

## Second Terminal Examination – 2080

### Model Question

Class : 10

F.M.: 50

Subject : Science and Technology

Time : 2 Hours

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#### Group A (Multiple Choice Questions)

7×1=7

Tick the best answer from given alternatives.

- How many combinations are there in the ASCII code of 8 bits?  
i. 254      ii. 255      iii. 256      iv. 257
- Pine have cones and naked seed in them. Which sub-division do they belong to?  
i. angiosperm      ii. pteridophyta  
ii. gymnosperm      iv. bryophyta
- Which one is the first aid if a person is unconscious due to heart attack?  
i. angiography      ii. heart bypass surgery  
ii. ultrasonography      iv. CPR
- Why does a hydrometer float more in seawater than in freshwater?  
i. seawater has a lesser density than freshwater  
ii. freshwater has a lesser mass  
iii. seawater has more density than freshwater  
iv. the hydrometer floats in water
- Why does diamond spark a lot?  
i. it is transparent      ii. its critical angle is 24 degree  
ii. it is hard      iv. it is made of glass
- Which of the following is the most reactive non-metal?  
i. Chlorine      ii. Fluorine  
ii. Iodine      iv. Bromine
- Why does phenolphthalein solution turn pink, when ammonia is passed through it?  
i. Ammonia is base, so it can turn phenolphthalein pink.  
ii. Ammonia is acid, so it can turn phenolphthalein pink.  
iii. Ammonia is pink, so it changes everything into pink.  
iv. Ammonia dissolve in water to produce strong acid.

#### Group B (Very Short Questions)

5×1=5

**Answer the questions in very short.**

- What is the type of variable if its magnitude is constant throughout the experiment?
- List out any two applications that are used to edit audio.
- Which type of assisted reproductive technologies can be used for a man who has underdeveloped testicles, weak sperm, sperm count is low or sperms are immotile?
- A person has a blood pressure of 120/80 mmHg. What does it mean?
- How much is the specific gravity of gold?

#### Group C (Short Questions)

9×2=18

**Answer the questions in short.**

- Write any two differences between independent variable and dependent variable.
- How do the use and application of social networking sites affect students? Write the merits and demerits of social networking sites on students.
- Are jellyfish and cuttlefish types of fish? Why or why not?
- Can DNA testing be used to solve criminal investigations? Justify with your opinion.

The productivity of some crops increases if nearby farmers keep some bees in those areas. Give reason.

17. Is it possible for objects denser than water to float? Describe the conditions required for the case.

18. Mention any two reasons of saying helium and argon are inert gases.

19. Complete and balance the following equations.



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21. Write any two differences between iron and aluminium on the basis of their position in periodic table.

**Group D (Long Questions)**

**5×4=20**

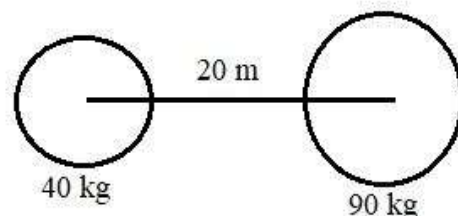
**Answer the questions in detail.**

22. Study the given table and answer the following questions.

Male Gamate			Female Gamate
X	R	R	
R	RR	Rr	
r	Rr	rr	

- Which filial generation does this result belong to?
- What is the ratio of the plant having dominant and recessive character?
- Which pair of genotype indicates the pure white flowering pea plant?
- What is the percentage of hybrid pea plant in this generation?

23. In between the object shown in the diagram,  $6 \times 10^6$  N gravitational force is exerted. If the distance is halved and mass of 40 kg is doubled, what will be gravitational force between them?

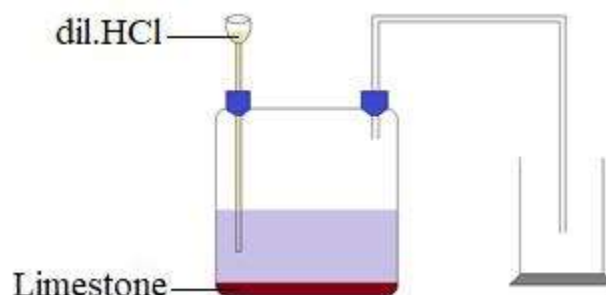


24. **Enlist the applications of anomalous expansion of water. The ghee starts to solidify from bottom but water starts to solidify from the top. Explain this mechanism based on temperature, density and volume.**

25. A person can see distant sign board clearly but cannot read clearly on a book which is 25 cm away from his eye. Identify the defect. Draw a labelled ray diagram to show this defect and illustrate with a diagram how this defect can be corrected.

26. **Answer the following questions based on the given diagram.**

- Which gas is being collected in the Gas jar?
- Write down a balanced chemical equation involved in it.
- Why is carbon dioxide gas collected in an erect and open gas jar?



The End