

SAMPLE QUESTION PAPER 3

(Practical Skills)

Time : 1½ Hours

Maximum Marks : 20

INSTRUCTIONS :

Same as in Sample Question Paper 1.

SECTION A

1. You have prepared four different mixtures in water using 1. charcoal powder, 2. chalk powder, 3. slaked lime and 4. detergent powder. If you filter these mixtures through a filter paper, there will be no residue left after filtration in the case of

(a) charcoal powder

(b) chalk powder

(c) slaked limes

(d) detergent powder.

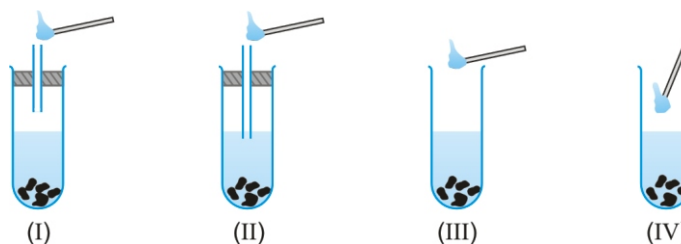
2. The safest method to detect hydrogen gas produced in a reaction would be the method shown in

(a) I

(b) II

(c) III

(d) IV



3. To prepare a colloidal solution of starch we should

(a) add starch powder to boiling water and cool

(b) add starch powder to cold water and boil

(c) heat starch powder, add it to cold water and then bring to boil

(d) add a thin paste of starch to boiling water while stirring.

4. Students were asked to study the reaction between barium chloride and sodium sulphate. Four different reports of the experiment are given below. Choose the correct one.

Procedure	Observation	<input type="checkbox"/>
(a) Mixed powder of barium chloride and sodium sulphate.	The colour of mixture changes to yellow.	<input type="checkbox"/>
(b) Mixed solutions of barium chloride and sodium sulphate.	Thick white precipitate is formed.	<input type="checkbox"/>
(c) Added solution of barium chloride to sodium sulphate powder.	Solution becomes turbid.	<input type="checkbox"/>
(d) Added powder of barium chloride to sodium sulphate solution.	No change is observed.	<input type="checkbox"/>

5. 100 mL of saturated copper sulphate solution was taken in a beaker. A small amount of iron filings was added to the beaker and left undisturbed overnight. The mixture was then filtered to obtain the residue. The colour of the residue was found to be.

(a) greenish blue

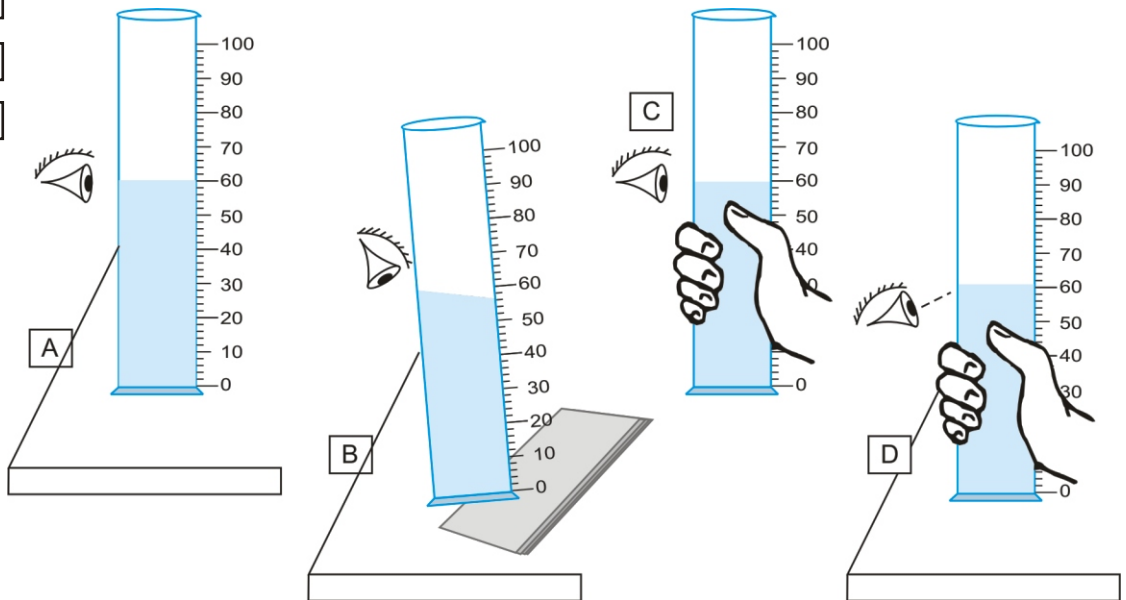
(b) faint green

(c) steel grey

(d) reddish brown.

6. The correct way of reading the liquid level is shown in

- (a) figure A
- (b) figure B
- (c) figure C
- (d) figure D.



7. While determining the density of a copper piece using a spring balance and a measuring cylinder, Seema carried out the following procedure :

- (i) noted the water level in the measuring cylinder without the copper piece
- (ii) immersed the copper piece in the water
- (iii) noted the water level in the measuring cylinder with the copper piece inside it
- (iv) removed the copper piece from the water and immediately weighed it using a spring balance.

The wrong step in the procedure is

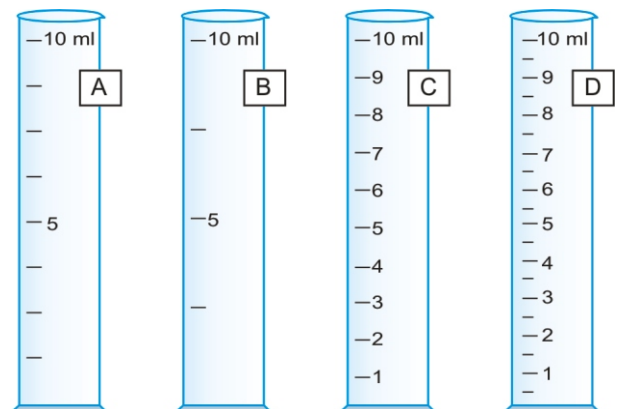
- (a) step (i)
- (b) step (ii)
- (c) step (iii)
- (d) step (iv).

8. A sound wave strikes the surface of a reflecting body perpendicularly. The angle of incidence is

- (a) 90°
- (b) 45°
- (c) 0°
- (d) 180°

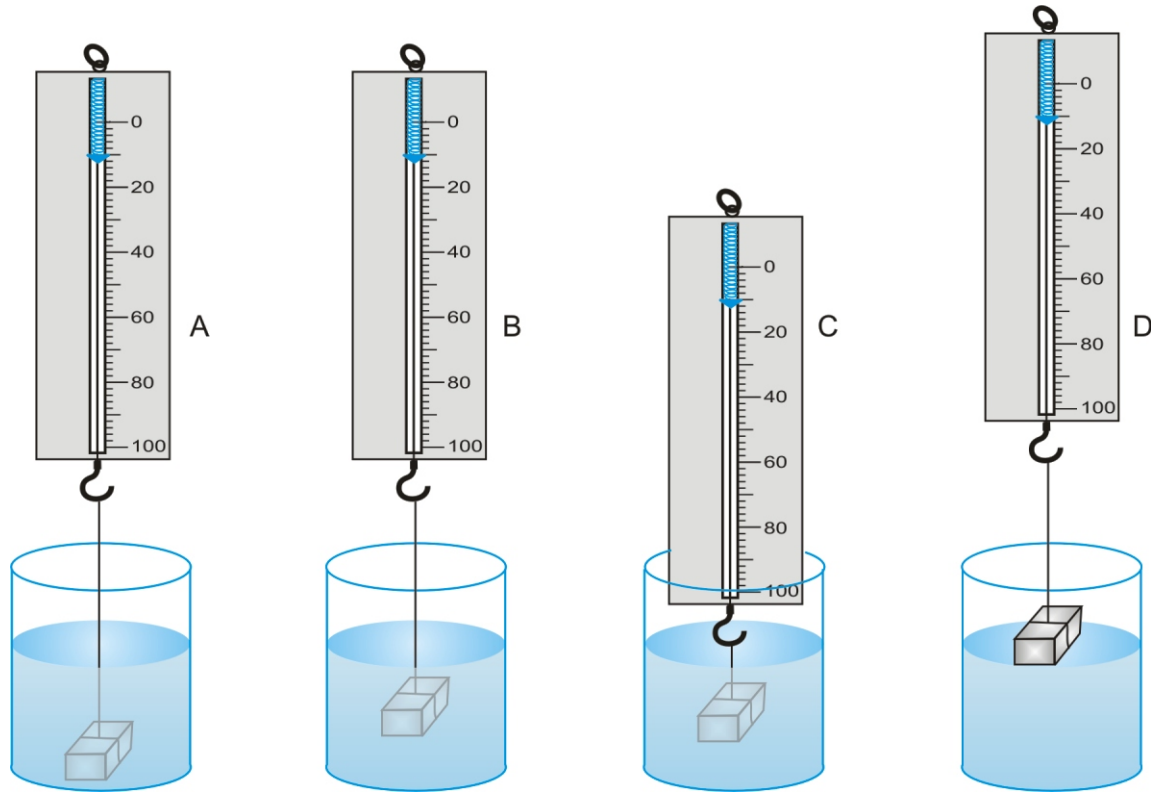
9. Four measuring cylinders with different least counts are shown in figures A, B, C and D. The most suitable cylinder for determining the volume of a cube of side nearly 1 cm is

- (a) A
- (b) B
- (c) C
- (d) D



10. The correct experimental set-up for determining the mass of a solid in water is shown in figure.

- (a) A
- (b) B
- (c) C
- (d) D



11. Four friends A, B, C and D are sitting in a railway train to which engine is not connected. After some time when the engine is connected to the train a disturbance is felt.

- (a) A says a pulse has passed through the train
- (b) B says a longitudinal wave has passed through the train
- (c) C says a transverse wave has passed through the train
- (d) D says he has noticed any thing.

Who amongst A, B, C or D is correct?

12. A boy explodes a cracker in front of a high rise building. He hears the sound of cracker twice. The phenomena taking place is :

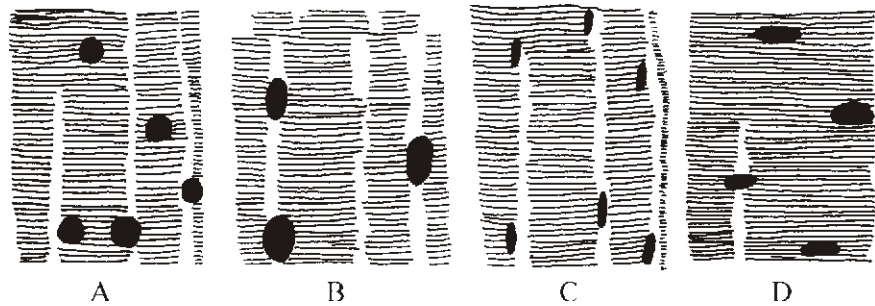
- (a) irregular reflection
- (b) pulse in air
- (c) refraction of sound
- (d) an echo.

13. Human cheek cells stained in methylene blue and mounted in glycerine were observed with the help of a compound microscope. The components of the cell which would be seen are

- (a) cell wall, cytoplasm, nucleus
- (b) plasma membrane, cytoplasm, nucleus
- (c) plasma membrane, cytoplasm, nucleus, mitochondria
- (d) plasma membrane, cytoplasm, nucleus, mitochondria, golgi, lysosomes.

14. Observe the location and shape of the nuclei in the four drawings of the striated muscle fibres given below. The drawing that most resembles the slide of striated muscles fibre under the microscope is

- (a) A
- (b) B
- (c) C
- (d) D



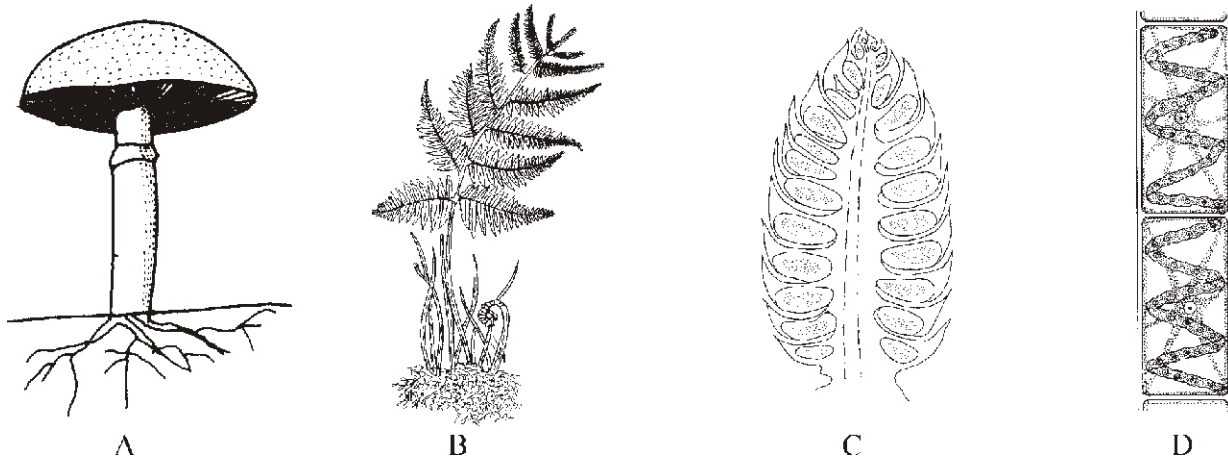
15. In order to find boiling point of pure water a student immerses 3/4 of the stem of the Celsius thermometer in the water. The temperature recorded by him will be :

- (a) less than the correct boiling point
- (b) more than the correct boiling point
- (c) same as the correct boiling point
- (d) none of the above.

16. A mixture containing ammonium chloride and sand is heated in a china dish so as to recover ammonium chloride from it. An inverted funnel is placed over china dish :

- (a) before heating
- (b) after heating
- (c) when fumes of ammonium chloride start coming from mixture
- (d) when fumes of ammonium chloride stop coming from it.

17. Sameer observed the following slides under the microscope. They are sketched as A, B, C, D below :



Which one of these has the capacity of conjugation?

- (a) A
- (b) B
- (c) C
- (d) D

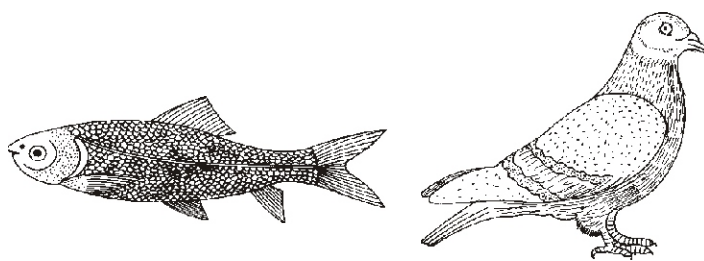
18. Bipinnate leaf has

- (a) one petiole and one rachis
- (b) two petiole and one rachis
- (c) one petiole and two rachis
- (d) only rachis.

19. Observe the pictures of a bird and a bony fish.

The feature that places them in the same phylum is

- (a) pointed heads
- (b) bulky thorax
- (c) presence of scales
- (d) post anal tails.



20. An unlabelled outline diagram of an earthworm is drawn below.

The important feature to be drawn and labelled for placing the earthworm in its phylum is

- (a) eye
- (b) clitellum
- (c) annuli
- (d) anus.



SECTION B

21. Take dilute sulphuric acid in a test tube and put a few zinc granules into the test tube. You would observe that

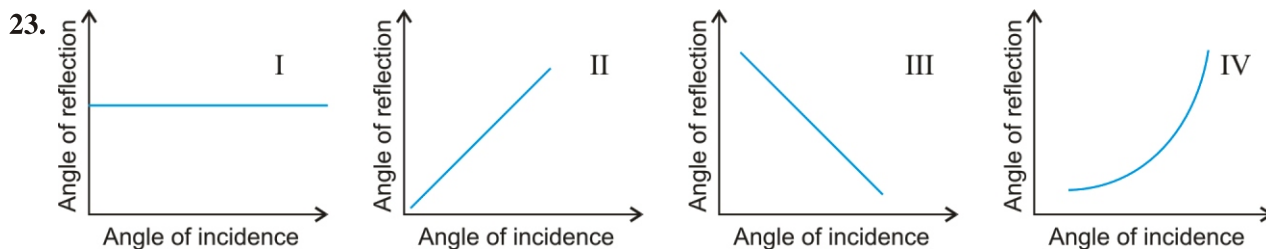
- (a) zinc granules change to powder
- (b) colour of zinc changes from grey to white
- (c) the size of the zinc granules keep decreasing
- (d) the surface of zinc metal becomes bright.

22. In the experiment shown a gas is evolved. Four groups of students have recorded their observations on the gas produced as shown in the following table. Choose the correct set of observations. Note that the positive responses are shown by '✓' and negative by 'X' signs respectively.



	Colour of the gas	Odour of the gas	Flammability	Action on lead acetate paper
(a)	X	✓	✓	X
(b)	X	✓	X	✓
(c)	✓	✓	X	✓
(d)	X	X	✓	X

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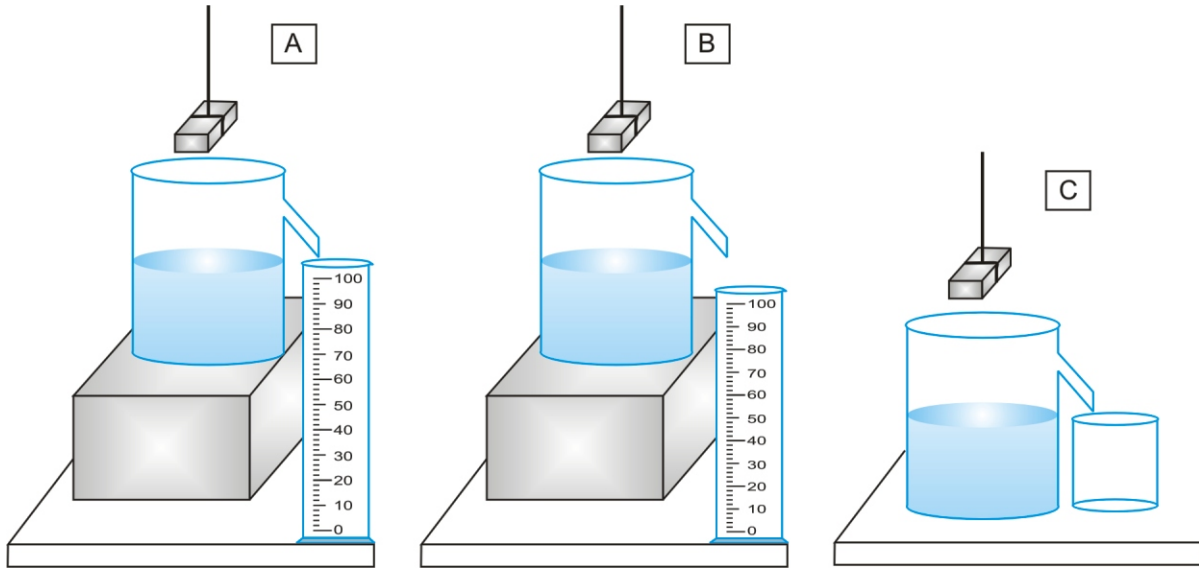


The graph which represents the correct relation between the angle of incidence and angle of reflection for sound is

- (a) I
- (b) II
- (c) III
- (d) IV

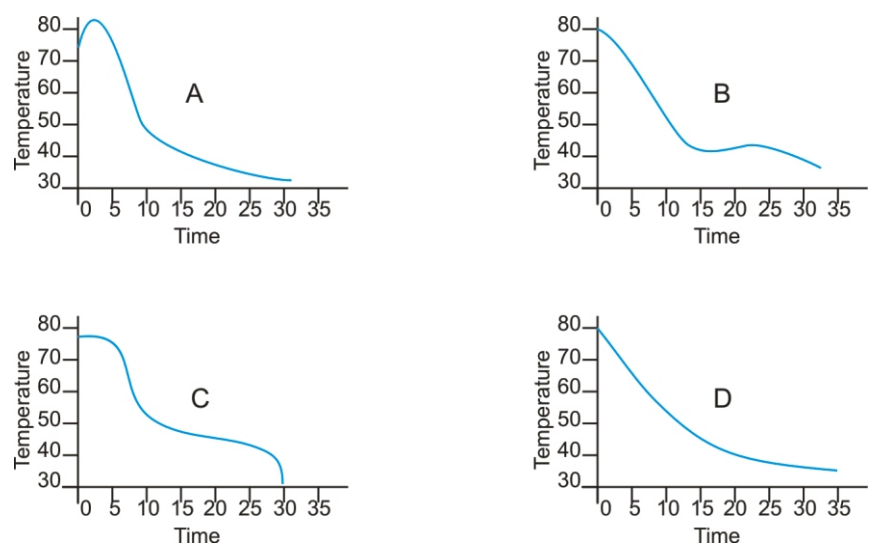
24. Three students A, B and C determined the volume of a solid by immersing it in water in the overflow cans set up as shown. The result obtained will be wrong for

- (a) student A (b) student B
 (c) student C (d) all three students.



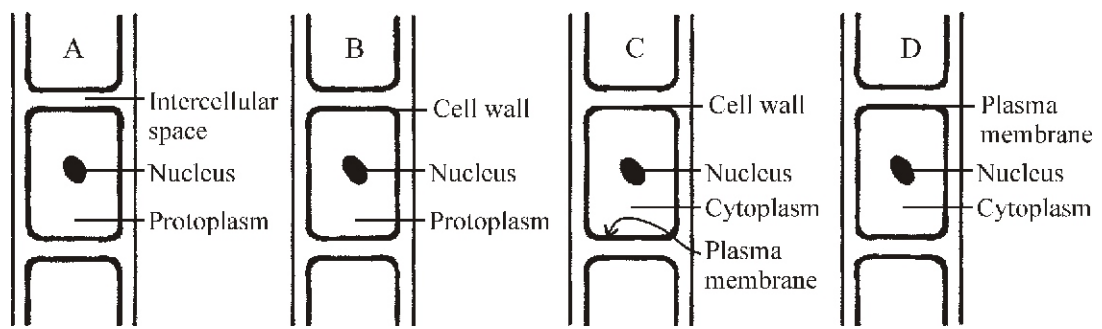
25. The temperature-time graphs, as obtained by four students A, B, C and D are as shown. The graph, likely to be correct is that of student

- (a) A
 (b) B
 (c) C
 (d) D

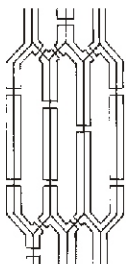


26. Diagrams of cells of an onion peel were labelled by four students as given below. The correctly labelled diagram is

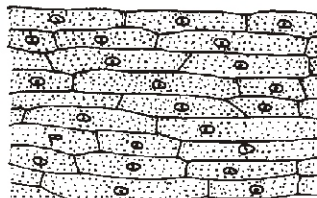
- (a) A
 (b) B
 (c) C
 (d) D



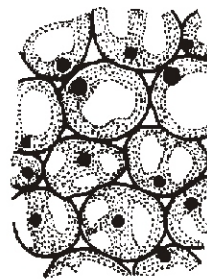
27. Four slides were observed under the microscope for spot test as shown below. The correct identification of the four spots is



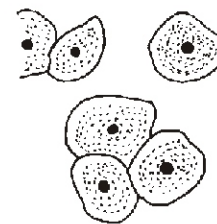
A



B



C



D

(a)	A : onion peel	B : cheek cells	C : sclerenchyma	D : parenchyma	<input type="checkbox"/>
(b)	A : cheek cells	B : parenchyma	C : sclerenchyma	D : onion peel	<input type="checkbox"/>
(c)	A : parenchyma	B : cheek cells	C : onion peel	D : sclerenchyma	<input type="checkbox"/>
(d)	A : sclerenchyma	B : onion peel	C : parenchyma	D : cheek cells	<input type="checkbox"/>

28. Paul was rushing with a bottle of tincture iodine. Some iodine solution splashed on his yellow coloured cotton shirt and also on the white table cloth. The stain on the table cloth was yellowish brown while that on his shirt was blue black. The most possible scientific reason for this is that the

- (a) shirt was dyed with metanil yellow (b) shirt was starched after washing
 (c) table cloth was starched but not the shirt (d) shirt had absorbed sweat.

29. The teacher asked the students to correctly record results of the experiment done to detect presence of metanil yellow in the adulterated arhar dal (tuvar dal) sample that was provided to them.

	Procedure	Observation	Inference
A	5 g dal + 5 g metanil yellow	dal turns yellow	metanil yellow present
B	5 g dal + 5 mL water + 2 drops of HCl	solution turns pink	metanil yellow present in the sample
C	5 g dal + 5 mL water + pinch of metanil yellow	water turns yellow	metanil yellow present
D	5 g dal + 5 mL water 2 drops of HCl	metanil yellow present	water turns yellow and then pink

The correct recording of the experiment is done in table

- (a) A (b) B
 (c) C (d) D

30. A mixture of marble powder, common salt and copper sulphate is dissolved in water and then filtered. The filtrate consists of :

- (a) Common salt solution (b) Copper sulphate solution
 (c) Copper sulphate and common salt solution (d) Marble powder and copper sulphate solution.

SCORING KEY AND QUESTIONWISE ANALYSIS FOR SAMPLE PAPER 3

Q. No.	Key	Skill Tested	Explanation
1.	(d)	O, R	Detergents form colloidal solution in water.
2.	(a)	M	Delivery tube should not touch the liquid.
3.	(d)	M	Thin paste of starch enables colloidal formation.
4.	(b)	O, R	Rate of reaction is faster in solutions, BaSO ₄ is white.
5.	(d)	O	Copper formed, having reddish brown colour.
6.	(a)	P, O	We need to position the eye in level with the lower part of the concave meniscus. Measuring cylinder must be placed on a flat surface.
7.	(d)	P	It is wrong to weigh a wet copper piece in air.
8.	(c)	R	As the incident sound wave and the normal coincide, therefore, angle of incidence is zero.
9.	(d)	P	The least count of the measuring cylinder must not be of the same order or larger than the volume to be measured.
10.	(b)	P, D	The solid must be fully immersed without touching the bottom. Also, no part of the spring balance must dip into water.
11.	(a)	O, R	Engine sends a disturbance of small duration and hence it is pulse.
12.	(d)	O, R	When a repetition of sound takes place on account of reflection of sound an echo is formed.
13.	(b)	O	The only components of the cell seen under a compound microscope.
14.	(c)	O, D	Nuclei at periphery.
15.	(a)	O, R	The stem expands and hence lower temperature is recorded.
16.	(c)	P, O	More ammonium chloride condenses on the cool surface of funnel.
17.	(d)	D, R	<i>Spirogyra</i> reproduce sexually through conjugation.
18.	(a)	O, D	Bipinnate leaf has a petiole and a rachis to which many leaflets are attached.
19.	(d)	O, D, R	Chordate characteristics.
20.	(b)	D, R	Clitellum feature of phylum annelida.
21.	(c)	O	Zinc is consumed during the reaction.
22.	(b)	O, R	H ₂ S gas produced affects lead acetate paper.
23.	(b)	M, R	Angle of incidence is always equal to angle of reflection.
24.	(d)	M, D	The overflow can must always be filled up to its spout before using it to measure the volume displaced by the immersed solid.
25.	(d)	D	The liquid cools faster first and slowly later on when its temperature gets close to the surrounding temperature.
26.	(c)	D, R	Correct labelling.
27.	(d)	O, D, R	Correct identification of 4 tissue.
28.	(b)	O, R	Starch test.
29.	(b)	O, R	Aq metanil + HCl → Pink colour
30.	(c)	P, R	Common salt and copper sulphate are soluble in water.

P : Procedural skills; **M** : Manipulative skills; **O** : Observational skills; **D** : Drawing skills;
R : Reporting and interpretative skills.