Kerala Class 8 Basic Science Second Term (Christmas Exam) 2025-26

Model Question Paper

Answer key

PHYSICS (20 marks)

Section – A (2 × 1 = 2)

1. **c) Velocity**
2. **a) Both statements are correct**

Section – B (6 × 2 = 12) 3. a) From the **lowest/bottom hole** b) **Liquid pressure increases with depth**

4. Contact forces: Muscular force, Frictional force Non-contact forces: Gravitational force, Magnetic force
5. A book lying on a table → **State of rest** A ball rolling on the ground → **State of motion**
6. Incorrect statement: **a) Pressure = Force × Area** Correct form: **Pressure = Force / Area** (or P = F/A) (b, c, d are correct)
7. **A.** Same force acts on a smaller area when the knife is sharp → greater pressure → cuts easily.
   OR
   B. Wide tracks increase the area of contact → decrease pressure → do not sink in mud/sand/soil.
8. **A.** Pressure = Force / Area = 200 N / 4 m^2 = **50 Pa** (or 50 N/m^2)
   OR
   B. Pressure is greater on the cylinder with **50 cm^2** base area. Reason: Same force on smaller area → greater pressure.

Section – C (2 × 3 = 6)

9. a) Weight = m × g = 50 × 10 = **500 N**
   b) Pressure = 500 N / 0.5 m^2 = **1000 Pa** (or 1000 N/m^2)
   c) Broad feet increase area → reduce pressure → camel does not sink in sand.
10. **A.** Take a tall bottle, make three holes at different heights on the side wall, fill with water → water comes out from all holes with nearly same force → liquids exert pressure in all directions (sideways also).
    OR
    B. Two metallic hemispheres joined → air pumped out → vacuum inside → even many horses/men cannot separate them → proves very high atmospheric pressure.

CHEMISTRY (20 marks)

Section – A (2 × 1 = 2)

1. Correct matching:
   Actually the correct order as per symbols is: i-c (but Sodium is Na), the options are jumbled. **Correct answer: None of the options are fully correct, but intended answer is the one matching symbols properly** (Standard answer: i – none, but most papers accept any logical)

2. **b) They are good conductors of heat**

Section – B (6 × 2 = 12)

3. a) Elements having properties of both metals and non-metals → **Metalloids**
   Examples: Silicon, Germanium (or Boron, Arsenic) – any two
   b) Graphite has free electrons / layers slide over each other → acts as **lubricant**

4. A. Combination reaction B. Oxidation
   OR
   Differences (any two):
   • Metals are malleable & ductile → non-metals are not
   • Metals are sonorous → non-metals are not
   • Metals are good conductors → non-metals are poor conductors (except graphite)

5. a) A more reactive metal displaces a less reactive metal from its compound b) **$Zn + 2HCl \rightarrow ZnCl_2 + H_2\uparrow$**

6. Coating iron with zinc → **Galvanisation** Done to prevent rusting (zinc layer protects iron even if scratched)

7. Sodium is highly reactive → reacts with air/moisture → stored in kerosene
   Calcium is less reactive → does not react rapidly with air → not stored in kerosene

8. **A.** Reactivity series: K > Na > Ca > Mg > Al > Zn > Fe > Pb > Cu > Ag > Au (any order showing decreasing reactivity)
   OR
   B. Aluminium forms a thin, strong, protective layer of aluminium oxide → prevents further reaction → safe for utensils

Section – C (2 × 3 = 6)

9. a) Rusting is the formation of reddish brown hydrated ferric oxide on iron in presence of oxygen and moisture

   b) Any two: Painting, oiling, greasing, galvanising, chrome plating, tin coating c) Salt + moisture in sea air accelerates rusting

10. **A.** Connect metal strip (Cu/Al/Fe) with battery, bulb, switch → bulb glows → metal conducts electricity

    OR
    B. Any three steps: • Iron ore (haematite), coke, limestone added from top • Hot air blown from bottom • Coke burns → produces CO and heat • CO reduces iron oxide to iron • Slag ($CaSiO_3$) formed • Molten iron tapped from bottom

BIOLOGY (20 marks)

Section – A (2 × 1 = 2)

1. **b) Anopheles mosquito**
2. **b) Cholera**

Section – B (6 × 2 = 12) 3. Egg → **Larva** → **Pupa** → Adult mosquito

4. a) Medicines that kill or stop growth of bacteria b) **Alexander Fleming**
5. Infectious: Spread from person to person → e.g. Tuberculosis, Chickenpox Non-infectious: Do not spread → e.g. Cancer, Diabetes
6. Giving vaccine (dead/weakened germs) to produce immunity Any two: Polio, Measles, DPT, Hepatitis, Tuberculosis, etc.
7. **A.** Any four: • Wash hands before eating & after toilet • Drink boiled/filtered water • Cover mouth while coughing/sneezing • Keep surroundings clean • Use mosquito nets/repellents
   OR
   B. Stagnant water → breeding ground for mosquitoes → spreads malaria, dengue, chikungunya
8. **A.** Food gets spoiled by bacteria/fungi → produce toxins → cause food poisoning Preventive measures: Cover food, refrigerate, cook properly, reheat leftover food
   ORB. Preventing food from spoiling by microbes Natural preservatives: Salt, sugar, vinegar, oil, turmeric, etc. (any two)

Section – C (2 × 3 = 6)

9. a) Organisms that transfer pathogens from infected to healthy person → **Vectors**
   Examples: Mosquito, housefly, rat (any two) b) Through infected blood, needles, mother to child, unprotected sex c) Use disposable needles, screen blood, safe sex, avoid sharing needles
10. **A.** Louis Pasteur boiled broth in swan-neck flasks → no microbes entered → broth remained clear. When neck broken → air entered → broth became cloudy → proved microbes are present in air
    OR
    B. Any three: • Kill the microbe (antibiotics/antiviral) • Reduce effects of disease (symptomatic treatment) • Provide immunity (vaccination) • Maintain public hygiene & isolation