

413131

Chapter-2
Common Laboratory Apparatus
and Equipments.

I

Exercise.

① Mention one use of each of the following equipments:

- (a) Spirit Lamp (b) Test tube (c) Conical Flask
(d) Evaporating dish (e) Wire gauze (f) Beaker
(g) Mortar and pestle (h) Measuring cylinder
(i) Glass tube (j) Gas jar (k) Reagent bottle

Ans. → Mention one use of:

- (a) Spirit lamp - To heat up substances.
- (b) Test tube - Used to conduct tests with small quantities of chemicals, for heating and boiling purposes.
- (c) Conical Flask - Used during experiments to hold sufficient quantities of solutions.
- (d) Evaporating dish - Used for evaporating solutions / liquids.
- (e) Wire gauze - To keep glass apparatus on it while heating is in progress and also for the uniform distribution of heat.
- (f) Beaker - For preparation and keeping of solutions.

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(g) Mortar and pestle - Used to grind and crush solid substances into a powder.

(h) Measuring cylinders - To measure the volume of liquid substances.

(i) Glass Tube - To transfer fluids or gases from one vessel to another.

(j) Gas jar - For collecting gases.

(k) Reagent bottle - For storing chemicals.

(2) From what materials are the following made up of?

(a) Test tube rack (b) Test tube holder

(c) Measuring cylinders (d) Wire gauze

(e) Mortar and pestle.

- Ans. → (a) Test tube rack - Made of wood or plastic.
- (b) Test tube holder - Made of metal.
- (c) Measuring cylinder - Made of glass.
- (d) Wire gauze - Made of mesh of iron wire and a thin asbestos sheet that is fixed at its centre.
- (e) Mortar and pestle - Made up of ~~fine~~ porcelain.

③ List any five precautions to be taken while performing an experiment in a chemistry laboratory.

Ans: ⇒ Precautions to be taken in chemistry laboratory:

- (i) We should not work alone in the laboratory.
- (ii) We should always wear a lab coat in the laboratory as it will protect our clothes.
- (iii) We should follow our teachers instructions whenever we perform an experiment.
- (iv) Hot objects should be handle with attention and care.
- (v) Only small quantities of chemicals should be used to carry out experiments.

Q) Answer the following questions in brief:

(a) Why is chemistry known as an experimental science?

(b) Why are most of the apparatus made of glass?

Ans:→ (a) Chemistry is the branch of science which is mostly based on experiments. That is why chemistry is known as experimental science.

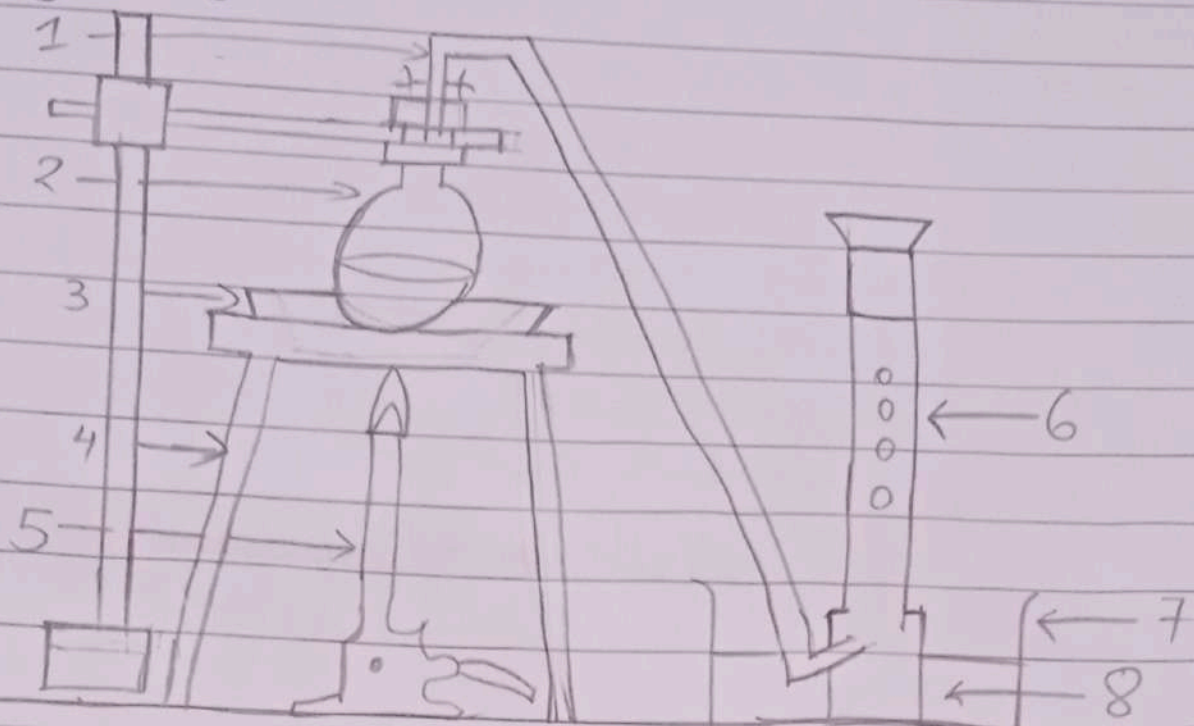
(b) Most of the laboratory apparatus are made of glass because

(i) Glass is a transparent material and we can see through it clearly.

(ii) Glass is easy to clean.

(iii) Glass can withstand high temperature.

⑤ Label the marked equipments and apparatuses in the diagram given below.



Ans: → ① - ^{Glass} ~~Glass~~ tube (Delivery tube).

② - Round bottom flask. ⑥ - Glass jar.

③ - Water bath. ⑦ - Trough.

④ - Tripod stand. ⑧ - Beehive shelf

⑤ - Bunsen Burner.

Objective type questions:-

1) Fill in the blanks:-

Ans:- a) Observation.

b) for evaporation.

c) A test tube holder.

d) Mortar and Pestle.

e) Pyrex or borosil.

2) Match the items in column "A" with their respective functions in column "B".

Ans:-

a)	—	(iv)
b)	—	(i)
c)	—	(v)
d)	—	(ii)
e)	—	(iii)

3) Choose the correct alternative from the options given for each of the following statements.

Ans:-

a)	—	(i)
b)	—	(iv)
c)	—	(iii)
d)	—	(ii)
e)	—	(v)

Inside questions:-

Q.1 Define an experiment.

Ans:- An experiment performed under controlled conditions is an activity where we observe a natural or an artificially created phenomenon.

Q.2. Define Laboratory or a chemistry laboratory.

Ans: A chemical laboratory (or a chemistry laboratory) is a place to perform experiments, observe chemical processes and to analyse results.

Q.3. Define chemistry

Ans: Chemistry is the branch of science that deals with the study of the composition and physical and chemical properties of various forms of matter.