

APPENDIX

APPENDIX-A

Science Attitude Scale

Constructed by
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LECTURER, GOVT. WOMEN B.T.I. BHOPAL

Name.....Class.....

Age.....Sex.....

College.....

DIRECTIONS

Given below are some statements about science. Some of these statements describe how you might feel about science. We are interested in knowing your valuable opinion about science as a subject of study. You may agree with some of the statements and you may disagree with others. After have you read a statement carefully, decide whether or not you agree with it.

If you agree strongly with a statement put a circle (O) around the category SA (Strongly Agree), if you agree put a circle around A (Agree), if you are undecided put a circle around U (Undecided) if you disagree put a circle around D (Disagree) and if you strongly disagree put a circle around SD (Strongly Disagree).

You are requested to give your free and frank opinion.

1. Scientists are persons without human considerations	SA	A	U	D	SD
2. Scientific careers are more useful to the society than other careers.	SA	A	U	D	SD
3. Study of science subjects is rather a dull affair.	SA	A	U	D	SD
4. Other subjects cannot be properly understood without the knowledge of science.	SA	A	U	D	SD
5. Science subjects are very difficult to study.	SA	A	U	D	SD
6. Science subjects are more exact than others.	SA	A	U	D	SD
7. Science is bound to lead our society into godlessness.	SA	A	U	D	SD
8. Science subjects provide more recreation than other subjects.	SA	A	U	D	SD
9. Scientific knowledge alone cannot improve a man's life.	SA	A	U	D	SD
10. Science sharpens our reasoning power and logical thinking.	SA	A	U	D	SD
11. Science fails to solve all of our problems.	SA	A	U	D	SD
12. Science subjects are useful for getting a success in the competitive examinations.	SA	A	U	D	SD
13. Too much emphasis on science would bring down our moral standards.	SA	A	U	D	SD
14. Science alone is responsible for our technical and industrial progress.	SA	A	U	D	SD
15. A student gets discouraged when he fails to answer certain questions in science.	SA	A	U	D	SD
16. Working in a scientific field brings more fame.	SA	A	U	D	SD
17. Science can be studied by males only.	SA	A	U	D	SD
18. Science subjects open up many avenues of employment.	SA	A	U	D	SD
19. Science has made us to depend entirely on machines.	SA	A	U	D	SD
20. Science has turned the impossibilities into possibilities.	SA	A	U	D	SD

APPENDIX – B

GENERAL PERCEIVED SELF-EFFICACY

Ralf Schwarzer & Mathias Jerusalem (1993), rev. 2000

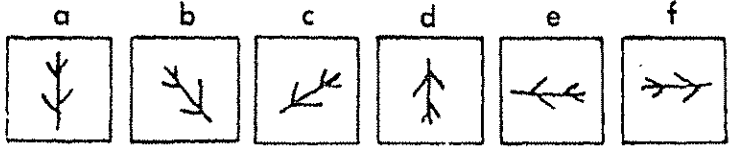
1. I can always manage to solve difficult problems if I try hard enough.
2. *If someone opposes me, I can find the ways and means to get what I want.*
3. I am certain that I can accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness. I can handle unforeseen situations.
6. I can solve most problems if I invest the necessary/effort.
7. I can remain calm when difficult because I can rely on my coping abilities.
8. When I am confronted with a problem. I can find several solutions.
9. If I am in trouble. I can think of a good solution.
10. I can handle whatever comes my way.

Response format :

(1) not at all true (2) Barely true (3) Moderately true, (4) exactly true.

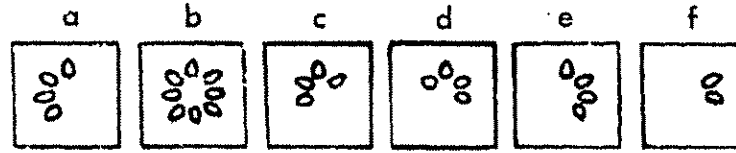
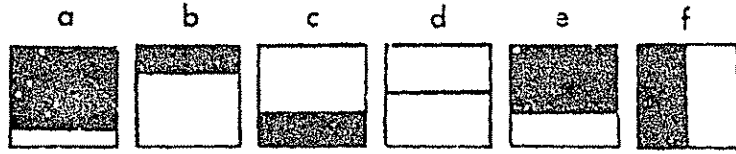
TEST 1

Examples

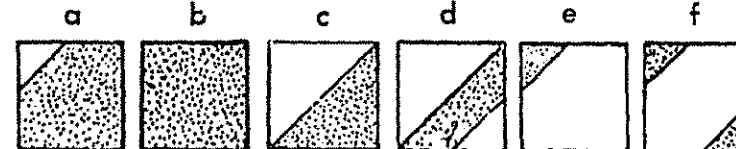
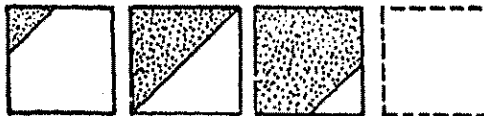


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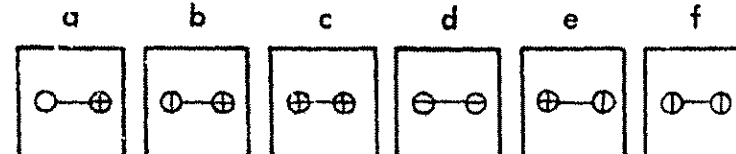
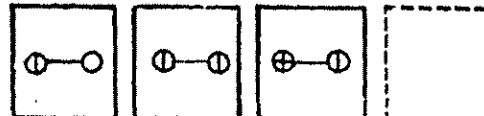
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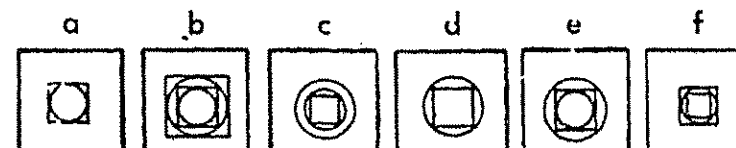
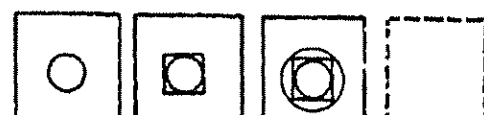
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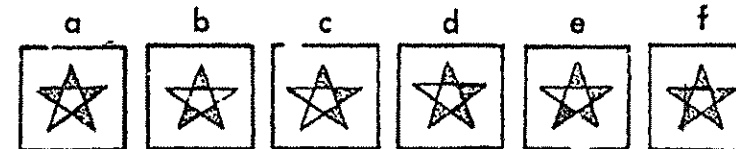
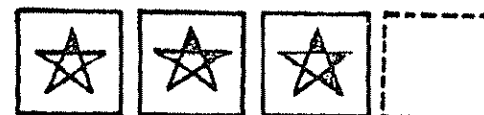
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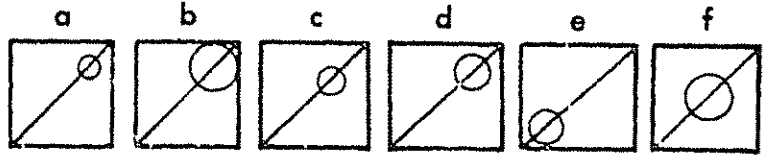


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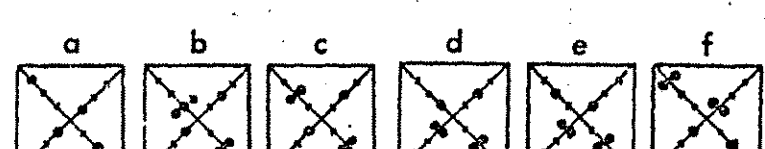
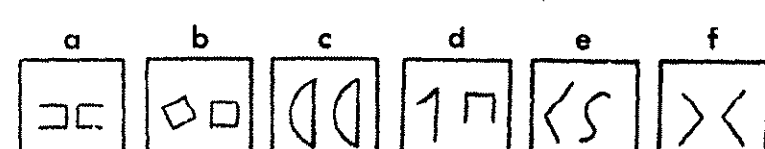
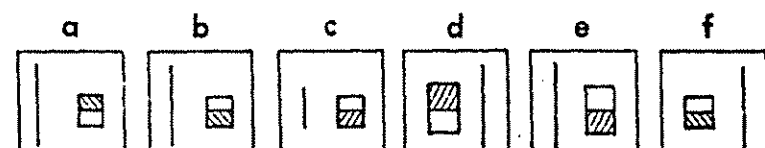
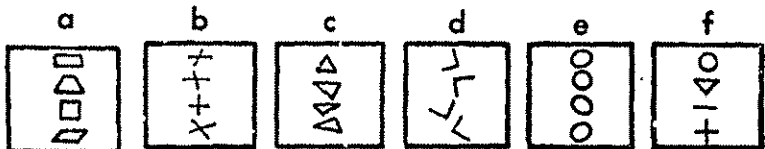
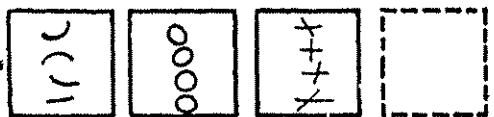
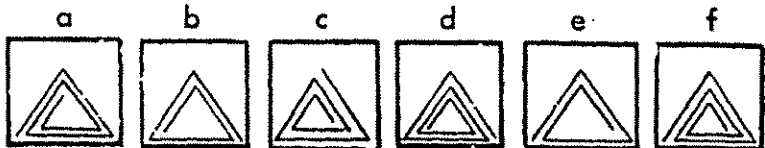
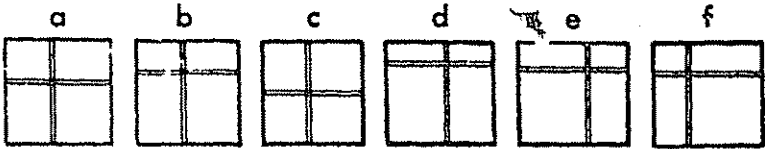
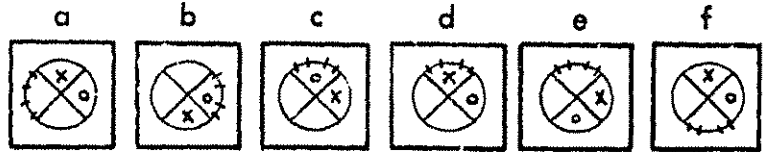
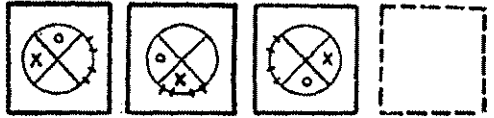


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Answers



End of Test 1

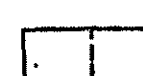
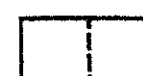
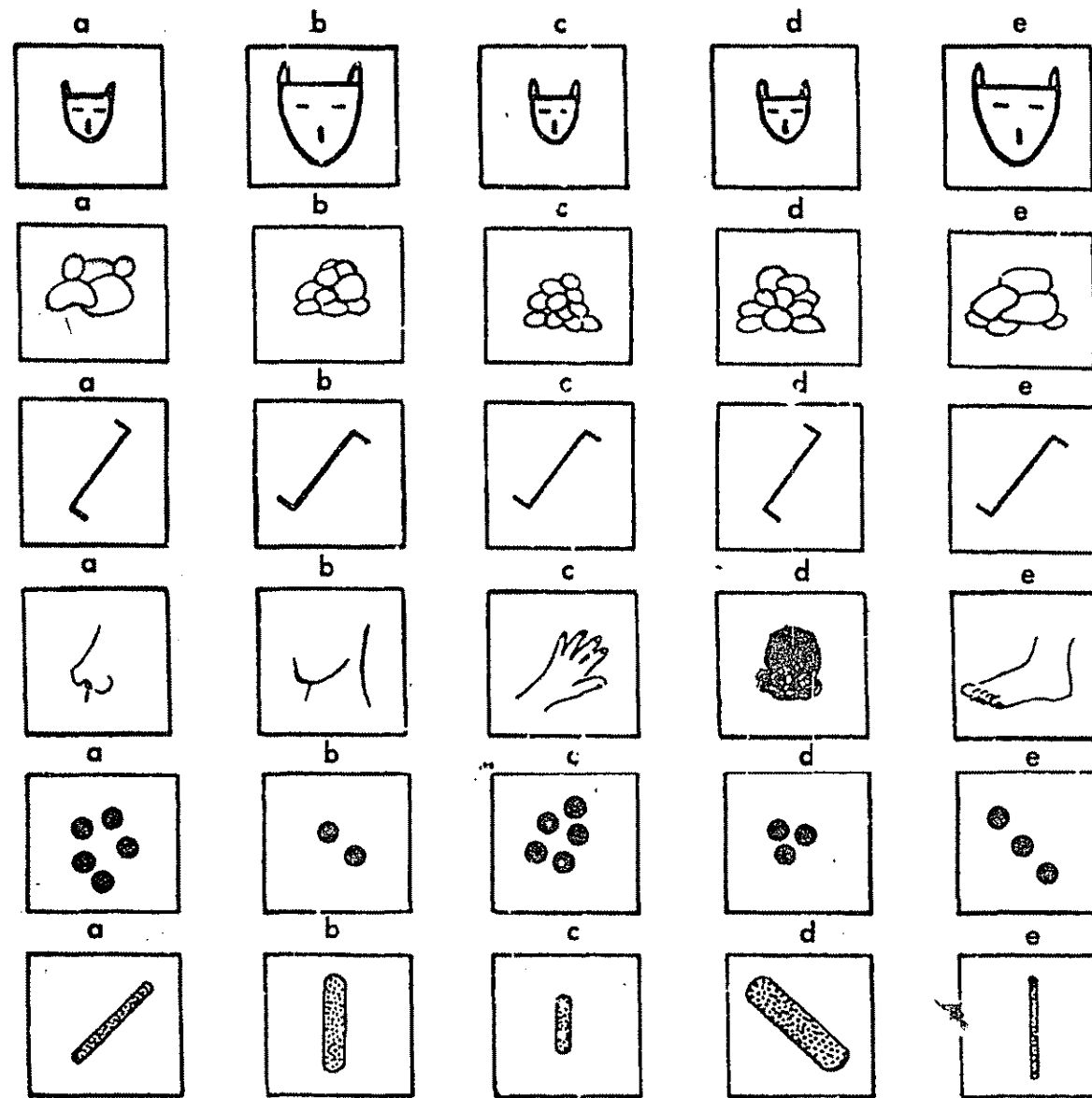
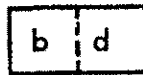
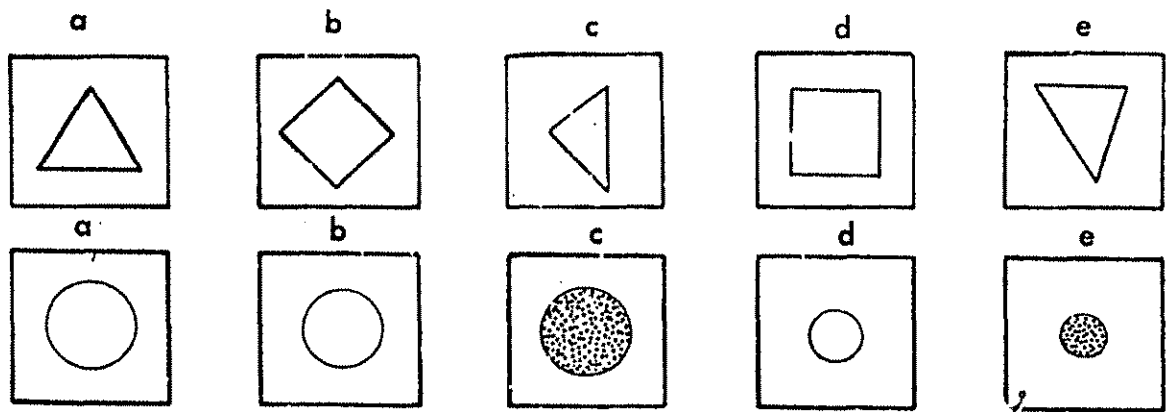
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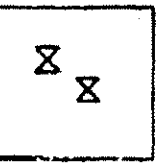
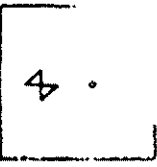


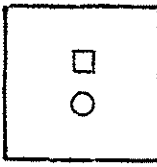
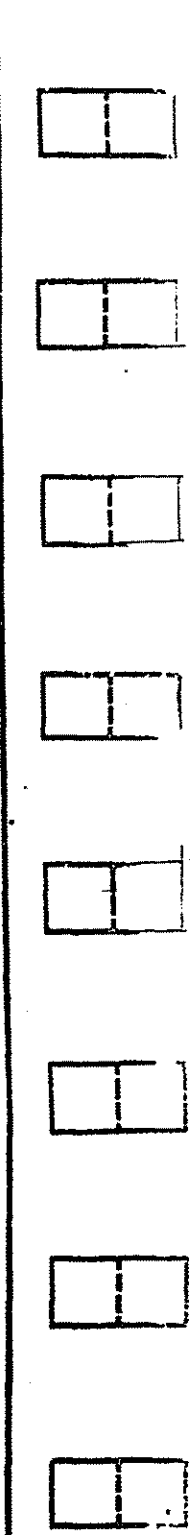

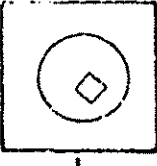

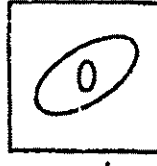
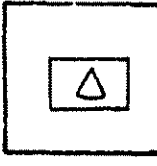





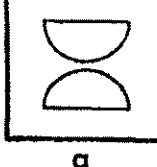




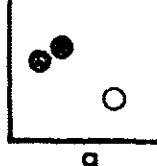
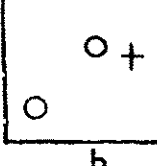
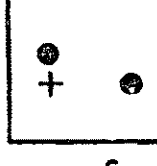
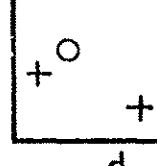
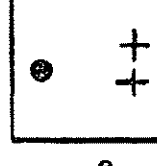
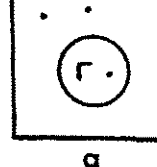

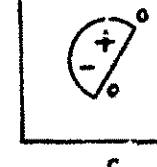
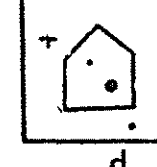

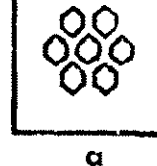
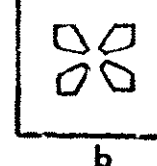
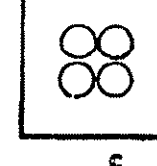
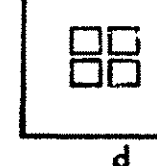
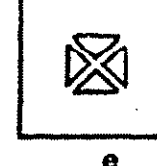


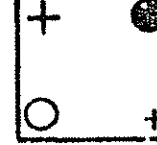
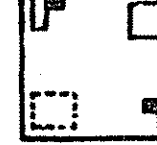

Examples

Answers



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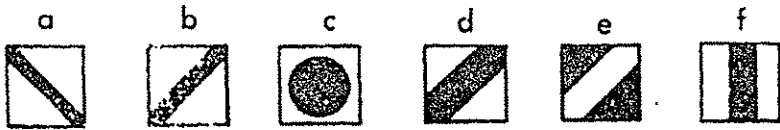
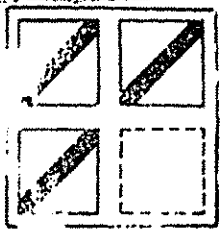
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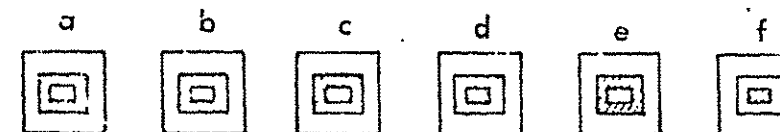
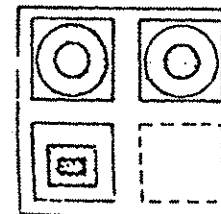
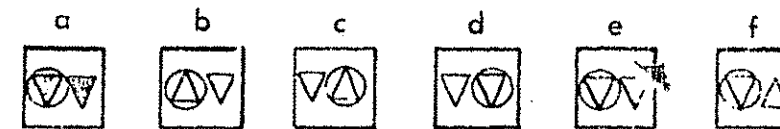
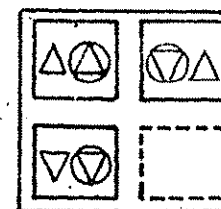
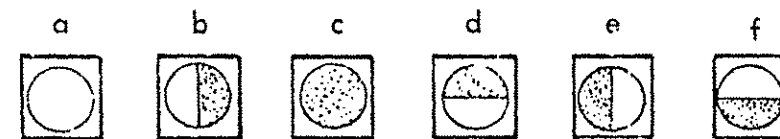
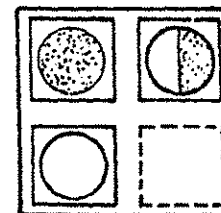
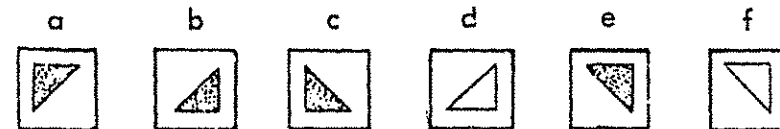
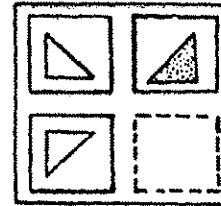
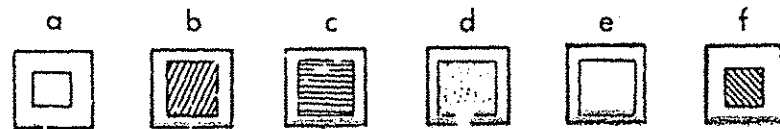
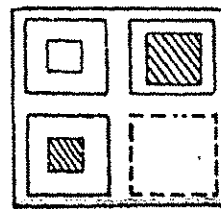
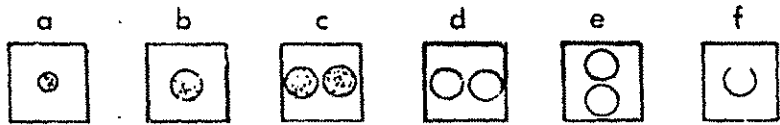
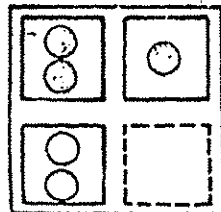
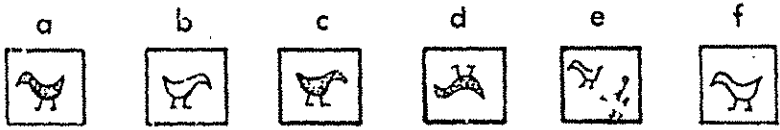
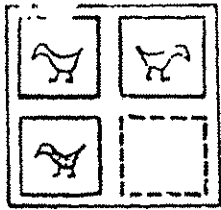
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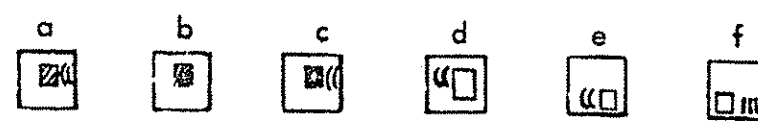
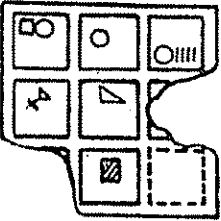
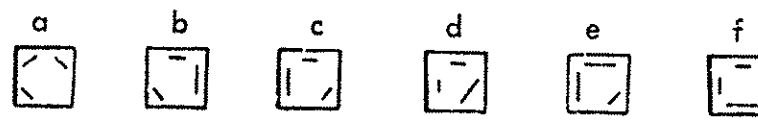
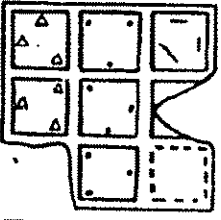
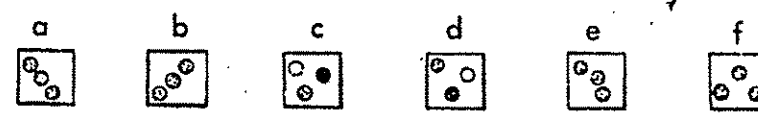
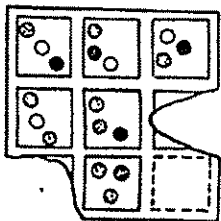
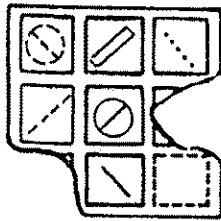
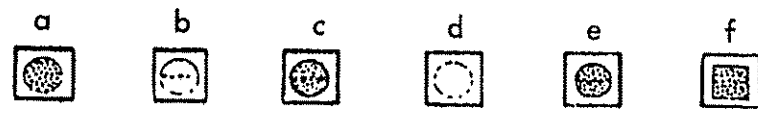
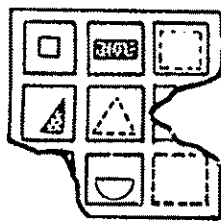
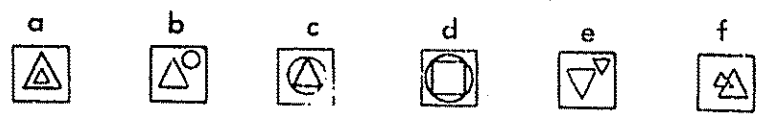
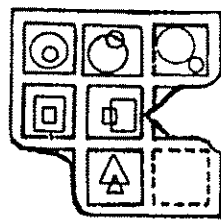
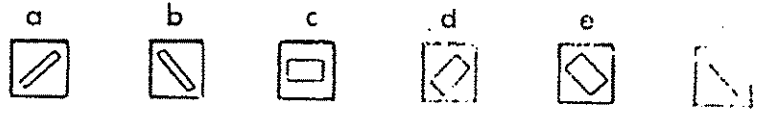
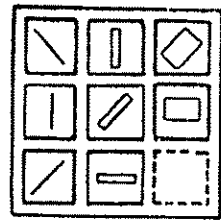
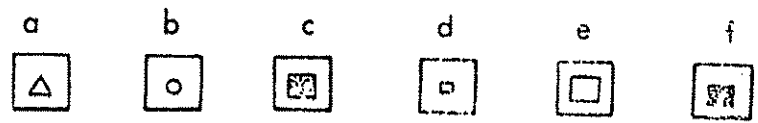
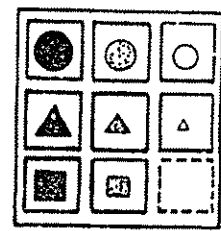
Answers



b



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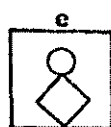
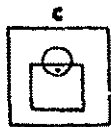
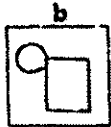


End of Test 3

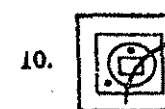
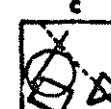
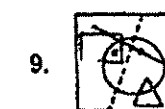
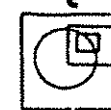
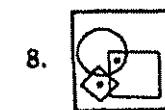
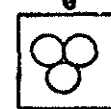
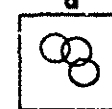
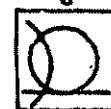
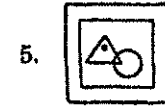
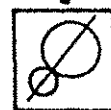
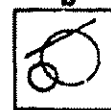
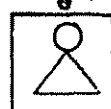
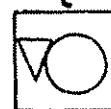
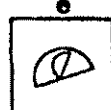
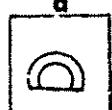
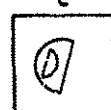
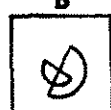
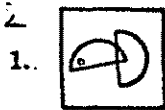
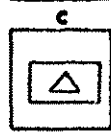
STOP! Do not turn the page until told to do so.

TEST 4

Examples



Answers



End of Test 4

8.

APPENDIX - D
ACHIEVEMENT TEST

Name : _____

Date : ___ / ___ /2009

Class : _____

A. Choose the correct ANSWER

1. The major causes of air pollution include
 - a) Burning of coal and petroleum
 - b) Afforestation
 - c) Use of catalytic converters in automobiles
 - d) Recycling of paper

2. Pollution Affects
 - a) Plants, Animals and Human beings
 - b) Plants Only
 - c) Animals and Plants
 - d) Human beings only

3. Water pollution is mainly caused by
 - a) Wastes being dumped in water bodies without treatment
 - b) Chlorofluorocarbons
 - c) Vehicular fumes
 - d) Global warming

4. Air pollution causes
 - a) Global warming
 - b) Floods
 - c) Acid rain
 - d) All of these

5. Water pollution leads to
 - a) Eutrophication
 - b) Leaching
 - c) Soil erosion
 - d) Acid rain

B. Fill in the BLANKS

1. _____ of the air is needed by all living beings, plants and animals while green plants need _____ as well to prepare their food.
(Oxygen / Carbon dioxide / Carbon mono oxide)
2. Sewage wastes should be treated well to remove _____ substances, before being released into water. (Green / Toxic)
3. _____ is a water borne disease. (Typhoid / AIDS)
4. Presence of _____ makes water unfit for drinking. (Oxygen / Bacteria)
5. _____ is the addition of harmful substances into the environment.
(Population / Pollution)

C. State whether the following are TRUE or FALSE

1. Bathing with soap should be allowed near the rivers to control water pollution. ()
2. Sewage wastes can be directly disposed off in water bodies. ()
3. Eutrophication has adverse effects on aquatic ecosystems. ()
4. Boiling water is one of the method of purifying water. ()
5. The water suitable for drinking by human beings is called potable water. ()

APPENDIX – E

1. LESSON PLAN FOR TRADITIONAL APPROACH

Subject : Science

Period : Zero Period

Class : VIII

Time : 7.30 am

Topic : Types of pollution and causes of pollution

Specific objective : To make the students aware of different types of pollutions

To make the students know about causes of pollution.

Teaching Method : Lecturer Method

Previous Knowledge : Children are knowing the meaning of pollution.

Sl. No.	Teaching Points	Teacher Pupil Interaction	B.B. Writing Pollution
1.	Meaning of pollution	<p>Teacher : Students, do you know the meaning of the world pollution.</p> <p>Student : It is mixing of wanted particles in the atmosphere.</p> <p>Teacher : Good Human activities of consumption Synthesis, production and development generate many types of undesirable things and materials get mixed with our natural resources and other their natural qualities adversely. This is what we call pollution.</p> <p>In this lesson, we are going to study about various types of pollution, and cause of pollution.</p> <p>Teacher : So now please write the definition of pollution</p> <p>Any undesirable change in the natural quality of resources due to mixing of diff. types of substances is called pollution.</p> <p>Teacher : Now can you name source of the natural resources.</p> <p>Students : Water, Soil, Air</p> <p>Teacher : Can you tell me what is soil?</p> <p>Student : The upper topmost thin & productive layer of land is called as soil.</p>	

	<p>Teacher : Yes. So damage or destruction of upper most layer of land by mixing harmful waste or chemicals, is called as soil pollution. Such undesirable substances which damage or alter the natural quality of soil after getting mixed with it, are called as soil pollutants.</p> <p>Teacher : Now lets see what are the causes of soil pollution.</p> <p>Causes of soil pollution : Sources of soil pollution may be domestic, industrial.</p> <p>Air Pollution : Mixing of undesirable substances in air is called as air-pollution. Those substances which get mixed in the air and alter its quality adversely, are called as pollutants.</p> <p>Sources of Air Pollution : A. Fuel burning sources : (i) Automobiles like cars, scooters, motor-cycle etc. (ii) Thermal electric plants. (iii) Metallurgical industries, smelters and chemical industries. (iv) Petroleum refineries, pulp and paper mills, sugar mills, cotton clothe industries, rubber-industries etc. (v) Transport industries like trucks, buses, trains and ships etc.</p> <p>B. Sources related to agriculture. These sources comprise agro-chemicals like pesticides, weedicides, fungicides, rodenticides, fumigants etc.</p> <p>C. Accidence like leakage of MIC (methyl isocyanate gas) on March 12, 1988, from the Union Carbide Factory of Bhopal.</p> <p>Water Pollution : Mixing of undesirable and harmful substances or micro-organisms in water so as to alter its natural qualities is called as water pollution.</p> <p>Causes of water pollution : Principal water pollutants are sewage, infectious micro-organisms, plant-nutrients, organic chemicals, inorganic chemicals and sediments.</p>	
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2. LESSON PLAN FOR TRADITIONAL APPROACH

Subject : Science

Period : Fifth Period

Class : VIII

Time : 11.30 am

Topic : Effect of pollution and prevention of pollution.

Specific objective : To make the students aware of impact and prevention of pollution.

Previous Knowledge : Children are knowing the meaning of pollution.

Sl. No.	Teaching Points	Teacher Pupil Interaction	B.B. Writing Pollution
1.	Impact of soil Pollution	<p>Wastes dumped on land decay and decompose to produce bad smell. It further contaminates the surrounding air.</p> <p>Various, types of micro-organisms develop in wastes deposited on land. Those micro-organisms cause the spread of many types of disease.</p> <p>Soil pollution can be controlled through following methods (i) By proper disposal of solid wastes. (ii) By using natural fertilizers like composts, wormi composts, green manure etc. and by avoiding use of synthetic fertilizers.</p> <p>Effect of Air Pollution : The harmful of air pollution can be categorized into (a) global impacts, (b) Regional impacts and (c) Occupational impacts.</p>	

3. LESSON PLAN FOR MULTIMEDIA APPROACH

During the multimedia approach the students are first arranged in the computer lab and are just allowed to watch the multimedia CD without any hindrance :

Subject : Science
Class : VIII
Topic : Pollution.

Period : Zero Period
Time : 11.30 am

Specific objective : To make the students aware of different aspects of pollution.

Previous Knowledge : Children are knowing the meaning of pollution.

Multimedia Programme in the CD :

Meaning of the word pollution.

It is mixing of wanted particles in the atmosphere.

Good Human activities of consumption

Synthesis, production and development generate many types of undesirable things and materials get mixed with our natural resources and other their natural qualities adversely. This is what we call pollution.

In this lesson, we are going to study about various types of pollution, and cause of pollution.

Any undesirable change in the natural quality of resources due to mixing of diff. types of substances is called pollution.

The upper topmost thin & productive layer of land is called as soil.

Damage or destruction of upper most layer of land by mixing harmful waste or chemicals, is called as soil pollution. Such undesirable substances which damage or alter the natural quality of soil after getting mixed with it, are called as soil pollutants.

Causes of soil pollution.

Sources of soil pollution may be domestic, industrial.

Air Pollution : Mixing of undesirable substances in air is called as air-pollution. Those substances which get mixed in the air and alter its quality adversely, are called as pollutants.

Sources of Air Pollution : A. Fuel burning sources : (i) Automobiles like cars, scooters, motor-cycle etc. (ii) Thermal electric plants. (iii) Metallurgical industries, smelters and chemical industries. (iv) Petroleum refineries, pulp and paper mills, sugar mills, cotton clothe industries, rubber-industries etc. (v) Transport industries like trucks, buses, trains and ships etc.

B. Sources related to agriculture. These sources comprise agro-chemicals like pesticides, weedicides, fungicides, rodenticides, fumigants etc.

C. Accidence like leakage of MIC (methyl isocyanate gas) on March 12, 1988, from the Union Carbide Factory of Bhopal.

Water Pollution : Mixing of undesirable and harmful substances or micro-organisms in water so as to alter its natural qualities is called as water pollution.

Causes of water pollution : Principal water pollutants are sewage, infectious micro-organisms, plant-nutrients, organic chemicals, inorganic chemicals and sediments.

Wastes dumped on land decay and decompose to produce bad smell. It further contaminates the surrounding air.

Various, types of micro-organisms develop in wastes deposited on land. Those micro-organisms cause the spread of many types of disease.

Soil pollution can be controlled through following methods

(i) By proper disposal of solid wastes. (ii) By using natural fertilizers like composts, wormi composts, green manure etc. and by avoiding use of synthetic fertilizers.

Effect of Air Pollution : The harmful of air pollution can be categorized into (a) global impacts, (b) Regional impacts and (c) Occupational impacts.

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