

Science

Grade 09

විද්‍යාව

Time: 02 Hours

Name/ Index No.

Part - I

● Answer all questions.

- 01 An instance that the scientific method can be used in day to day life is,
(1) When diagnosing a disease by a doctor.
(2) when searching for evidence of a criminal by police.
(3) identifying a trouble of a motor car when repairing.
(4) All above.
- 02 A hypothesis is,
(1) an idea presented for a long period of time.
(2) a conclusion received by observations.
(3) a permanent solution presented which is related to a problem.
(4) an uncertain solution presented for a problem.
- 03 The pair of lens used in a compound microscope to obtain a huge magnification is,
(1) convex lens (2) concave lens
(3) convex and concave lenses (4) convex lens and a mirror
- 04 Not a laboratory equipment made up of glass is,
(1) ignition tube (2) watch glass
(3) slide and cover slip (4) combustion tube
- 05 A multimeter is used when testing an electrical circuit to,
(1) measure current in various range (2) measure potential difference
(3) measure resistance (4) all above
- 06 An instrument more suitable to measure a very little volume of liquid as 1/10 of milliliter accurately is,
(1) bulb pipette (2) Burette
(3) measuring cylinder (4) calibrated beaker
- 07 A disease caused by a bacteria is,
(1) hydrophobia (2) malaria
(3) tuberculosis (4) aluham
- 08 A scientist who did not contribute to carry forward the idea presented by Nicolaus Copernicus on sun centered theory is,
(1) Tycho Brahe (2) Johannes Kepler
(3) Galileo Galilei (4) Clodius Tolami

- 09 The star Sirius is in,
(1) Taurus constellation (2) Orion constellation
(3) Southern cross constellation (4) Canis major constellation
- 10 A place where a star is born is called as,
(1) nebula (2) red giant (3) galaxy (4) protostar
- 11 The star closest to the earth except sun and the brightest star are,
(1) Sirius, Proxima, centauri (2) Alpha Centauri, Sirius
(3) Proxima, Centauri, Sirius (4) Canopus, Polaris
- 12 The head of Orion constellation is directed to the,
(1) East direction (2) North direction
(3) South direction (4) West direction
- 13 The group of micro - organisms used for converting alcohol into acetic acid is,
(1) fungus (2) bacteria
(3) Virus (4) mono - cellular organisms
- 14 Not a vector quantity is,
(1) velocity (2) displacement (3) force (4) distance
- 15 The instrument that not used in a place of maintaining motor vehicle from the following is,
(1) common pliers (2) wheel brace
(3) shifter key (4) pile driver
- 16 Not a primary resource of energy is,
(1) crude oil (2) solar energy (3) electricity (4) wind
- 17 Type of machines which saw is,
(1) lever (2) inclined plane (3) pulley (4) wheel and axle
- 18 The gas formed by decomposition of organic matter is,
(1) liquid petroleum gas (2) bio gas
(3) Hydro gas (4) diesel gas
- 19 Targeted cells of hydrophobia disease are,
(1) epithelial (2) red blood cells
(3) neuro cells of brain (4) white blood cells
- 20 The philosopher who introduced the scientific method is,
(1) Sir Isaac Newton (2) Francis Redi
(3) Alexander Fleming (4) Francis Bacon

(02 x 20 = 40 marks)

Part II

- **Answer 4 questions. First question is compulsory.**

01 Amantha's father gave him a polythene bag with several bundles of leaves not wet to give it to his mother at home. After he came home Amantha saw that there are droplets of liquid inside that bag. And he decided that those droplets of liquid to be water.

- (1) What is the observation of Amantha in this incident ? (02 m.)
- (2) What is the problem arouse because of this observation ? (02 m.)
- (3) What would be the procedure used by Amantha to solve this problem ? (01 m.)
- (4) If the hypothesis taken by Amantha to solve this problem is water removes from plant leaves as vapour.
 - (a) Draw a diagram of the main set of instruments prepared to test the hypothesis and name its parts. (03 m.)
 - (b) Draw a diagram of set of instruments used for control experment and name its parts. (03 m.)
 - (c) Mention your conclusion, if the hypothesis confirmed scientifically when it was tested. (01 m.)
- (5)
 - (a) What is the chemical substance to be used to confirm that the above droplets of liquid are water ? (02 m.)
 - (b) What is the observation you receive at the above experiment ? (01 m.)

02



A and B are two points marked on a aground. Distance between A and B is 80 m. Direct distance between A and B is 40 m.

- (1) According to the diagram given here,
 - (a) What is the distance between A and B ? (01 m.)
 - (b) What is the displacement between A and B ? (01 m.)
- (2)
 - (a) Define what the speed is. (02 m.)
 - (b) Define what the velocity is.. (02 m.)
- (3) It takes 16 seconds to student to go from A to B.
 - (a) Find the speed of the student. (03 m.)
 - (b) Find the velocity of the student. (03 m.)
- (4) Write down the standard unit of acceleration. (02 m.)
- (5) Write down the word used for negative acceleration. (01 m.)

03 The sky full of stars creates wonderful sceneries and astronomers were born because of the curiosity of people attracted to this.

- (1) Who was the astronomer strongly advocate helio - centric model in 14th century ?
(02 m.)
- (2) Who was the first person, who observed the four largest moons of the planet Jupiter with a telescope ?
(02 m.)
- (3) What is known as the apparent motion of sun ?
(02 m.)
- (4) Describe the ecliptic.
(02 m.)
- (5) Write 12 constellations of the zodiac in order.
(04 m.)
- (6) Write the two galaxies that can be seen with the naked eye.
(02 m.)
- (7) What is the galaxy that the earth belongs to ?
(01 m.)

04 Organisms cannot be seen with the naked eye are known as micro - organisms.

- (1) Name 3 groups of micro organisms.
(03 m.)
- (2) Name 2 fibre industries done by using micro - organisms.
(02 m.)
- (3) Mention 2 types of dairy products produced by using micro - organisms.
(02 m.)
- (4) Mention 2 antibiotic vaccines produced by micro organisms.
(02 m.)
- (5) Write down two harms can be happened for men because of micro organisms.(02 m.)
- (6) Mention a group of organisms caused for the diseases mentioned below.
 - (a) Malaria
 - (b) Aluham
 - (c) Cold
 - (d) Pneumonia
(04 m.)

05 Microscope is used for observing micro objects, cannot be seen with necked eye.

- (1) One of two light microscopes used in school laboratory is compound microscope. What is the other type of microscope ?
(01 m.)
- (2) Name the lenses closer to eye and distant to eye in compound microscope respectively.
(02 m.)
- (3) Write down 3 matters to be concerned when using a microscope.
(03 m.)
- (4) What is the maximum magnification of compound light microscope ?
(02 m.)
- (5) Name two other places that the compound microscope is used except in school laboratory.
(02 m.)
- (6) Name two mechanical parts of compound microscope.
(02 m.)
- (7) What is the magnification of a microscope with 15 x eye piece, 45 x objective piece,
(02 m.)
- (8) What is the name of the microscope, used to observe micro objects like virus ?
(01 m.)