

**APPENDIX E**

**NATURAL SCIENCES TEST**

**GRADE: NINE**

**MARKS: 100**

**TIME: 1 HOUR**

**19 August 2002**

**INSTRUCTIONS**

Answer all questions in the open spaces of the question paper.

1. A balloon is blown and it's opening tied securely.

1.1 The blown balloon is held near pieces of tissue paper.  
What is observed? (2)

1.2 The balloon is then rubbed with a woolen cloth and held near the pieces of tissue paper.

1.2.1 What is your observation? (2)

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1.2.2 What can you conclude from your observation? (2)

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2. Explain how objects become electrically charged. (4)

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3. Describe the concept of lightning. (8)-----

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4. Differentiate between static electricity and current electricity? (5)

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5. Can you use sparks in static electricity to light up a bulb? Explain your answer. (3)

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6.

6.1 Draw an electric circuit with three cells, a switch, and three bulbs in series. (3)

6.2 Draw an electric circuit with three cells, a switch, and three bulbs in parallel. (3)

6.3 Which circuit do you think is used in homes, offices, and schools? (2)

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Explain your answer. (3) -----

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6.4 In which circuit do you think the bulbs will be brighter? (2)

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Explain your answer.

(3)

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6.5 Why do you think is the reason for using equal number of cell and bulbs in both the series and parallel connections? (3) -----

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7. A bulb is connected to a torch cell by means of copper wire. Various items are placed between the base of the bulb and the positive terminal of the cell. Copy the table below and complete by recording whether the light bulb lights up or not, and whether the material is an insulator or a conductor.

(10)

Material	Effect on light bulb	Conductor or insulator
Paper		
Safety pin		
Pencil graphite		
Chalk		
Plastic pen		

8. Consider the following different forms of contraception; - abstinence, cap, condom, contraceptive pill, Intra Uterine Device (IUD). Rhythm method, spermicide, and vasectomy.

8.1 Which methods of contraceptive need surgery?

(4)

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8.2 Which methods are most expensive?

(4)

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8.3 Which methods are cheapest?

(4)

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8.4 The couple does not want any more children, which methods of contraception would be more suitable? (4)

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9. The newborn baby is fed milk. Study the information on human and cows milk in the table below; -

Useful substance	Human milk g/100ml	Cow's milk g/100ml
Water	78.00	78.00
Protein (for growing)	3.30	5.30
Fat (for energy)	6.10	5.80
Sugar (for energy)	9.20	6.70
Iron (for blood)	2.0007	2.0005
Calcium (for bones)	2.034	2.120

9.1 Draw a bar graph to compare the two kinds of milk. (12)

9.2 A baby needs 20g of protein a day. How much of each would he or she needs per day? (8)

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9.3 Which milk would you choose to feed a baby?

Give reason(s) for your choice. (4)

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9.4 Which milk will you feed a baby who:

9.4.1 Has a growing problem.

(2)

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9.4.2 Is weak.

(3)

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Give reasons for your answers.

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