PrepsNG

Learning Center

UNIVERSITY OF IBADAN

POST UTME PAST QUESTIONS FOR SCIENCE

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AGRICULTURAL SCIENCE

1. _____ is an example of plant propagated by leaf.
A. Zoophyte
B. Allelopathy
C. Bryophyte
D. Angiosperm

2. A tree species introduced from another country is called_____
A. International species; B. Exotic species;
C. Exogenous species
D. Crossbreed species

3. Agriculture can be broadly classified into_____ and ____
A. Livestock, Soil
B. Animal, Soil
C. Animal, Crop
D. Poultry, Fruit

4. An insect vector is important because
A. it helps to harbour and transmit pathogens which cause diseases
B. it helps pathogens to develop only at the egg stage
C. it helps to carry pathogens to the environment for control
D. it is efficient in killing pathogens

5. Birds are important pests of
A. tree crops
B. legumes
C. Cereals
D. vegetables crops

6. Broad spectrum pesticides are dangerous because
A. they kill all pests and other non-target organisms indiscriminately;
B. they allow non-target organisms to survive;
C. they allow target organisms to survive;
D. they kill target organisms only.

7. Contact insecticides are used to control
A. pod borers of legumes
B. stem borers of cereal
C. leaf beetles of legumes
D. eel worm of legumes

8. Entomology is the
A. study of Insects
B. study of viruses

C. study of Nematodes
D. study of Bacteria

9. Nematology is the ___
A. study of Insects
B. study of Viruses
C. study of Nematodes
D. study of Bacteria

10. Olericulture involves the cultivation of ___
A. Tropical fruits
B. Ornamental plants
C. Vegetables
D. Orchards

11. One of these is a natural agricultural resource
A. water;
B. petroleum;
C. calcium
D. potatoes

12. Pesticides that are translocated to plant parts such that pests that feed on them are poisoned are called ____
A. Systemic pesticides
B. Attractants
C. Fumigants
D. Repellents.

13. Pests of crops that feed by piercing and sucking plants include the following except
A. stem borer
B. aphids
C. cassava mealy bugs
D. cotton strainers

14. Plants that are capable of carrying out photosynthesis contain
A. No Chlorophyll
B. Only Xanthophyll
C. Chlorophyll
D. No plant pigment

15. Problems of agriculture in Nigeria include:
A. higher education and land;
B. poor rural infrastructure and low soil fertility
C. human capital and extension services;
D. mineral resources and poor storage facilities.

16. Reduction of ten seedlings of pawpaw to two per stand is referred to as
A. pruning
B. thinning
C. weeding
D. spacing

17. The equilibrium price rice is the price at which _
A. its demand exceeds supply
B. its supply exceeds demand
C. its supply equals demand
D. its demand encourages supply.

18. The following are examples of formulated pesticide product except
A. dusts e.g. Actellic dust
B. active ingredient
C. Emulsifiable Concentrate e.g. Gammalin 20
D. Soluble Concentrate e.g. Novacron 40.

19. The following are micronutrients, except:
A. Sulphur
B. Iron
C. Copper
D. Molybdenum

20. The force which results from attraction between the two unlike materials is called_____
A. Adhesion
B. Cohesion
C. Friction
D. Couple.

21. The forest is made up of _____
A. Stone, rock, gravel and trees
B. Animals, trees, shrubs and herbs
C. Teak, Elephant, paper and fire
D. Wood, coal, gas and leaves

22. The general name for a plant that is considered to be a pest is
A. tree
B. shrub
C. Weed
D. Herb

23. The list below consists of fibre sources, which one is not correct?
A. Coir, wood, bast, asbestos
B. Wool, asbestos, sisal, pineapple
C. Glass, Plantain, Okra, Hemp
D. Banana, flax, sisal, kenaf

24. The most effective method of controlling or preventing viral diseases in plant is by
A. Planting resistant varieties
B. Spraying crops regularly
C. Treating seeds with chemicals
D. Burning affected crops

25. The process by which green plant manufacture their food is called__
A. Osmosis
B. Photosynthesis
C. Transpiration
D. Respiration

26. The process by which soil gets wetted up is known as__
A. Wetting
B. Erosion
C. Capillarity
D. swelling

27. The removal of excess water from a plant through the stomata is__
A. Transpiration
B. Pollination
C. Absorption
D. Photosynthesis

28. The reproductive cells of crops are called
A. gametes
B. genes
C. anthers
D. zygote

29. Trees can be classified into two classes namely
A. Wood and woodlot
B. Mediterranean wood and temperate wood
C. Hardwoods and softwoods
D. Budwoods and Deciduous wood

30. Virology is the _____
A. study of Insects
B. study of viruses
C. study of Nematodes
D. study of Bacteria

31. What is mycology?
A. study of Insects
B. study of Viruses
C. study of Nematodes
D. study of Fungi

32. When species of plant or animal disappears completely from a place where it previously existed, it is said to be:
A. Endangered;
B. Threatened;
C. Extinct;
D. Rare;
E. Out dated.

33. Which of the following crops can be propagated by stem cutting?
A. Onion
B. Yam

C. Lettuce
D. Cassava

34. Which of the following crops exhibits hypogeal germination?
A. Millet
B. Cowpea
C. Groundnut
D. Soybean

35. Which of the following crops is a raw material for the production of chocolate?
A. Kolanut
B. Coffee
C. Banana
D. Cocoa

36. Which of the following crops produces latex?
A. Mango
B. Citrus
C. Palm tree
D. Rubber

37. Which of the following fruits is a capsule?
A. mango
B. coconut
C. apple
D. okra

38. Which of the following is a storage pest of maize?
A. Weevil
B. Beetle
C. Grasshopper
D. Aphid

39. Which of the following is for body building?
A. Protein
B. Fat
C. Minerals
D. Water

40. Which of the following is not a factor influencing the availability of agricultural land?
A. Topography
B. Soil types
C. Population pressure
D. Transportation

41. Which of the following is not a method of controlling pests?
A. Quarantine
B. Crop rotation
C. Fumigation
D. Mulching.

42. Which of the following is not a monocotyledon plant?

A. Orange
B. Banana
C. Rice
D. Bamboo

43. Which of these is not involved in forest land enforcement?
A. Forest guards
B. Forest rangers
C. Police officers
D. Forest officers
E. Immigration officers

44. Why should a seed-producing farmer spray an insecticide on his crops only when the bees are not around?
A. the bees would sting him and he therefore avoids them
B. the farmer does not want to waste his chemicals
C. bees are important for pollination of his crops
D. bees are harmless insects.

45. Wildlife Management includes one of the following:
A. Habitat Conservation
B. Habitat Consumption
C. Habitat Liberation

46. Yam stored in a barn should be inspected at least once a week to
A. remove rotting tubers
B. remove sprout from the yam
C. prevent termite attack
D. remove sprout and rotten tuber

47. _____ is to manipulate soil to obtain a desired soil tilth for seed placement, its germination and emergence.
A. Ploughing
B. Tillage
C. Harrowing
D. Harvesting.

48. An example of sprayers used in crop protection is ____
A. NASDAC
B. NAFDAC
C. Knapsack
D. Capsack.

49. An example of a stem tuber is_____
A. Cassava
B. Yam
C. Groundnut
D. Maringa

50. An example of fungal disease of stored grains is:
A. rosette
B. mould
C. soft rot

D. damping off.

51. Horticulture is a branch of Agriculture that involves:
A. Rearing of animals;
B. Cultivation of food crops;
C. Study of farm machines and tools;
D. Cultivation of fruit, vegetables and ornamental plants.

52. If a crop requires 1.5kg phosphorus per hectare, how many kg of manure will be required per hectare if 1kg of manure contains 0.5kg of phosphorus?
A. 2.52
B. 2.95
C. 3.0
D. 4.15.

53. Maize grow best on
A. sandy soil
B. sand-clay soil
C. loamy soil
D. clayey-loam soil

54. Root knot of tomato is caused by a
A. fungus
B. bacterium
C. protozoon
D. nematode

55. Soil textural class can be determined using:
A. Meter rule
B. Vernier calliper
C. Textural Triangle
D. Rain gauge

56. The average seed rate for maize is 25kg per hectare. Allowing for seed wastage of 5%, how many kilograms of seeds would be required in planting 2 hectares of farm land?
A. 40.75
B. 47.50
C. 50.05
D. 52.75.

57. The correct definition of a soil profile is ___
A. Horizontal section of the earth crust showing all the layers of soil.
B. Diagonal representation of the soil from top to bottom
C. Vertical section of the soil from the soil surface to the top of the parent materials showing the horizons
D. Perpendicular cross section of the soil showing all the layers from the top of the subsoil.

58. The mosaic symptom commonly associated with viral diseases of crops can be best observed on
A. roots
B. stem

C. leaves
D. fruits

59. The most important part of a crop plant to a horticulturist are the
A. Roots
B. Leaves
C. Buds
D. Branches

60. The pest designated as a national pest by Nigerian Agricultural Advisory Council is
A. variegated grasshopper
B. thrips
C. weevil
D. cricket

61. The process by which plant nutrients are washed down beyond the root zone in the soil is known as
A. Bleaching
B. Leaching
C. Infiltration
D. Erosion.

62. The process of additional source of water in nursery practices for seedlings is called
A. Fertilization
B. Irrigation
C. Ploughing
D. Espacement

63. The use of Chemical pesticides is being discouraged because they
A. Degrade the environment
B. Pollute the environment and kill non-target organisms in the environment
C. They contaminate water bodies
D. All of the above

64. Vertical description of soil column is called
A. Soil tilth
B. Soil profile
C. Soil moisture
D. Soil compaction.

65. What are the 3 basic types of rock?
A. Metamorphic, granite and Igneous
B. Sedimentary, Igneous and slate
C. Igneous, metamorphic and Sedimentary
D. Igneous, metamorphic and slate

66. What is soil texture?
A. The proportion of sand, silt and gravel in the soil.
B. The percentages of all the components of the soil
C. The average composition of the soil particles
D. The proportion of sand, silt and clay in the soil.

67. What is the process by which soil particles are washed away?

A. Leaching
B. Erosion
C. Ponding
D. Wetting

68. Which of the following diseases of crops causes stunting in maize?
A. blast
B. rosette
C. blight
D. streak

69. Which of the following is not an effect on man of the various preventive and control measures of diseases and pest of crops?
A. air pollution
B. water poisoning
C. poor health
D. poor utilization

70. A strain is a chicken breeding stock bearing a given value and produced by a breeder through at least generations of closed breeding.
A. two
B. three
C. four
D. five.

71. A term used to designate groups of breeds which have been developed in a particular area
A. Breed
B. Variety
C. Class
D. Strain

72. All except are bred for their meat quality
A. Australorp
B. New Hampshire
C. Rhode Island Red
D. Minorca

73. All of these are poultry except _____
A. Chicken
B. Duck
C. Pet
D. Turkey

74. Chindulla is a breed of _____
A. Goat
B. Gorilla
C. Rabbit
D. Grasscutter
E. Pig

75. Fowl pox is commonly transmitted by

A. Testes fly
B. Bees
C. Mosquitoes
D. Rats

76. In which of the following farm animals is the need for protein supplement in the diet not critical?
A. Rabbit
B. Poultry
C. Pigs
D. Cattle

77. One of the animals that has been successfully domesticated in Nigeria is
A. Cockroach
B. Earthworm
C. Grasscutter

78. One of the branches of the poultry industry is __
A. Backward farming
B. Poultry housing
C. D Disease control
D. Integrated companies

79. Salmonella and Mycoplasma can only be controlled through
A. Vaccination
B. Proper sanitation
C. Bio-security
D. Destruction of contaminated breeders.

80. The contains enzymes that helps to dissolve the membrane of the yolk before fertilization takes place
A. Ovary
B. Sperm
C. Seminal fluid
D. Acrosome

81. The female sheep is known as _____
A. ewe
B. lamb
C. sow
D. mare

82. The largest part of the oviduct where egg white is formed is the ___
A. Isthmus
B. Infundibulum
C. Uterus
D. Magnum

83. The male reproductive hormone is called
A. Testosterone
B. Testis
C. Thiamine

D. Globulin
E. Progesterone

84. The process of eliminating undesirable birds from the flock is known as
A. Dubbing
B. Removing
C. Culling
D. Degrading

85. The volume of the seminal fluid in chicken is about ___
A. 10mls
B. 5.0mls
C. 0.5mls
D. 0.10mls.

86. What is poultry science?
A. Study of chickens
B. Study of science
C. Study of goats
D. Study of cattle.

87. What is the gestation period of a cow?
A. 5 months
B. 18½ months
C. 9 months
D. 24 months
E. 15 weeks

88. Which branch of poultry industry is concerned with the production of various kinds of feed?
A. Hatchery industry
B. Poultry processing and marketing
C. Milling Industry
D. Poultry equipment

89. Which of the following fish preservation method is common in the Northern part of Nigeria?
A. Sun-drying
B. Gas drying
C. Oven drying

90. Which of the following is monogastric animal?
A. Cattle
B. Goat
C. Rabbit
D. Sheep

91. A farmer purchased a sprayer for ₦5,000 in 2004, at the end of fifth year, he sold it for ₦5,000. What is the salvage value?
A. ₦10,000
B. ₦5,000
C. ₦15,000
D. ₦3,000.

92. Agricultural extension got its name from

A. spreading of information
B. taking information to farmers on field
C. having farm extension
D. none of these.

93. Equilibrium price is _____
A. the point at which quantity of a commodity equals quantity supplied
B. the price at which quantity demanded of a commodity equals quantity supplied
C. the point at which market price of a commodity equals quantity supplied
D. the price at which quantity demanded of a commodity equals market price

94. Farm-gate price is usually obtained through
A. The producer
B. Middlemen
C. Commodity Boards
D. Cooperatives

95. One of the factors that influence supply is:
A. Income
B. prices of other products
C. social capital
D. level of technology

96. People-oriented extension programmes which generate ideas and activities from the grassroots is called ___
A. grassroots approach
B. top down approach
C. community approach
D. bottom up approach.

97. The law of demand states that:
A. demand is directly related to price of a commodity
B. higher the price of a commodity leads to lower quantity demanded
C. the price of a commodity is directly proportional to the amount supplied
D. None of the above.

98. The loss in value of an asset due to wear and tear in the course of its use is known as
A. Appreciation
B. Evaluation
C. Depreciation
D. Salvage value.

99. Which of the following is not a problem of agricultural marketing in Nigeria?
A. Lack of transport facilities
B. Scattered sources of supply
C. High quantity of farm produce
D. Lack of good packaging and processing facilities

100. Which of the following is not a subject area in Agricultural Economics?
A. Agribusiness management
B. Farm management and accounting
C. Agronomy
D. Agricultural development and policy

ANSWERS TO AGRIC SCIENCE QUESTIONS

1. D 2. B 3.C 4. A 5. C 6. A 7. C 8. A 9. C 10. C 11. A 12. A 13. A 14. C 15. B 16. B 17. C 18. B 19. A 20. A 21. B 22. C 23. A 24. A 25. B 26. C 27. A 28. A 29. C 30. B 31. D 32. C 33. D 34. A 35. D 36. D 37. D 38. A 39. A 40. D 41. D 42. A 43. C 44. C 45. A 46. D 47. B 48. C 49. B 50. B 51. D 52. C 53. C 54. D 55. C 56. B 57. C 58. C 59. B 60. A 61. B 62. B 63. D 64. B 65. C 66. D 67. B 68. D 69. D 70. D 71. C 72. D 73. C 74. C 75. C 76. D 77. C 78. D 79. B 80. D 81. A 82. D 83. A 84. C 85. C 86. A 87. C 88. C 89. A 90. C 91. B 92. B 93. B 94. A 95. D 96. D 97. B 98. C 99. C 100. C

BIOLOGY

1. _____is an end product of digestion of fat.
A. Glucose
B. Fatty acid
C. Amino acid
D. Fructose
E. Galactose

2. Asexual reproduction in Hydra sp. is commonly by_____
A. Binary fission
B. Fragmentation
C. Budding
D. Separation
E. Regeneration

3. Benedict's solution is used to test for _____
A. Carbohydrate
B. Lipid
C. Protein
D. Vitamins
E. Minerals

4. Pepsin is an enzyme that digests_____
A. Starch
B. Sugar
C. Lipid
D. Fat
E. Protein

5. The breakdown of large organic molecules into smaller simpler soluble molecules is called
A. Excretion
B. Digestion
C. Absorption
D. Reproduction
E. Ingestion

6. The enzyme that curdles milk is _____
A. Pepsin
B. Ptyalin
C. Renin
D. Amylase
E. Trypsin

7. Which is the enzyme that begins digestion of starch in the mouth?
A. Ptyalin
B. Maltase
C. Amylase
D. Sucrase
E. Lactase

8. A group of interacting populations in a particular habitat can be described as
A. biome
B. biosphere
C. community
D. population ecosystem
E. environment.

9. A habitat can be defined as
A. a group of animals and plants living within a common boundary.
B. a place in which plants and animals live.
C. a community living together in the same place.
D. different areas, with a common animal and plant population.
E. None of the above.

10. A symbiotic relationship in which one organism is completely dependent on another organism is called
A. Parasitism
B. Commensalisms
C. Mutualism
D. Saprophytism
E. Competition

11. An association between two organisms where both members benefit is known as
A. symbiosis.
B. commensalism.
C. ammensalism.
D. mutualism.
E. saprophytism.

12. An instrument used in measuring the speed of wind is
A. a barometer
B. a wind gauge
C. a wind vane
D. an anemometer
E. a hydrometer.

13. At times hyenas feed on remains of animals killed by other animals. At other times, hyenas themselves kill animals for food. Therefore, hyenas may best be described as __
A. scavengers and herbivores
B. scavengers and parasites
C. scavengers and predators
D. herbivores and predators
E. herbivores and parasites

14. Autecology is defined as the study of interrelationship of
A. many species of organisms and their environment
B. same species of organisms and their environment.
C. organisms in the atmosphere.
D. organisms under the earth's surface.
E. None of the above.

15. Autotrophs are also described as _____
A. Consumers
B. Decomposers
C. Carnivores
D. Producers
E. Herbivores

16. If three 30cm lengths of glass tubing are tightly packed with clay, sand and loamy soils respectively and then stood in a beaker of water for one week the level of water will be
A. Lowest in the tube with clay
B. The same in all the tubes
C. Lowest in the tube with loamy soil
D. Highest in the tube with sandy soil
E. Lowest in the tube with sandy soil

17. In a community bacteria and fungi are referred to as ___
A. producers
B. consumers
C. scavengers
D. tertiary consumers
E. decomposers

18. Puddles, Ponds, Rivers, Seas and Oceans are grouped together as _
A. Ecosystem
B. Biosphere
C. Aquatic habitat
D. Terrestrial habitat
E. Marine environment

19. The feeding pattern in an ecosystem is called___
A. Pyramid of energy
B. Food web
C. Food chain
D. Pyramid of member
E. Ecology

20. The orderly changes that occur slowly and naturally in plant and animal communities in a given area over a period of time until a stable community is established is called ___
A. Transformational change
B. ecological succession.
C. survival of the fittest.
D. weather change
E. environmental change.

21. The sign + is used to indicate an association where an organism gains, while 0 is used where an organism is unaffected. An association indicated as +0 is known as _____
A. predation
B. commensalism
C. parasitism
D. competition
E. ammensalism

22. The sum total of all the roles an organism plays in a habitat is referred to as
A. ecology.
B. ecosystem.
C. habit.
D. habitat.
E. niche

23. Which of the following factors does not control population growth?
A. Food shortage
B. Emigration
C. Predation
D. Abundance of food
E. Natural disaster

24. Which of the following statements best describe an ecosystem?
A. A place where living organisms can live successfully.
B. The interactions between living organism in a habitat and the non-living part of the environment.
C. A biological association between a plant and an animal.
D. A system of grouping organisms in a habitat.
E. None of the above.

25. Which of these represents a correct food chain in nature?
A. Crustacea → diatom →fish → man
B. Diatom → crustacea → fish → man
C. Fish → crustacea → man → diatom
D. Diatom → fish → crustacea → man
E. None of the above.

26. is involved in the mechanism of expelling water from the protozoans during the process of
A. Contractile vacuole, Osmoregulation
B. Contractile vacuole, Phagocytosis
C. Food vacuole, Ultrafiltration
D. Food vacuole, Pinocytosis
E. Cell membrane, Pinocytosis

27. _____ is used for photosynthesis in Euglena sp.
A. Reservoir
B. Nucleus
C. Chloroplast
D. Paramylon granule
E. Pellicle

28. A heart with four chambers is found in
A. Fishes
B. Insects
C. Snails
D. Rats
E. Worms

29. Animal cell does not have a ___
A. Membrane
B. Nucleolus
C. Food Vacuole
D. Cell wall
E. Golgi body

30. Beriberi is caused by deficiency of vitamin
A. A
B. D
C. K
D. E
E. B

31. Compound eyes are found in which of the animals below
A. Rat
B. Cow
C. Snail
D. Ant
E. Jelly fish

32. Dental formula of man consist of
A. I $^{2}/_{2}$, C $^{2}/_{2}$, Pm $^{2}/_{2}$, M $^{3}/_{3}$
B. I $^{1}/_{1}$, C $^{2}/_{2}$, Pm $^{2}/_{2}$, M $^{3}/_{3}$
C. I $^{2}/_{2}$, C $^{1}/_{1}$, Pm $^{3}/_{3}$, M $^{2}/_{2}$
D. I $^{2}/_{2}$, C $^{1}/_{1}$, Pm $^{2}/_{2}$, M $^{2}/_{2}$
E. I $^{2}/_{2}$, C $^{1}/_{1}$, Pm $^{2}/_{2}$, M $^{3}/_{3}$

33. During digestion of food, passage of chyme through the duodenum enables it to become a watery liquid called
A. Digested food
B. Chymatic product
C. Chyle
D. Soluble food
E. Dissolved food

34. Emulsification of fat and oils is caused by
A. Lipase
B. Ptyalin
C. Trypsin
D. Maltase
E. Bile

35. Every mammal has
A. One Kidney
B. Two pairs of Kidneys
C. One pair of Kidneys
D. Four Kidneys
E. None of the above

36. Feaces is removed from the body in a process called ____

A. Digestion
B. Egestion
C. Elimination
D. Excretion
E. Evacuation

37. Glomerulus is found in the
A. Ovary
B. Testes
C. Brain
D. Kidney
E. Stomach

38. In the respiratory system of man, diffusion of gases takes place in
A. Trachea
B. Bronchi
C. Alveoli
D. Bronchioles
E. None of the above

39. Incisors are used for
A. Tearing food
B. Cutting food
C. Grinding food
D. Shearing food
E. Crushing food

40. Nematocysts are produced by special cells found in
A. Nematodes
B. Annelids
C. Platyhelminthes
D. Cnidarians (Coelenterates)
E. Arthropods

41. One of the following is not a function of the skin
A. Excretion
B. Protection
C. Homeostasis
D. Reproduction
E. Absorption of vitamin D

42. Open circulatory system is found in
A. Lizard
B. Toad
C. Fish
D. Insect
E. Chicken

43. Ovary is to the female reproductive system as _____ is to the male reproductive system
A. Penis

B. Urethra
C. Testis
D. Cowper's gland
E. Prostate gland

44. Possession of pinna is a characteristic feature of
A. Mammals
B. Reptiles
C. Fishes
D. Amphibians
E. All of the above

45. Tadpoles respire with _____
A. Lungs
B. Nostril
C. Gills
D. Spiracles
E. Siphon

46. The excretory organ in the earthworm is____
A. Malpighian tubule
B. Stoma
C. Nephridium
D. Flame cells
E. Gills

47. The nerves that connect the eyes to the brain are called ____
A. Cranial nerves
B. Optical nerves
C. Sensory nerves
D. Olfactory nerves
E. Optic nerves.

48. The nerves that connect the eyes to the brain are called ____
A. Cranial nerves
B. Optical nerves
C. Sensory nerves
D. Olfactory nerves
E. Optic nerves.

49. The parasympathetic nervous system is involved in ___
A. Dilation of pupil of the eye
B. Control the activities of smooth muscles
C. Dilatation of the skin
D. Controls thinking in mammals
E. Increased metabolism

50. The part of the alimentary system of a bird where grinding of food occurs is
A. Crop
B. Stomach
C. Cloaca

D. Rectum
E. Gizzard

51. The part of the ear that contains receptors that convert the fluid motion into action potential is called ____
A. Auditory nerve
B. Ossicles
C. Semi-circular canals
D. Cochlea
E. Oval window

52. The thoracic region of the vertebral column is made up of ____vertebrae.
A. 5
B. 7
C. 4
D. 12
E. 10

53. Which of the animal below is poikilothermic?
A. Toad
B. Chicken
C. Bat
D. Lion
E. Dove

54. Which of the structures below is found in reptiles and birds
A. Scales
B. Legs
C. Beaks
D. Claws
E. All of the above

55. Which of these animals is photosynthetic?
A. Paramecium sp.
B. Amoeba sp.
C. Euglena sp.
D. Hydra sp.
E. None of the above

56. Which of these organs regulate the amount of sugar in the blood?
A. Liver
B. Kidney
C. Spleen
D. Lung
E. Pancreas

57. The basis for growth and asexual reproduction is
A. meiosis
B. cytokinesis
C. mitosis
D. Cytogenesis

E. Cell elongation.

58. The process which ensures that the chromosome number for each species of organism remain constant from generation to generation is called
A. fission
B. fusion
C. meiosis
D. mitosis
E. oogenesis

59. Which of the following is a major factor in variation among organisms?
A. Inbreeding
B. Backcrossing
C. Test crossing
D. Sexual reproduction
E. Gene dominance

60. _____ is an example of an invertebrate
A. Millipede
B. Fish
C. Toad
D. Snake
E. Skin

61. _____ is the odd one in the list below
A. Mosquito
B. Bee
C. Moth
D. Tick
E. Beetle

62. _____ are flatworms
A. Platyhelminthes
B. Annelida
C. Nematoda
D. Diplopoda
E. Chilipoda

63. _____ is an example of a unicellular organism
A. Amoeba sp.
B. Hydra sp.
C. Ascaris sp.
D. Taenia sp.
E. Obelia sp.

64. _____ level is the highest level of organization in animals.
A. System
B. Tissue
C. Organ
D. Cellular
E. Protoplasmic

65. Crocodiles are _____
A. Fishes
B. Amphibians
C. Mammals
D. Birds
E. None of the above

66. The mutation theory of organic evolution was propounded by
A. Gregor Mendel
B. Hugo de Vrics
C. Jean Lamarck
D. Charles Darwin
E. Robert Hookes.

67. The theory of natural selection was developed by ____
A. Lamarck and Darwin
B. Darwin and Wallace
C. Wallace and Mendel
D. Mendel and Lamarck
E. Hooke and Darwin.

68. Which is the odd animal in the list below?
A. Lizards
B. Snakes
C. Turtles
D. Tortoise
E. Toad

69. Which of the following sources is not an evidence of evolution?
A. Fossil records
B. Comparative anatomy
C. Comparative embryology
D. Human behaviour
E. None of the above

70. _____ is an endoparasite
A. Earthworm
B. Tapeworm
C. Mosquito
D. Housefly
E. Tsetse fly

71. The causative agent of bird flu is a _____
A. Virus
B. Bacteria
C. Fungus
D. Protozoan
E. Rickettsia

72. In lower plants like mosses, the structure which performs the functions of roots of higher plants is called

A. root hairs
B. rootlets
C. hyphae
D. rhizoids
E. thalli.

73. One common feature of fungi, algae, mosses and ferns is that they are
A. photosynthetic
B. show alternation of generation
C. can survive harsh weather conditions
D. have no seeds
E. conjugate

74. The following are major groups of the plant kingdom EXCEPT
A. Bryophyta
B. Chlorophyta
C. Pteridophyta
D. Spermatophyta
E. Thallophyta

75. _____ is a form of sexual reproduction
A. Grafting
B. Budding
C. Fission
D. Conjugation
E. Regeneration

76. Sexual reproduction in Spirogyra is called
A. Fertilization
B. Symbiosis
C. Conjugation
D. Reproduction
E. Mutualism

77. The carrier of the hereditary characters in plants is the _____
A. Cell
B. nucleus
C. chromosome
D. chloroplast
E. gene

78. All are necessary for photosynthesis except ____
A. Water
B. Chlorophyll
C. Sunlight
D. Carbon dioxide
E. Oxygen

79. Growing yam tendrils climb for support. This growth response is
A. haptotropism
B. geotropism

C. phototropism
D. hydrotropism
E. chemotropism.

80. Which is the correct order in an evolutionary sequence for the following plant groups?
A. Bacteria → ferns → algae → mosses → seed plants.
B. Bacteria → ferns → mosses → algae → seed plants.
C. Bacteria → algae → mosses → ferns → seed plants.
D. Bacteria → mosses → algae → ferns → seed plants.
E. Seed plants → ferns → mosses → algae → bacteria.

81. _____ is not part of the whorls of a flower.
A. calyx
B. corolla
C. androecium
D. Antheridium
E. Gynoecium

82. A dry fruit which can break into several parts each containing one seed is a
A. caryopsis
B. aggregate fruit
C. legume
D. follicle
E. schizocarp

83. A dry indehiscent, winged fruit formed from one carpel is known as a
A. Schizocarp
B. Caryopsis
C. Samara
D. nut
E. Follicle

84. A true fruit is formed from _____
A. fertilized ovary and other floral parts
B. a fertilized ovary
C. a fertilized ovary and calyx
D. a fertilized and fleshy receptacle
E. an unfertilized ovary and other floral parts

85. Irish potato is a _____
A. bulb
B. tap root
C. rhizome
D. root tuber
E. stem tuber

86. One major difference between an Angiosperm and a Gymnosperm is that seeds in Gymnosperms are borne in
A. Cones
B. fruits
C. flowers

D. ovary
E. ovule

87. Reserved food material in the seed is stored in the ___
A. epicarp
B. endocarp
C. endosperm
D. mesocarp
E. all parts

88. What type of fruit is a mango fruit?
A. Berry
B. Hesperidium
C. Drupe
D. Nut
E. Mango fruit

89. Which of the following species exhibit an aerial root?
A. Ficus
B. Centrosema
C. Antigonon
D. Lantana
E. Dahlia

90. Which of these plants has an emerginate apex?
A. Bauhinia
B. Pistia
C. Ixora
D. Musa
E. Terminalia

91. Which plant stores food in its roots?
A. Cassava
B. cocoyam
C. Irish potato
D. onion
E. yam.

92. An example of Vascular tissues is _____
A. Trichome
B. Xylem
C. Stomata
D. Epidermis
E. Parenchyma

93. The living part of phloem tissue is
A. sieve plate
B. companion cell
C. sieve element
D. cytoplasm

94. Which of the following tissues are made up of dead cells?
A. meristems
B. xylem vessels
C. cambium
D. mesophyll
E. palisade

95. A plant vacuole contains _____
A. dissolved chemicals, sugars, salts, pigments and crystals
B. waste products of metabolism, DNA, RNA and crystals
C. pigments, crystals, DNA and waste products of metabolism
D. RNA, DNA, sugars and salts

96. Excessive loss of water in plants is known as ___
A. Osmosis
B. Osmoregulation
C. Transpiration
D. excretion

97. Starch granules in plants is equivalent to granules in animals
A. Food
B. Chromatin
C. Lysosome
D. Mitochondria
E. Glycogen

98. Which of the following is a plant excretory product?
A. Oil
B. Cytokinin
C. Resin
D. amino acids
E. gibberellins.

99. A plant which grows on another without causing harm to the host plant is called _____
A. a parasite
B. a saprophyte
C. an epiphyte
D. a predator
E. a prey.

100. Plants which can survive in places where water supply is limited are
A. bryophytes
B. mesophytes
C. xerophytes
D. hydrophytes
E. pteridophytes.

ANSWERS TO BIOLOGY QUESTIONS

1. B 2. C 3. C 4. E 5. B 6. C 7. A 8. C 9. B 10. A 11. D 12. D 13. C 14. B 15. D 16. E 17. E 18. C 19 B 20. B 21. B 22. E 23. D 24. B 25. B 26. A 27. C 28. D 29. D 30. E 31. D 32. E 33. C 34. E 35. C 36. B 37. D 38. C 39. B 40. D 41. D 42. D 43. C 44. A 45. C 46. C 47. E 48. E 49. B 50. E 51. D 52. D 53. A 54. A 55. C 56. E 57. C 58. C 59. D 60. A 61. D 62. A 63. A 64. A 65. E 66. D 67. B 68. E 69. D 70. B 71. A 72. D 73. D 74. B 75. D 76. C 77. E 78. E 79. A 80. C 81. D 82. E 83. C 84. B 85. D 86. A 87. C 88. C 89. A 90. A 91. A 92. B 93. B 94. B 95. A 96. C 97. E 98. C 99. C 100. C

CHEMISTRY

1. 200 cm^3 of air was passed over heated copper in a syringe several times to produce copper (II) oxide. When cooled, the final volume of air recorded was 158 cm^3. Estimate the percentage of oxygen in the air.
A. 31%
B. 27%
C. 21%
D. 19%

2. 30cm^3 of oxygen at 10 atmosphere pressures is placed in a 20dm^3 container. Calculate the new pressure if temperature is kept constant.
A. 6.7 atm
B. 15.0 atm
C. 60.0 atm
D. 66.0 atm

3. Bond dissociation energy of 500 KJ mol^{-1} may be assigned to
A. ionic bonding
B. covalent bonding
C. hydrogen bonding
D. metallic bonding
E. van-der-waals bonding.

4. A mixture of iron and sulphur can be separated by dissolving the mixture in _____
A. steam
B. dilute hydrochloric acid
C. dilute sodium hydroxide
D. benzene

5. A mixture of sand, ammonium chloride and sodium chloride is best separated by
A. sublimation followed by addition of water and filtration
B. sublimation followed by addition of water and evaporation
C. addition of water followed by filtration and sublimation
D. addition of water followed by crystallization and sublimation

6. A pure solid usually melts _____
A. over a wide range of temperature
B. over a narrow range of temperature
C. at a lower temperature than the impure one
D. at the same temperature as the impure one

7. A small quantity of solid ammonium chloride was heated gently in a test tube; the solid gradually disappeared to produce a mixture of two gases. Later a white cloudy deposit was observed on the cooler part of the test tube. The ammonium chloride is said to have undergone _____
A. distillation
B. sublimation
C. precipitation
D. evaporation

8. CH_4 has this geometry:
A. trigonal
B. planar
C. tetrahedral
D. octahedral
E. linear.

9. Chlorine, consisting of two isotopes of mass numbers 35 and 37, has an atomic mass of 35.5. The relative abundance of the isotope of mass number 37 is ____
A. 20
B. 25
C. 50
D. 75

10. Elements P, Q, R, S, have 6, 11, 15 and 17 electrons respectively, therefore, ___
A. P will form an electrovalent bond with R
B. Q will form a covalent bond with S
C. R will form an electrovalent bond with S
D. Q will form an electrovalent bond with S

11. In the oil drop experiment, Millikan determined the ___
A. charge to mass ratio of the electron
B. mass of the electron
C. charge of the electron
D. mass of the proton

12. One of these atomic shells is the most stable
A. M
B. N
C. K
D. L
E. O

13. Sieving is a technique used to separate mixture s containing 20% oxygen by volume. Which of the reactants was in excess?
A. Carbon (II) oxide
B. Oxygen
C. Carbon (IV) oxide
D. Nitrogen

14. The abnormally high boiling point of water is primarily due to
A. ionic bonding
B. covalent bonding
C. dative bonding
D. coordinate covalent bonding
E. hydrogen bonding.

15. The energy required to remove an electron from the isolated gaseous atom is known as
A. electron affinity
B. bond energy
C. Ionisation energy
D. electronegativity

E. electro-valency.

16. The group that oxygen belongs to is collectively called
A. allotropes
B. halogens
C. chalcogens
D. alkenes
E. ozonides.

17. The ideal gas equation is _____
A. P = nRT
B. PR = nVT
C. PV = gRT
D. V = kT
E. PV = K V

18. The number of atoms in one mole of a substance is equal to
A. the atomic number
B. the Avogadro's number
C. number of neutrons
D. number of electrons
E. gas constant

19. The number of electrons in the outermost shell of the atom represents its
A. period
B. number of shells
C. group
D. atomic number
E. electronegativity.

20. The number of protons or electrons of an atom represents its
A. electronegativity
B. period
C. number of shells
D. group
E. atomic number

21. The partial pressure of oxygen in a sample of air is 500 mmHg. If the total pressure is 780mmHg, what is the mole fraction of the oxygen?
A. 0.64
B. 5.73
C. 1.56
D. 0.70
E. 0.54

22. The periodic classification of the elements is an arrangement of the elements in order of their___
A. atomic weights
B. isotopic weights
C. molecular weights
D. atomic numbers

23. The process of changing one element into another is called

A. radioisotope
B. radioactivity
C. dating
D. transmutation
E. nuclear reaction.

24. The shapes of CO_2, H_2O and CH_4 respectively are
A. bent, linear and tetrahedral
B. bent, tetrahedral and linear
C. tetrahedral, linear and bent
D. linear, bent and tetrahedral

25. This compound exhibits ionic bonding
A. H_2O
B. H_2
C. KCl
D. NH_3
E. HF

26. This type of bonding involves overlapping of orbitals during which electrons are shared
A. hydrogen bonding
B. covalent bonding
C. ionic bonding
D. metallic bonding
E. van-der-waals bonding.

27. Which one of the following changes is physical?
A. Adding iron filings to aerated water
B. Adding sodium metal to water
C. Cooling a solution of iron (II) sulphate to obtain the hydrated salt
D. Cooling water to obtain ice

28. A side effect of soft water is that
A. it gives offensive taste
B. excess calcium is precipitated
C. it encourages the growth of bacteria
D. it attacks lead contained in pipes

29. Ammonia is very soluble in water because it is a /an ___ molecule
A. non-polar
B. polar
C. reactive
D. basic
E. acidic

30. Citrus fruits such as lemon and grape taste sour because they contain
A. ascorbic acid and citric acid
B. citric acid and ascetic acid
C. citric acid and dilute HCl
D. citric acid and salicylic acid
E. Sulphuric acid

31. Soap lather is an example of a colloid in which a
A. liquid is dispersed in gas
B. solid is dispersed in liquid
C. gas is dispersed in liquid
D. liquid is dispersed in liquid

32. The air around a petroleum refinery is most likely to contain ___
A. CO_2, SO_3 and N_2O
B. CO_2, CO and N_2O
C. SO_2, CO and NO_2
D. PH_3, H_2O and CO_2

33. The difference between colloids and suspensions is brought out clearly by the fact that while colloids
A. do not scatter light, suspensions do
B. can be separated by filtration, suspensions cannot be so separated
C. can be separated by a membrane, suspensions cannot
D. do not settle out on standing, suspensions do

34. The following substances are non- electrolytes except
A. chloroform
B. sugar cane
C. acetic acid
D. NaCl
E. C and D.

35. The hydrolysis of NH_4Cl salt will give
A. acidic solution
B. neutral solution
C. basic solution
D. hot solution
E. all of the above

36. The pollutants that are likely to be present in an industrial environment are
A. H_2S, SO_2 and oxides of nitrogen
B. NH_3, HCl and CO
C. CO_2, NH_3, and H_2S
D. dust, NO and Cl_2

37. What is the basicity of tetraoxosulphate (VI) acid?
A. 2
B. 1
C. 3
D. 4
E. 0

38. Which of the following gases is the most dangerous pollutant?
A. Hydrogen sulphide
B. Carbon (IV) oxide
C. Sulphur (IV) oxide
D. Carbon (II) oxide

39. Which of the following ions is a pollutant in drinking water even in trace amount?
A. Ca^{2+}
B. Hg^{2+}
C. Mg2+
D. Fe2+

40. Which of the following is an example of a double salt?
A. NH4Cl
B. alum
C. NaCO3
D. AlCl3
E. NaCl

41. 0.16g of methane when burnt increases the temperature of 100g of water by 40°C, what is the heat of combustion of methane if the heat capacity of water is 4.2 Jg^{-1} °C^{-1}? (CH_4 = 16).
A. 1160$kJmol^{-1}$
B. 1180$kJmol^{-1}$
C. 1560$kJmol^{-1}$
D. 1600$kJmol^{-1}$
E. 1680$kJmol^{-1}$

42. A charged car battery has_____ energy that can be converted into another energy called energy
A. Chemical, electrical
B. mechanical, chemical
C. heat, mechanical
D. light, electrical
E. light, heat

43. Copper oxide is heated with charcoal to produce carbon monoxide and copper. The reaction is an example of
A. both oxidation and reduction
B. neither oxidation and reduction
C. oxidation only
D. reduction only
E. neutralization

44. For each oxygen atom in hydrogen peroxide which acts as an oxidant, there is an oxygen atom which acts as a /an _____
A. Oxidant
B. reductant
C. oxidizing agent
D. catalyst
E. inhibitor

45. Given the change of phase: $CO_{2(g)}$ changes to $CO_{2(s)}$, the entropy of the system _
A. decreases
B. increases
C. remains the same

46. In which of the following is the entropy change positive?
A. Reaction between an acid and a base.

B. Addition of concentrated acid to water.
C. Dissolution of sodium metal in water.
D. Thermal dissociation of ammonium chloride.

47. One of these elements is the best reducing agent.
A. Pb
B. Rb
C. Al
D. In
E. N

48. The name of the gas driven off at the negative electrode during the electrolysis of brine is
A. hydrogen
B. chlorine
C. oxygen
D. sodium
E. hydrogen chloride

49. The oxidation state of P in $H_2P_2O_7^{2-}$ is
A. -3
B. +3
C. +1
D. +5
E. -2

50. The oxidation state of S in $Ca(HSO_3)_2$ is
A. +2
B. -2
C. +4
D. -4
E. +6.

51. The oxidizing agent in the reaction, $3Br_2 + 6OH^- = BrO_3^- + 5Br^- + 3H_2O$ is
A. Br_2
B. OH^-
C. A BrO_3^-
D. e^-
E. H_2O.

52. When heat is absorbed during a chemical reaction, the reaction is said to be ___
A. thermodynamic
B. exothermal
D. endothermic
E. thermostatic

53. Given the reaction at equilibrium: $2CO_{(g)} + O_{2(g)} \leftrightharpoons 2CO_{2(g)}$ When the reaction is subjected to stress, a change will occur in the concentration of _
A. reactants, only
B. products, only
C. both reactants and products
D. neither reactants nor products

54. Given the reaction at equilibrium: $N_{2(g)} + O_{2(g)} \leftrightharpoons 2NO_{(g)}$ as the concentration of $N_{2(g)}$ increases, the concentration of $O_{2(g)}$ will ____
A. decrease
B. increase
C. remains the same
D. vanishes
E. pours away

55. If a reaction is exothermic and there is a great disorder, it means that
A. The reaction is in a state of equilibrium
B. There will be a large increase in free energy
C. There will be a large decrease in free energy
D. The reaction is static.

56. In the chemical reaction of A + B = C + D, more of D is formed ___
A. if the concentration of A is reduced
B. if the concentration of B is reduced
C. if the concentration of C is reduced
D. if the concentration of C is increased
E. if it is continuously removed from the reaction mixture

57. In what way is equilibrium constant for the forward reaction related to that of the reverse reaction?
A. The addition of the two is expected to be one.
B. The product of two is expected to be one.
C. The two equilibrium constants are identical.
D. The product of the two is always greater than one.

58. In which reaction will the point of equilibrium shift to the left when the pressure on the system is increased?
A. $C_{(s)} + O_{2(g)} \leftrightharpoons CO_{2(g)}$
B. $CaCO_{3(s)} \leftrightharpoons CaO_{(s)} + CO_{2(g)}$
C. $2Mg_{(s)} + O_{2(g)} \leftrightharpoons 2MgO_{(s)}$
D. $2H_{2(g)} + O_{2(g)} \leftrightharpoons 2H_2O_{(g)}$

59. The furring of kettles is caused by the presence in water of _
A. calcium trioxocarbonate (IV)
B. calcium tetraoxosulphate (VI)
C. calcium hydroxide
D. calcium hydrogentrioxocarbonate (IV)

60. Which is a property of a reaction that has reached equilibrium?
A. The amount of products is greater than the amount of reactants.
B. The amount of products is equal to the amount of reactants.
C. The rate of the forward reaction is greater than the rate of the reverse reaction.
D. The rate of the forward reaction is equal to the rate of the reverse reaction.

61. Which of the following combination of conditions many increase the rate of a chemical reaction.
A. Decrease in temperature, increase in concentration of the reactant
B. Increase in temperature, addition of a catalyst, decrease in the surface area of the reactant

C. Increase in temperature, increase in concentration, addition of a catalyst and increase in the surface area of the reactant
D. Decrease in temperature, concentration and surface area of the reactants
E. Addition of catalyst and in the absence of light.

62. "Quicklime" has the formula
A. $Ca(OH)_2$
B. CaO
C. $CaCO_3$
D. $CaSO_4.2H_2O$
E. $CaCl_2$

63. A Transition metal is different from a non- transition metal because
A. it has an octet configuration
B. it is very stable
C. it is coloured
D. it has incomplete outer shell d-electrons
E. it has no electron in the d-orbital

64. Chlorine is produced commercially by
A. electrolysis of dilute HCl
B. electrolysis of brine
C. neutralization of HCl
D. heating potassium trioxochlorate (V)
E. action of dilute mineral acids on bleaching powder.

65. Chlorine, bromine and iodine resemble one another since they ____
A. dissolve in alkalis
B. react violently with H_2 without heating
C. displace each other from solutions of their salts
D. are gases
E. are liquids.

66. Liquid oxygen may be produced by condensation of air using this coolant
A. liquid phosphorus
B. liquid gas
C. liquid paraffin
D. liquid nitrogen
E. butane.

67. One of these is another form of oxygen
A. hydroxide
B. ozone
C. peroxide
D. sulphide
E. water.

68. One of these metals is not an alkali metal
A. K
B. Cs
C. Sr
D. Rb

E. Fr

69. One of these reactions represents the laboratory preparation of hydrogen.
A. $C_{(s)} + H_2O_{(l)} \rightarrow CO_{(g)} + H_{2(g)}$
B. $2Na_{(s)} + 2H_2O_{(l)} \rightarrow 2NaOH_{(aq)} + H_{2(g)}$
C. $Cu_{(s)} + H_2O_{(l)} \rightarrow CuO_{(s)} + H_{2(g)}$
D. $2Al_{(s)} + 3H_2O_{(l)} \rightarrow Al_2O_{3(s)} + 3H_{2(g)}$
E. $Zn_{(s)} + 2HCl_{(aq)} \rightarrow ZnCl_{2(aq)} + H_{2(g)}$

70. The formation of ozone by reaction of O_2 with atomic oxygen in UV light occurs in
A. upper atmosphere
B. inner atmosphere
C. stratosphere
D. hemisphere
E. none of these.

71. The halogen which is chiefly produced commercially from sea water is
A. Fluorine
B. chlorine
C. Bromine
D. iodine
E. Astatine.

72. The most stable allotropic form of sulphur at normal conditions is
A. monoclinic sulphur
B. rhombic sulphur
C. amorphous sulphur
D. plastic sulphur
E. ordinary sulphur

73. The products obtained when the following chemical reaction is completed and balanced are……. $HNO_3 + Ca(OH)_2 \rightarrow$
A. $CaNO_3 + H_2O$
B. $Ca(NO_3)_2 + 2H_2O$
C. $CaO + 2NO_2 + 3H_2O$
D. $Ca + 2NO_3 + 2H_2O$

74. What is the role of iron and Aluminium oxide in ammonia production?
A. dehydrating agent
B. catalytic agent
C. oxidizing agent
D. bonding agent
E. preservative agent

75. When carbon IV oxide is bubbled through lime water, the solution becomes milky due to formation of _____
A. $Ca(HCO_3)_2$
B. $CaCO_3$
C. $Ca(NO_3)_2$
D. $CaCl_2$
E. $CaSO_4$
76. Which of the following gases dissolves in water vapour to produce acid rain during rainfall?

A. Oxygen
B. Carbon (II) oxide
C. Nitrogen
D. Sulphur (IV) oxide

77. Which of the following is not allotrope of carbon?
A. diamond
B. graphite
C. buckminsterfullerene
D. all of the above
E. none of the above

78. Which oxide is amphiprotic (amphoteric)?
A. MgO
B. NaO
C. CaO
D. ZnO
E. BeO

79. Why will it always be more difficult to extract potassium ions from sea water than to extract magnesium ions? This is because ___
A. most potassium compounds are less soluble in water
B. most potassium compounds are quite soluble in water
C. presence of other alkali metal ions has great influence on it
D. magnesium ion is an alkaline earth metal ion.
E. None of the above.

80. _____ can be used to test for reducing sugars:
A. Iodine solution
B. bromine water
C. Fehling's solution
D. de-ionized water

81. $2CH_3COOH + Zn \rightarrow$? The product of this reaction is:
A. $(CH_3COO)_2Zn + Zn$
B. $CH_3COOCH_3 + Zn$
C. $(CH_3COO)_2Zn + H_2$
D. $CH_3COOH + CH_4$

82. A ketone reacts with hydroxylamine to give ____
A. a hydrazone
B. an alkanonitrile
C. a nitroso compound
D. an oxime

83. Alkanoic acids are weak acids and ionises in solution to give _____
A. $R^+ + COOH$
B. $RCOO^- + H^+$
C. $RCOO^+ + H^-$
D. $RCO^+ + OH^-$

84. An excess of ethanol heated with concentrated H_2SO_4 at a temperature of 180°C is dehydrated to give mostly:
A. ethane
B. ethene
C. ethanol
D. ethoxyethane

85. Butene can be distinguished from benzene by reaction with:
A. Hydrochloric acid
B. Bromine water
C. Potassium sulphate
D. Sodium hydroxide

86. Detergent is more efficient than soap in cleansing clothes and dishes because of the following reasons except that:
A. the corresponding Ca and Mg compound formed is soluble in H_2O
B. detergents are not affected by hardness of water
C. it cleans better than soap
D. it is less expensive

87. In the manufacture of soap industrially, brine is used to ____the acid salt.
A. oxidise
B. reduce
C. bleach
D. precipitate

88. Methane gas can be made from carbon (II) oxide gas according to the equation $2CO_{(g)} + 2H_{2(g)} \rightarrow CH_{4(g)} + CO_{2(g)}$. Calculate the mass of CO required to produce 8.75×10^{25} molecules of CH_4? {At masses: C = 12.011, H = 1.008, O = 15.999, Avogadro's no: 6.022×10^{23} mole.}
A. 8140g
B. 4070g
C. 1600g
D. 32.00g
E. 20.35g

89. Potassium ethanoate is formed when:
A. Methanoic acid reacts with KOH
B. Ethanoic acid reacts with KOH
C. Methanol reacts with KCO_3
D. Ethanol reacts with CH_3COO H

90. Saponification is defined as:
A. Acidic hydrolysis of fat or oil
B. Alkali hydrolysis of fat or oil
C. Condensation of two monomer units
D. Mixture of glacial ethanoic acid and excess of simple alkanol

91. Soaps and detergents have the same basic characteristics except that the carboxyl group of the
fatty acid in detergent is replaced by:
A. alcohol

B. sulphate or a sulphonate group
C. ester
D. acids

92. The relatively high boiling point of alkanols is due to:
A. aliphatic character
B. ionic bonding
C. hydrogen bonding
D. covalent bonding

93. Two important sources of detergent are:
A. fat/oils and hydrocarbons
B. coal and cement
C. pulp and wood
D. water and gas

94. What is the process associated with conversion of vegetable oil to soap?
A. Esterification
B. Saponification
C. hydrolysis
D. Acidification

95. When ethanal vapour is passed over manganese (II) ethanoate (manganese acetate) catalyst in the presence of air, the product is_
A. ethanoate
B. ethanol
C. methanol
D. ethanoic acid

96. When KOH is used instead of NaOH in the production of soap, it has the following advantages except it gives:
A. softer soap
B. harder soap
C. soap with lower melting point
D. more soluble soap

97. When palm wine is left exposed to air for a few days, it goes sour. The bacteria in the air oxidises_____ in palm wine to ___
A. ethanol, ethanoic acid
B. ethanoic acid, ethanol
C. ester, ethanoic acid
D. ether, ethanol

98. Which of the following is not true about benzoic acid?
A. It is aromatic in nature
B. It can be manufactured from methylbenzene
C. It has molecular formula C_6H_6COOH
D. It sublimes readily

99. Which of the following reactions is correct? A. $C_6H_5COOH + CaO \rightarrow C_6H_5Ca + HCO_3$
B. $C_6H_5COOH + CaO \rightarrow C_6H_6 + CaCO_3$
C. $C_6H_5COOH + PCl_5 \rightarrow C_6H_5Cl + H_2PO_4$

D. $C_6H_5COOH + C_2H_5OH \rightarrow C_6H_6 + C_3H_8COOH$

100. Which of these is not a property of ethanedioic acid?
A. It is a stronger acid than ethanoic acid but weaker than inorganic acids
B. It is a reducing agent
C. It is an oxidising agent
D. It is soluble in cold water

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ANSWERS TO CHEMISTRY QUESTIONS

1. C 2. B 3. A 4. B 5. A 6. B 7. B 8. C 9. B 10. D 11. C 12. C 13. A 14. E 15. C 16. C

17. A 18. B 19. C 20. E 21. A 22. D 23. D 24. D 25. C 26. B 27. D 28. D 29. B 30. A

31. C 32. C 33. D 34. E 35. A 36. A 37. A 38. D 39. B 40. B 41. E 42. A 43. A 44. B

45. A 46. C 47. B 48. B 49. D 50. C 51. A 52. D 53. C 54. A 55. B 56. E 57. C 58. B

59. D 60. D 61. C 62. B 63. D 64. B 65. A 66. D 67. B 68. C 69. E 70. A 71. B 72. B

73. B 74. B 75. B 76. D 77. E 78. D 79. B 80. C 81. C 82. D 83. B 84. B 85. B 86. D

87. D 88. A 89. B 90. B 91. B 92. C 93. A 94. B 95. D 96. B 97. A 98. C 99. B 100. C

PHYSICS

1. A ball is thrown up into the air. At the highest point of its trajectory the ball:
A. Is accelerating downwards
B. has zero acceleration
C. is accelerating upwards
D. is still moving upwards

2. A ball of mass 200 g moving with a velocity of 8 m/s collides and sticks with another ball of mass 300 g moving in the same direction with velocity 4 m/s. What is the common velocity of the balls after the collision?
A. 5.6 ms^{-1}
B. 2.8 ms^{-1}
C. 11.2 ms^{-1}
D. 1.4 ms^{-1}

3. A boy holds the end of a rubber cord from which hangs a solid metal ball, if the boy whirls the ball in a horizontal circle, keeping his hand still. If the rubber cord breaks when the ball is at a point on the circle, in what direction will the ball move?
A. towards the hand of the boy
B. away from the hand of the boy
C. in the direction of the tangent to the circle at the point of break
D. None of the above

4. A force of 20 N applied parallel to the surface of horizontal table is just sufficient to make a block of mass 4 kg set for motion. Find the acceleration when the force is doubled.
A. 2ms^{-2}
B. 4 ms^{-2}
C. 5 ms^{-2}
D. 10 ms^{-2}

5. A man walks 1 km due east and then 1 km due north. His displacement is
A. 1 km N15°E
B. 1 km N30°E
C. √2km N45°E
D. 2 km N75°E

6. A motor car moves with a velocity of 20ms^{-1} on a rough horizontal road and covers a displacement of 50m. Find the coefficient of dynamic friction between the type and the ground (g = 10 ms^{-2})
A. 0.3
B. 0.6
C. 0.5
D. 0.4

7. A physics student standing on the edge of a cliff throws a stone vertically downward with an initial speed of 10.0 m/s. The instant before the stone hits the ground below, it is traveling at a speed of 30.0 m/s. If the physics student were to throw the rock horizontally outward from the cliff instead, with the same initial speed of 10.0 m/s, what is the magnitude of the velocity of the stone just before it hits the ground?

A. 10.0 m/s
B. 20.0 m/s
C. 30.0 m/s
D. 40.0 m/s

8. A quantity is defined as the product of cross-sectional area and change in momentum per unit length. Which of the following is its SI unit?
A. Nm
B. kgs^{-1}
C. kgm^2s^{-1}
D. $Nkgs^{-1}$

9. A rectangular concrete block 40cm x 30cm x 60cm of mass 10 kg rests on a horizontal flat surface. What is the minimum pressure it can possibly exert on the surface?
A. 816.6 Nm^{-2}
B. 816. 6 Nm^2
C. 408.3 Nm^{-1}
D. 608.4 Nm

10. A simple hydrometer consists of uniform cylinder suitably weighted to float upright in most common liquids. It is graduated to read the relative density of a liquid directly. Which of the following is NOT correct?
A. When placed in a liquid, it displaces exactly its own weight of the liquid
B. Its graduation increases from top to base
C. When placed in a liquid, it displaces exactly its own volume of the liquid
D. The product of the volume and density of liquid displaced is equal to its mass

11. A stone which is dropped into a dry well hits the bottom in 2.2s. How deep is the well? (Take g=10m/s)
A. 40.4 m
B. 2.4 m
C. 48.4 m
D. 24.2 m

12. A woman whose mass is 70 kg sits 2.4m from the fulcrum of a seesaw. At what distance from the fulcrum should a 60 kg man sit to balance the seesaw?
A. 2.8 m
B. 2.4 m
C. 3.2 m
D. 3.8 m

13. An air bubble trapped at a depth in a liquid rises to the surface. Which of the following is true about its mass and density as it rises?
A. Its mass and density increase
B. Its mass is constant while its density decreases
C. Its mass and density is constant.
D. Its mass is constant while its density increases.

14. Complete the following sentence: The operation of a hydraulic jack is an application of
A. Pascal's principle.
B. Archimedes' principle.
C. Bernoulli's principle.

D. irrotational flow.

15. Complete the following statement: Today, the standard meter is defined in terms of
A. the distance from the earth's equator to the north pole.
B. the wavelength of light emitted from a krypton atom.
C. the wavelength of light emitted from a sodium atom.
D. the speed of light.

16. Convert 30 metre per second to centimetre per minute
A. 20,000 cm/min
B. 180,000cm/min
C. 120,000 cm/min
D. 150,000 cm/min

17. During a football match, player A kicks the ball 40m, 30^{o}E of S to player B who instantly kicks it 30 m, 60°E of N. What is the magnitude of the resultant displacement of the ball?
A. 30 m
B. 40 m
C. 50 m
D. 60 m

18. How much work is done against gravity in sliding a 500g object through 2m up a smooth plane that is inclined at 30° to the horizontal? (g = 9.8 ms^{-2})
A. 9.8 J
B. 19.8 J
C. 16.2 J
D. 4.9 J

19. If a small body of mass m is moving with angular velocity ω in a circle of radius r, what is its kinetic energy?
A. mω r
B. m ω^2 r/2
C. m ω r^2/2
D. m ω^2 r^2/2

20. In free fall, two balls of masses 20 kg and 10 kg were dropped from a height. If the ball with the smaller mass reached the ground after 4 s, what is the difference between the time the two balls reach the ground?
A. 8 s
B. 2 s
C. 0 s
D. 4 s

21. In what distance can a 1,500kg automobile be stopped if the brake is applied when the speed is 20 m/s and the coefficient of sliding friction is 0.7 between the tyres and the ground?
A. 98.10 m
B. 71.67 m
C. 29.15 m
D. 20.10 m

22. The highest point of a simple pendulum bob is 5cm vertically above the lowest point as it swings to and fro between the two extreme ends. At what velocity does it swing past the lowest point (equilibrium point) where the string is vertical? (take g = 10 m/s2)
A. 1 m/s
B. 2 m/s
C. 5 m/s
D. 10 m/s

23. Three vectors A, B, and C add together to yield zero: A + B + C = 0. The vectors A and C point in opposite directions and their magnitudes are related by the expression: A = 2C. Which one of the following conclusions is correct?
A. A and B have equal magnitudes and point in opposite directions.
B. B and C have equal magnitudes and point in the same direction.
C. B and C have equal magnitudes and point in opposite directions.
D. A and B point in the same direction, but A has twice the magnitude of B.

24. Which of the following could be measured in the same units as force?
A. Energy/distance
B. Energy x distance
C. Energy/time
D. Momentum x distance

25. Which of the following does not affect the pressure at a point beneath the surface of a liquid?
A. Surface area of the liquid. B. Density of the liquid
C. Depth of the point below the surface
D. Strength of the gravitational field

26. Which of the following pairs contains one vector and one scalar quantity?
A. Displacement : acceleration
B. Force : kinetic energy
C. Momentum : velocity
D. Power : speed

27. Which of the following statements is correct?
A. uniform speed always implies uniform velocity
B. uniform speed always implies zero acceleration
C. uniform speed may imply non- zero acceleration
D. constant momentum implies constant acceleration

28. Which of the of the following is a measurement taken with Venier callipers?
A. 2.0 cm
B. 2.00 cm
C. 2.000 cm
D. 2.0000 cm

29. Which of the units of the following physical quantities are derived?
I. Area
II. Thrust
III. B Pressure
IV. Mass.
A. I, II, III and IV
B. I, II and III only
C. I, II and IV only

D. I and II only

30. Which one of the following situations is not possible?
A. A body has zero velocity and non-zero acceleration.
B. A body travels with a northward velocity and a northward acceleration.
C. A body travels with a constant velocity and a time-varying acceleration.
D. A body travels with a constant acceleration and a time-varying velocity.

31. If C is the thermal capacity of a material of mass m and S is its specific heat capacity, then
A. s/m
B. S = Cm
C. C = Sm
D. DS = m/s

32. A black car can be more uncomfortably hot on a warm day than a white car because
A. it is hot on a warm day
B. a black object is a better absorber of heat
C. black cars have heaters installed in them
D. white cars have air conditioning systems installed in them

33. A little sag is left in overhead telephone wires
A. because taut wires do not conduct sound easily
B. to allow for the effect of a rise in temperature due to heating effect of current flowing through them.
C. to allow for the effect of a rise in temperature of the surrounding atmosphere.
D. to allow for the effect of a fall in temperature of the surrounding atmosphere.

34. A piece of copper wire of length 100 cm at 30°C is heated to 120°C. If its linear expansivity is
1.8 ×10-4/ k, its new length is
A. 166.6 cm
B. 101.6 cm
C. 180.6 cm
D. 1.08 cm

35. A sample of a monatomic ideal gas is originally at 20°C. What is the final temperature of the gas if both the pressure and volume are doubled?
A. 5°C
B. 80°C
C. 20°C
D. 899°C

36. A volatile liquid used for cooling purpose in refrigerator is
A. liquid ammonia
B. cold water
C. liquid nitrogen
D. liquid helium

37. Complete the following statement: A temperature decrease of 30°C is equal to a temperature decrease of
A. 30°F.
B. 17°F.
C. 30K.

D. 86°F.

38. Complete the following statement: Bimetallic strips used as adjustable switches in electric appliances consist of metal strips that must have different
A. mass.
B. volume.
C. length.
D. expansion coefficients.

39. Heat can be transferred from one end of a metal rod in contact with heat to the other end which is in contact with heat through
A. Conduction
B. Convection
C. Radiation
D. Evaporation

40. Heat supplied or removed from a system which causes a change of state without a change in temperature is
A. Specific heat
B. Heat capacity
C. Latent heat
D. Boiling heat

41. How many atmospheres of pressure must a litre of gas, initially at a pressure of 1 atmosphere and temperature -20°C, be after it has been compressed to ½ litre at 40°C?
A. 2.47 atm.
B. 4.5 atm.
C. 8.0 atm.
D. 3.8 atm.
E. 16.8 atm.

42. On a cold day, a good conductor X feels colder to the torch than a poor conductor Y because
A. Y retains more heat than X
B. the temperature of X is lower than that of Y
C. X conducts heat from the body less rapidly than Y
D. X transfers heat from body more rapidly than Y

43. The boiling point of water does not depend on __
A. the impurities in water
B. the external pressure
C. the quantity of water
D. all of the above

44. The ice and steam points of a local liquid in glass thermometer are 10 a and 90a respectively. What will the thermometer read when the temperature is 30°C?
A. 40a
B. 38a
C. 36a
D. 34a

45. The lower and upper fixed points on a thermometer are 40 and 120 respectively. Its reading at 60°C is
A. 60
B. 40
C. 160
D. 88

46. The pressure exerted by a given mass of gas in a container
A. Decreases if the container is B heated
B. Increases if the molecules of the gas move faster
C. Increases if the volume of the container is doubled
D. Decreases as the kinetic energy of the gas molecules increases

47. The temperature in an electric iron is regulated by
A. thermometer
B. bimetallic strip
C. steel
D. conductor

48. Water has an anomalous behaviour between 0° and 4°. Which of the following is correct?
A. Mass of water increases between 0°C and 4°C
B. Density of water decreases between 0°C and 4°C
C. Volume of water increases between 0°C and 4°C
D. Volume of water decreases between 0°C and 4°C

49. What is the Celsius equivalent of 50.0°F?
A. 10°C
B. 20°C
C. 30°C
D. 40°C

50. When water is heated in a glass vessel, the level first falls and then rises because
A. The apparent expansion of the water is initially small and later increases.
B. There is anomalous expansion of water.
C. The glass vessel does not expand.
D. Glass vessel expands first before water starts a more rapid expansion.

51. Which of the following quantities of water has undergone the greatest change from its heat content at melting point?
A. 0.5 kg of water at 3°C
B. 0.2 kg of water at 8°C
C. 0.005 kg of water at 80°C
D. 0.1 kg of water at 12°C

52. Which would cause a more serious burn: 30g of steam or 30g of liquid water, both at 100°C; and why is this so?
A. Water, because it is denser than steam.
B. Steam, because of its specific heat capacity.
C. Steam, because of its latent heat of vaporization.
D. Water, because its specific heat is greater than that of steam.

53. A certain radioactive element has a half- life of 20 years. How long will it take the activity to become ¼ of its original?
A. 20 years

B. 40 years
C. 60 years
D. 80 years

54. A plane progressive wave is represented by $y^2 \sin 100t \times 0.2x$ where all the symbols have their usual meanings. What is the velocity of the wave?
A. 500 ms^{-1}
B. 400 ms^{-1}
C. 200 ms^{-1}
D. 100 ms^{-1}

55. A point on a stationary wave where there is no movement of the medium is called
A. Node
B. Antinode
C. Note
D. Amplitude

56. A uniform wave has a speed of 10m/s and a period of 0.5s. The distance between two nearest crests is ___
A. 0.2 m
B. 20 m
C. 2 m
D. 5 m

58. An organ pipe closed at one end is 80cm long. Determine the frequency of the fundamental note assuming that the speed of sound in air is 340m/s?
A. 213Hz
B. 318Hz
C. 425Hz
D. 106Hz

59. As transverse wave moves through a medium, the particles of the medium
A. vibrate in a path parallel to the path of the wave
B. do not move
C. vibrate in a path perpendicular to the path of the wave
D. vibrate at an angle of 60o to the path of the wave

60. The sound heard after the reflection of sound wave from a plane surface is known as
A. Echo
B. Refraction
C. Vibration
D. Reverberation

61. Which of the following properties is not common to all waves?
A. Reflection
B. interference
C. Diffraction
D. Polarization

62. Which of the following statements is true about electromagnetic waves?
A. They are longitudinal
B. They can be seen
C. They have the same frequency in vacuum
D. They travel at the same speed in a vacuum

63. Which one of the following statements concerning electromagnetic waves is false?
A. Electromagnetic waves are longitudinal waves.
B. Electromagnetic waves transfer energy through space.
C. The existence of electromagnetic waves was predicted by Maxwell.
D. Electromagnetic waves can propagate through a material substance.

64. Which one of the following statements concerning waves is false?
A. A wave can have both transverse and longitudinal components.
B. A wave carries energy from one place to another.
C. A wave does not result in the bulk flow of the material of its medium.
D. A transverse wave is one in which the disturbance is parallel to the direction of travel.

65. A light sensitive area at the back of the eye where images are formed is called?
A. Yellow Spot
B. Iris
C. Ciliary Muscle
D. Retina

66. A luminous object is placed at a given distance from a converging lens of focal length 12cm and a real image is produced. Find the image distance if it is equal to the object distance.
A. 6cm
B. 3cm
C. 12cm
D. 24cm

67. An object is placed 15 cm in front of a concave mirror of radius 40 cm. The image formed is
A. virtual and 60 cm behind the mirror
B. real and 60 cm in front of the mirror
C. virtual and 40 cm from the mirror
D. at infinity

68. How far from a concave mirror of radius 120 cm must an object be placed such that its erect image is four times its natural size?
A. 72 cm
B. 64 cm
C. 45 cm
D. 50 cm

69. How many images are formed when an object is placed in front of two plane mirrors that are inclined at angle 30^0 to each other?
A. 0
B. 6
C. 11
D. 12

70. Professor Peters walks directly toward a plane mirror at a speed of 0.25 m/s. Determine the speed of the image relative to him.
A. 0.13 m/s
B. 0.50 m/s
C. 0.25 m/s
D. 0.75 m/s

71. The angle of incidence in a denser medium when the angle of refraction in the less dense medium is 90° is called a
A. Critical angle
B. Reflected angle
C. Incident angle
D. Emergent angle

72. The driving mirror is a
A. plane mirror
B. convex mirror
C. concave mirror
D. thick plane mirror

73. The following are types of a converging lens except
A. biconvex
B. plano-convex
C. mini-convex
D. converging meniscus

74. When the Sun, the earth and the moon are in line during their movement, with the earth being the opaque object and casting its shadow on the moon, we have
A. Lunar eclipse
B. Total eclipse
C. Partial eclipse
D. Annular eclipse

75. Which of the following instruments could be used in finding angle of elevation of the sun?
A. Periscope
B. Telescope
C. Kaleidoscope
D. Sextant

76. Which of the following optical instruments does not depend on the use of plane mirrors?
A. Kaleidoscope
B. Simple microscope
C. Sextant
D. Simple periscope

77. Which of the following statements supports the assumption that light travels in straight lines?
A. light can be diffracted
B. light can be reflected
C. a source of light produces interferences patterns on a suitably placed screen
D. a source of light produces distinct shadows of opaque objects

78. A Which of the following is correct about nuclear fission? It is:
A. the splitting of a heavy nucleus into two or more lighter particles
B. an agent used to slow down neutrons in a controlled atomic chain reaction
C. combing light atomic nuclei to form heavy
D. the spontaneous disintegration occurring in the nucleus of certain atoms

79. A light energy E falls on a metal and the electrons with a maximum kinetic energy of 0.2eV are ejected. If the work function of the metal is 0.3eV, what is the value of E?
A. 0.10eV

B. 0.06eV
C. 0.50eV
D. 1.50eV
80. A nucleus is unstable if
A. it has two or more isotopes
B. its binding energy is not sufficient to hold nuclear particles together.
C. it is very light with very low density
D. it has no significant mass.

81. A radioactive substance has a half-life of 4 years. If its activity today is 200 dps, its activity in 8 years from today is
A. 50 dps
B. 25 dps
C. 20 dps
D. 10 dps

82. A substance has a half-life of 3min After 6min, the count rate was observed to be 400. What was its count rate at zero time?
A. 2400
B. 200
C. 1200
D. 1600

83. An element and its isotopes differ only in the number of
A. electrons
B. neutrons
C. protons
D. irons

84. Complete the following sentence: When electrons from a heated filament accelerate through vacuum toward a positive plate,
A. only an electric field will be produced.
B. only a magnetic field will be produced.
C. electromagnetic waves will be produced.
D. longitudinal waves will be produced.

85. Radioactive elements are
A. chemically reactive elements
B. noble elements
C. rare earth elements
D. elements that spontaneously emit radiation

86. The following radiations are electrically neutral except
A. ɑ-rays
B. ϒ-rays
C. X- rays
D. neutrons

87. Upon which one of the following parameters does the energy of a photon depend?
A. mass
B. polarization
C. amplitude
D. frequency

88. Which of the following is NOT true about cathode ray?
A. It moves in a straight line
B. It causes fluorescence
C. It possesses a negative charge
D. It can produce negative particles

89. Who proposed the planetary model of the nucleus?
A. J. J Thomson
B. Albert Einstein
C. Ernest Rutherford
D. Marie Curie

90. X- rays cannot be used
A. to take photographs of bone structure in the body
B. to detect finger prints
C. to detect flaws in metal castings
D. to detect alterations to works of art

91. 1 farad is equivalent to:
A. 1 coulomb/volt
B. 1 volt/coulomb
C. 1 joules/coulomb
D. 1 ampere/sec.
E. volts per unit charge

92. A 0 - 10mA galvanometer with a coil resistance of 30 ohm can be converted to a 0 - 10A ammeter by using
A. 0.03ohm series resistor
B. 9.99ohm shunt resistor
C. 0.03ohm shunt resistor
D. 9.99ohm series resistor

93. A battery has an internal resistance of 4 and an emf of 12V. The terminal voltage when a load of 20 Ω is connected across it is:
A. 4 V
B. 10 V
C. 20 V
D. 2 V

94. A conducting sphere has a net charge of 4.8×10^{17} C. What is the approximate number of excess electrons on the sphere if the fundamental natural charge is -1.6×10^{-19}C?
A. 100
B. 300
C. 200
D. 400

95. A magnet cannot be demagnetized by
A. heating
B. hammering
C. chemical treatment
D. the use of solenoid through which an alternating current is flowing

96. An a.c voltage is connected to an RLC series circuit of resistance 5 Ω, inductance 3 mH and a capacitance of 0.05 μF. Calculate the resonance frequency.
A. 11.0 kHz
B. 12.0 kHz
C. 13.0 kHz
D. 14.0 kHz

97. An electric heater converts 1KJ of electrical energy to heat energy every 2 second with 100% efficiency. The power produced is
A. 0.5 KW
B. 2 KW
C. 1KW
D. 10W

98. Complete the following statement: The electromotive force is
A. the maximum potential difference between the terminals of a battery.
B. the force that accelerates electrons through a wire when a battery is connected to it.
C. the force that accelerates protons through a wire when a battery is connected to it.
D. the maximum capacitance between the terminals of a battery.

99. If a charged body is moving in a circle on a horizontal plane, what is the general direction of the resulting magnetic field?
A. In the plane of the circle.
B. At an angle 45^0 to the plane of motion.
C. Along the perpendicular axis through the centre of the circle.
D. Along the tangent to the circle.

100. If a resistor is halved in magnitude and the potential across it is tripled, then the ratio of the old current to the new current is
A. 1:3
B. 3:1
C. 6:1
D. 1:6

101. The angle between the earth's magnetic field and the horizontal is called angle of
A. declination
B. dip
C. variation
D. inclination

102. The basic difference between the galvanometer and the electric motor is
A. The size of the magnetic fields
B. The presence of hair springs in the galvanometer
C. The soft iron armature in the galvanometer
D. The couple formed on the parallel sides of the rectangular coil in the

103. The electromotive force is in such a direction as to oppose the motion or charge producing it. This is a statement of
A. Faraday's Law
B. Lenz Law
C. Maxwell Law
D. Ampere's law

104. The potential difference across the ends of a wire is doubled in magnitude. If Ohm's law is obeyed, one of the following statements concerning the resistance of the wire is true?
A. The resistance is one half of its original value.
B. The resistance is twice its original value.
C. The resistance is not changed.
D. The resistance increases by a factor of four.
105. The process of adding impurity to a semiconductor to increase its conductivity is called
A. Doping
B. Annealing
C. Heating
D. Hardening

106. Which if the following combinations consists of intrinsic properties of materials
A. volume and density
B. density and mass
C. resistance and resistivity
D. density and resistivity.

107. Which of the following can be measured with a potentiometer:
A. Emf of a secondary cell
B. Resistivity of a wire
C. Potential difference across a conductor
D. Resistance of a wire

108. Which of the following devices is odd in the list?
A. thermocouple
B. potentiometer
C. d.c. generator
D. solar cell

109. Which of the following is an essential physical property of the wires used for making fuses?
A. high thermal conductivity
B. low
C. low melting point
D. low electrical resistivity

110. Which one of the following statements concerning the magnetic force on a charged particle in a magnetic field is true?
A. It is a maximum if the particle is stationary.
B. It is a maximum if the particle moves parallel to the field.
C. It acts in the direction of motion for a positively charged particle.
D. It depends on the component of the particle's velocity that is perpendicular to the field.

ANSWERS TO CHEMISTRY QUESTIONS

1. B 2. A 3. C 4. C 5. C 6. D 7. C 8. C 9. C 10. C 11. D 12. A 13. B 14. A 15. D 16. B

17. C 18. D 19. D 20. C 21. C 22. A 23. B 24. A 25. A 26. B 27. C 28. B 29. B 30. C

31. C 32. B 33. D 34. B 35. B 36. A 37. D 38. D 39. A 40. C 41. A 42. D 43. C 44. D

45. D 46. B 47. B 48. D 49. A 50. D 51. B 52. C 53. B 54. A 55. A 56. D 57. C 58. D

59. C 60. A 61. D 62. D 63. A 64. D 65. D 66. D 67. B 68. C 69. C 70. B 71. A 72. B

73. C 74. A 75. D 76. B 77. D 78. A 79. C 80. B 81. A 82. D 83. B 84. C 85. D 86. A

87. D 88. D 89. C 90. B 91. A 92. C 93. B 94. B 95. C 96. C 97. A 98. A 99. C 100. D

101. B 102. B 103. B 104. C 105. A 106. C 107. A 108. B 109. C 110. D