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General Science, 2015 EC, Grade 8 national exam

Grade 8 · General Science · 2015 E.C.

Time allowed: 120 minutes **Questions:** 58 **Total marks:** 58

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1. Which one of the following is a derived unit of measurement? (1)

A. Cubic meter **B.** Kilo gram
C. Second **D.** Meter

2. The distance from Arat kilo to Kotebe is measured to be 10 km. This distance is equal to: (1)

A. 10 m **B.** 100 m
C. 1,000 m **D.** 10,000 m

3. The actual mass of the block is 5 kg. If you measure the mass of this block twice to get 2.5 kg and 2.6 kg values, this measurement is: (1)

A. neither precise not accurate. **B.** precise but not accurate.
C. accurate but not precice. **D.** Both accurate and precise.

4. While looking for solution to a problem, a person using scientific method begins the investigation process with: (1)

A. developing a hypothesis. **B.** testing the hypothesis.
C. observing the problem. **D.** analyzing the results.

5. Which one of the following components comes before others in implementing a scientific method? (1)

A. developing a hypothesis. **B.** testing the hypothesis.
C. Background research. **D.** analyzing the results.

6. The last step in the scientific investigation process is: (1)

A. analyzing the result. **B.** close observation .
C. testing of the hypothesis. **D.** communicating the results.

7. Which one of the following is CORRECT about discreteness theory about nature of matter? (1)

A. Matter is infinitely divisible. **B.** It was proposed by democritus.
C. Rejects the existence of atoms. **D.** It was proposed by Aristotle.

8. Relative masses of proton, neutron and electron respectively are: (1)

A. 1, 1, 0 **B.** 1, 0, 1
C. 0, 1, 1 **D.** 1, 1, 1

9. The mass number of Sodium atom is 23 and its atomic number is 11. The number of electrons, neutrons and protons respectively are: (1)

A. 11, 11, 12 **B.** 11, 12, 11
C. 12, 11, 11 **D.** 11, 23, 34

10. Inorganic compounds are compounds that do not contain: (1)

A. Nitrogen. **B.** Phosphorus.

C. Oxygen. **D.** Carbon.

11. General formula for class of hydrocarbons called Alkenes is given by: (1)

A. C_nH_{2n-1} **B.** C_nH_{2n+2}

C. C_nH_{2n} **D.** C_nH_{2n-2}

12. A compound with chemical formula of C_4H_{10} belongs to: (1)

A. Alkanes. **B.** Carbonates.

C. Alkenes. **D.** Alkynes.

13. Which one of the following series of hydrocarbon compounds can be called a homologous series? (1)

A. CH_2, C_2H_6, C_3H_8 **B.** CH_2, C_2H_4, C_3H_6

C. CH_2, C_3H_6, C_4H_8 **D.** CH_2, C_2H_6, C_3H_9

14. If you burn Magnesium in your school's chemistry laboratory, the resulting compound is: (1)

A. Non - metallic oxide **B.** Acidic oxide

C. Hydro-Oxide **D.** Metallic Oxide

15. Which one of the following Oxides forms acid or acidic solution when it reacts with water? (1)

A. CO_2 **B.** CaO

C. MgO **D.** Na_2O

16. Identify a property that correctly describes bases. Base reacts with: (1)

A. water to form salt. **B.** salt to form acid.

C. base to form salt. **D.** acid to form salt.

17. Bases are characterized by releasing _____ ion when in a solution. (1)

A. H^- **B.** H^+

C. OH^- **D.** OH^+

18. A chemical formula for Magnesium Chloride salt with cation Mg^{2+} and anion $Cl^-$$ is given by: (1)

A. $MgCl$ **B.** $MgCl_2$

C. Mg_2Cl **D.** $MgCl_3$

19. Which one of the following is NOT among the components of human integumentary system? (1)

A. Heart **B.** Skin

C. Hair **D.** Nail

20. A human skin disorder with symptoms of itchy welts that are raised up from the normal layer of the skin is: (1)

A. Acne **B.** Hives

C. Warts **D.** Eczema

21. The ability of muscle to forcefully shorten, for performing its function is: (1)

A. Elasticity **B.** Extensibility

C. Excitability **D.** Contractility

22. A muscular disorder manifested by an injury to a muscle or a tendon is: (1)

A. muscular strength. **B.** muscular dystrophy.
C. muscular Strain **D.** muscular weakness

23. A human body's blood forming tissue cancer is called: (1)

A. leukemia. **B.** osteoarthritis.
C. osteopenia. **D.** fracture.

24. In which one of the following structural components does digestion begins? (1)

A. Mouth **B.** Stomach
C. Small intestine **D.** Esophagus

25. A disorder in digestive system that is commonly caused by lack of fiber food and enough water is: (1)

A. gastritis. **B.** constipation.
C. diarrhea. **D.** peptic ulcer.

26. A disease that is NOT grouped under disorders of respiratory system is: (1)

A. Asthma **B.** Influenza
C. Bronchitis **D.** Leukemia

27. You can verify the presence of CO_2 in exhaled air by its: (1)

A. reaction with pure water. **B.** visibility in the laboratory.
C. reaction with lime water. **D.** reaction with hydrogen.

28. The major function of the left side of the heart in blood circulation is that it: (1)

A. gets oxygenated blood but the right side pumps deoxygenated blood.
B. gets deoxygenated blood but the right side pumps oxygenated blood.
C. pumps deoxygenated blood but the right side gets oxygenated blood.
D. pumps oxygenated blood but the right side gets deoxygenated blood.

29. Which one of the following diseases or disorders occurs when the brain tissues suddenly stop getting oxygen? (1)

A. Heart failure **B.** Stroke
C. Heart attack **D.** Hypertension

30. In a female reproductive system, implantation of the fertilized egg and development of an embryo takes place in: (1)

A. uterus. **B.** ovary.
C. clitoris. **D.** vulva.

31. About 10 days after ovulation, blood vessels closed down and discharge through vagina in the form of blood called: (1)

A. menopause. **B.** maturation.
C. menstruation. **D.** puberty.

32. In the human reproductive process fertilization occurs in: (1)

A. oviduct. **B.** cervix.
C. ovaries. **D.** uterus.

33. Which one of the following is biotic component of a given ecosystem? (1)

A. a house building
B. flowering plant
C. drinking water
D. sun light

34. _____ is a type of biological interaction between two organisms in which one gets benefited while the other is harmed. (1)

A. Mutualism
B. Commensalism
C. Parasitism
D. Competition

35. A simple food chain exists that grass is eaten by cow and cow is in turn eaten by hyena, then the correct order of energy flow would be: (1)

A. [Hyena] → [Grass] → [Cow]
B. [Cow] → [Grass] → [Hyena]
C. [Hyena] → [Cow] → [Grass]
D. [Grass] → [Cow] → [Hyena]

36. A first trophic level in food chain refers to: (1)

A. primary consumers.
B. food producers.
C. tertiary consumers.
D. secondary consumers.

37. _____ is the most fertile and suitable soil for growth of plants. (1)

A. Top soil
B. Clay soil
C. Loam soil
D. Sandy soil

38. Water as an important resource has to be: (1)

A. polluted.
B. wasted.
C. contaminated.
D. conserved.

39. The most abundant pure chemical element in the earth's atmosphere is: (1)

A. Nitrogen
B. Oxygen
C. Helium
D. Hydrogen

40. Which one of the following energy usages contributes for air pollution? (1)

A. Solar energy
B. Energy from fuels
C. Hydropower energy
D. Wind energy

41. Which one of the following can be done for forest conservation? (1)

A. Deforestation
B. Cutting trees
C. Burning trees as fuel
D. Reforestation

42. Which one of the following is among an ex-situ biodiversity conservation mechanism? (1)

A. Establishing parks
B. Establishing sanctuaries
C. establishing a zoo
D. national parks

43. Which one of the following CANNOT be an indigenous knowledge based soil conservation mechanism? (1)

A. Use of Chemicals
B. Crop rotation
C. Contour ploughing
D. Mixed cropping

44. Our Solar System does not contain: (1)

A. any star. **B.** any comet.

C. any galaxy. **D.** any moon.

45. The farthest planet from Sun in our Solar System is: (1)

A. Jupiter **B.** Neptune

C. Saturn **D.** Uranus

46. Out of the eight planets in the Solar System, the two planets at 2^{nd} and 4^{th} places respectively revolving around the sun are: (1)

A. Mercury and Mars **B.** Venus and Mars

C. Mercury and Earth **D.** Venus and Jupiter

47. How many artificial satellites owned by our country are launched and revolving the earth there in space? (1)

A. One **B.** Four

C. Three **D.** Two

48. Which one of the following is CORRECT about the motion of satellites and planets? (1)

A. Satellites move on planets while planets revolve around the sun.

B. Planets revolve around the sun while Satellites revolve about planets.

C. Satellites and planets both move together side by side.

D. Satellites revolve around the sun while planets revolve about satellites.

49. Comparing planets with each other based on their average diameter, identify the CORRECT statement! (1)

A. Saturn is the largest planet. **B.** Earth is the largest planet.

C. Jupiter is the largest planet. **D.** Mercury is the largest planet.

50. Which one of the following condition makes the Earth unique in its nature as compared to other planets? (1)

A. Having a solid rocky surface **B.** Having a gravitational field

C. Having its own large mass **D.** Having enough liquid water

51. Our Earth is the only known suitable place for life to exist because of many factors. One of the factors can be its: (1)

A. favorable atmosphere. **B.** wide surface area.

C. large vegetation cover. **D.** low temperature.

52. During regular reflection of light from a surface, the reflected rays: (1)

A. may scatter outwards. **B.** bounce back to the source of light.

C. are all parallel to each other. **D.** may cross each other.

53. Dispersion of light into different colors occurs when white light passes through prism. Which one of the following colors appears before others? (1)

A. Orange light **B.** Green light

C. Yellow light **D.** Violet light

54. Which one of the following objects is transparent? (1)

A. Waxed paper **B.** Clean water

C. Metal sheet **D.** Frosted glass

55. In which one of the following medium does sound travels fastest? (1)

A. Solid medium
B. Liquid medium
C. Gaseous medium
D. Clean water

56. The heat transfer mechanism that takes place by actual movement of a liquid or gas is: (1)

A. conduction.
B. convection.
C. diffusion.
D. radiation.

57. Consider a simple circuit given below with some of its components labelled with letters. What do the letters A and B respectively represent? (1)
[Figure: A schematic diagram of a rectangular simple electrical circuit. The top horizontal branch contains a zigzag resistor symbol labeled 'A'. The bottom horizontal branch contains a single cell symbol (one longer line and one shorter parallel line) labeled 'B'. The right vertical branch contains an open switch symbol labeled 'C'.]

A. Resistor and Switch
B. Switch and Cell
C. Resistor and Cell
D. Battery and Resistor

58. Magnets have many applications in our daily life, but they are not used in: (1)

A. compasses.
B. computers.
C. scanning machines.
D. electric heaters.

END OF THE EXAMINATION

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