirc	Lead
\bigcirc	Zinc

38. 30. The compound used for Chelation Therapy

Mark only one oval.

- Heparin Tetracycline EDTA All of these
- 39. 31. Which of the following is used to lyse the nucleus and release the DNA?

- sodium dodecyl sulfate
- 🔵 ammonium sulfate
- _____ ferric phosphate
- fluorine

40. 32.In purification steps of nucleic-acids, phenol is used for

Mark only one oval.

deproteinization

- denaturation
- lowering pH
- lowering viscosity
- 41. 33.Nucleic acid hybridization is used to identify

Mark only one oval.

- RNAs
- DNAs
- Complementary base sequences
- Proteins
- 42. 34. In which of the following techniques, the DNA is labeled using complementary sequences and then analyzed using autoradiography?

- Western blotting
- Southern blotting
- Isopycnic centrifugation
- Spectrophotometry

43. 35.Which of the following molecules can be analyzed using a northern blot?

Mark only one oval.

RNA
Carbohydrates
Proteins
DNA

44. 36. Which of the following is a commonly used label in blotting techniques?

Mark only one oval.

- vimentin
- avidin
- streptomycin
- 🔵 biotin
- 45. 37. Which technique is not used to separate nucleic acids of size greater than 25 kb?

Mark only one oval.

SDS-PAGE

- Pulsed-field electrophoresis
- 2D- gel electrophoresis
- None of these

46. 38. Which type of gel is used for large nucleic acids?

Mark only one oval.

acrylamide

- ____ cellulose
- agarose
- _____ sephadex
- 47. 39. Which of the following is a primary factor that dictates how far a protein will migrate during SDS-PAGE?

Mark only one oval.

- Degree of tertiary structure
- Degree of secondary structure
- Size
- Number of subunits
- 48. 40.Which of the following is true about SDS-PAGE?

- Staining with ethidium bromide allows visualization of results
- It separates proteins by charge
- The main ingredient in the gel is agarose
- It requires a protein-denaturing gel

49. 41. If wave length is 10 nm . So what is the frequency ?

Mark only one oval.

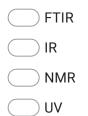
0.3 0.5 1.2 0.8

50. 42. EMR are consist of

Mark only one oval.

\bigcirc	Photons
\bigcirc	electrons
\bigcirc	Laser
\bigcirc	None of these

51. 43. Which spectroscopy is working on the principle of magnetic level ?



52. 44. The region of electromagnetic spectrum for nuclear magnetic resonance is

Mark only one oval.

Microwave
Radio frequency
Infrared
UV-rays

53. 45. In which type of chromatography, the stationary phase held in a narrow tube and the mobile phase is forced through it under pressure?

Mark only one oval.

- Column chromatography
- Planar chromatography
- Liquid chromatography
- Gas chromatography
- 54. 46. In chromatography, the stationary phase can be ______ supported on a solid.

- Solid or liquid
- Liquid or gas
- Solid only
- Liquid only

55. 47.What is the first stage of the two-stage two-dimensional PAGE?

Mark only one oval.

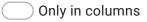
Molecular vibrations

- Sedimentation
- Isoelectric focussing

HPLC

56. 48. Liquid chromatography can be performed in which of the following ways?

Mark only one oval.



- Only on plane surfaces
- Either in columns or on plane surfaces
- Neither in columns nor on plane surfaces
- 57. 49.Gas chromatography can be performed in which of the following ways?

- Only in columns
- Only on plane surfaces
- Either in columns or on plane surfaces
- Neither in columns nor on plane surfaces

58. 50. In gas chromatography, the basis for separation of the components of the volatile material is the difference in

Mark only one oval.

- Partition coefficients
- Conductivity
- ____ molecular weight
- ____ molarity
- 59. 51. In reverse phase chromatography, the stationary phase is made

Mark only one oval.

\bigcirc	non-polar	•
\smile		

🔵 polar

- ____ either non-polar or polar
- none of these
- 60. 52. n the most widely used beam splitter, a thin film of ______ is sandwiched between two plates of low refractive index solid. Fill the blank with a suitable option.

- Mylar
- Silicon carbide
- Ferrous oxide
- Silver chloride

61. 53. Which of the following is not true about Fourier Transform Infrared (FTIR) spectrometer?

Mark only one oval.

- It is of non-dispersive type
- It is useful where repetitive analysis is required
- Size has been reduced over the years
- Size has increased over the years
- 62. 54.Which of the following has to be computed to determine transmittance and absorbance at various frequencies?

Mark only one oval.

- Ratio of signal and noise
- Ratio of sample and reference spectra
- Sample spectra
- Reference spectra
- 63. 55. Which of the following is the reference that is generally used in FTIR interferometer?

- NaCl solution
- Alcohol
- Base solution
- Air

64. 56. NMR is the study of absorption of _____ by nuclei in a magnetic field?

Mark only one oval.

Radioactive radiation

- IR radiation
- Radio frequency radiation
- Microwaves
- 65. 57. n NMR spectroscopy, the spinning nuclei in strong magnetic field must be irradiated by which of the following?

Mark only one oval.

- Perpendicular and stronger field
- Perpendicular and weaker field
- Parallel and stronger field
- Parallel and weaker field
- 66. 58. Which of the following are considered to be the lowest form of Electromagnetic radiation?

- IR radiation
- Micro waves
- UV radiation
- Radio waves

67. 59. The difference between the field necessary for resonance in the sample and in some arbitrary chosen compound is which of the following?

Mark only one oval.

- Field shift
- Matrix effects
- Chemical shift
- 68. 60. Using the powder method of diffractometers, which of the following can be determined?

Mark only one oval.

- Percentage of K+
- Percentage of Na+ and Cl-
- Percentage of KBr and NaCl
- Percentage of Br-

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