

21

The Competition in

Science & Research Skills

Science & Research
Test I & II
MODEL PAPERS

Class : V



Eduranet

Intellectual Olympiad Foundation

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Hyderabad | India

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SYLLABUS

I) Life Science

1. Plants
2. Animals
3. Interdependence between Living & Non-Living Things
4. Human Body System
5. Food, Health & Disease

II) Human Resources

1. Air & Water
2. Our Clothes
3. Shelter,
4. Conservation of Natural Resources
5. Transport & Communication

III) The World

1. The Earth
2. Map and Its Language
3. Travel and Tourism
4. Indian Heritage and Monuments
5. Natural Calamities

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SCIENCE & RESEARCH TEST-I

CODE: 2151

PRELIMS

Max. Marks : 75

Duration : 75 Mins.

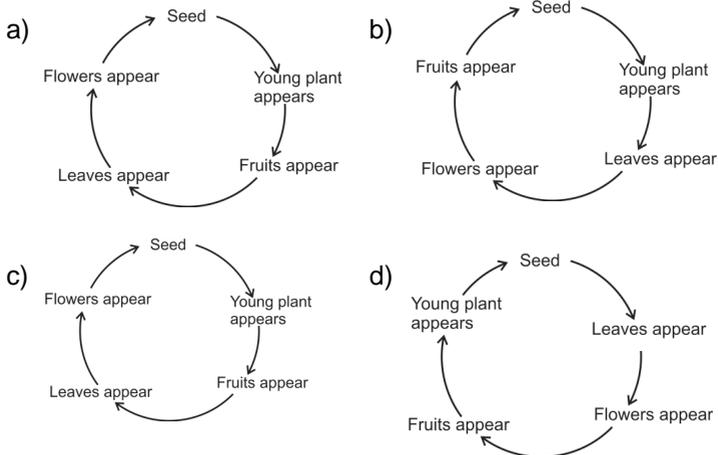
General Instructions :

1. Please find the Answer Sheets (OMR) with in the envelop given to you.
2. Mention your Test Code, Student ID, Name, Class, Section and School Name on the OMR Sheet as per Question Paper and Hall Ticket.
3. This question paper contains 75 Questions, duration is 75 minutes.
4. Do rough work in the empty sheet provided along with this question paper.
5. Answer questions in OMR sheet only.
6. Don't write or tick anything on the question paper.
7. Use only Black or Blue Ball Point Pen or Dark Pencil to answer the question in OMR sheet.
8. Indicate the correct answer by darkening one of the 4 or 5 responses provided.
9. Submit only OMR sheet to the invigilator

1. Which of the following tubes carry water and mineral salt?

- a) Roots
- b) Flower
- c) Stem
- d) Fruit

2. Which of the following figures shows the stages of development of the bean plant in correct order?



3. Mohan and Sohan are identical twins. They look alike in many ways but they

- Have different hair colour
- Have different fingerprints
- They are different in years of age
- They do not have any of their parent's characteristics

4. The _____ grows into the stem.

- plumule
- radicle
- both A & B
- none of them

5. Which of these supply food to the developing embryo until the plumule forms green leaves ?

- Radicle
- Cotyledons
- Micropyle
- Testa

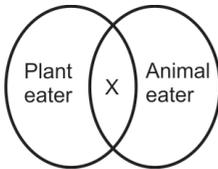
6. Which of these are necessary for a seed to germinate?

- wind
- water
- insects
- animals

7. Whales and dolphins live in water. They belong to the group of i called ii which row completes the given statement?

	i	ii
a)	Invertebrates	Fishes
b)	Invertebrates	Mammals
c)	Vertebrates	Fishes
d)	Vertebrates	Mammals

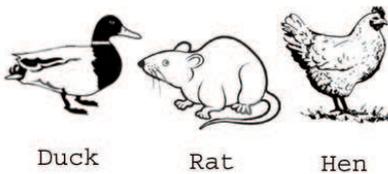
8. Study the given venn diagram.



Which of the following animals can be placed in 'x'?

- a) Goat
- b) Pig
- c) Rabbit
- d) Snake

9. Look at the animals shown below.



Which of the following characteristics is used to group the given animals together?

- a) They all have same type of outer covering.
- b) They all eat both plants and animals.
- c) They lay eggs.
- d) They all live in the pond.

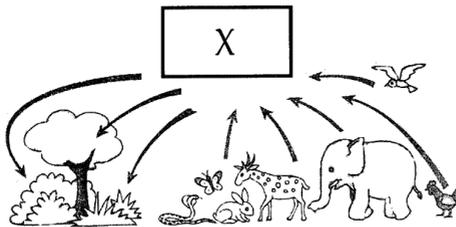
Which of the following is being exchanged between plants and animals for their life processes to take place ?

- a) space
- b) Gases
- c) Nutrients
- d) Water

16. The water plants found in a pond _____

- I. Provide shelter for the aquatic animals.
 - II. Are a direct source of food for all aquatic animals.
 - III. Ensure that the aquatic animals reproduce.
- a) I only
 - b) I and II only
 - c) II and III only
 - d) I, II and III only

17. The X in the figure is



- a) Carbon dioxide
- b) Oxygen
- c) Water
- d) Nitrogen

18. What happens if forests are destroyed ?

- a) Only human beings are affected.
- b) Only plants are affected
- c) Only animals are affected
- d) All living things are affected

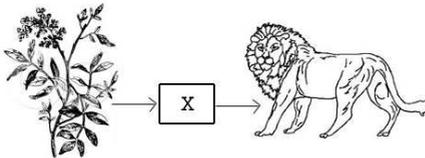
19. A Zebra is

- a) A Primary consumer
- b) A heterotroph
- c) A herbivore
- d) All of the above

20. Which of the following raw materials is not required by plant to synthesize food?

- a) Sunlight
b) Carbon dioxide
c) Water
d) Oxygen

21. Study the given flow chart.



Note the arrow sign means “is eaten by”

Which of the following animals can ‘X’ is?



22. Food is fully digested in the

- a) Small intestine
b) Stomach
c) Gullet
d) Mouth

23. The ____ in the respiratory system helps a person breathe in and out.

- a) Heart
b) Stomach
c) Diaphragm
d) Liver

24. Rahul ran a race. After the race, he was out of breathe. His ____ and ____ systems would try to provide his body with oxygen.

- a) Digestive, respiratory
b) Muscular, skeletal
c) Skeletal, circulatory
d) Respiratory, circulatory

28. When Rohit plays basketball, he



- a) Uses his muscles and bones to jump and run
- b) Uses only his muscles to bounce the ball
- c) Uses only his bones to run and jump
- d) Does not make use of any muscles or bones at all

29. Heart beats faster during which of the following activities?

Fig :

a) Running



b) Sitting



c) Eating



d) Reading



30. Which vitamin helps healing of wounds?

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

31. Which class of food gives highest amount of energy per gram?

- a) Carbohydrates
- b) Proteins
- c) Fats
- d) Vitamins

48. The atmosphere is negligible at a distance of:

- a) 180 km
- b) 160 km
- c) 150 km
- d) 100 km

49. The first artificial satellite is _____. launched by _____ on _____ (date/year).

- a) Sputnik 1, Russia, Oct 4, 1957
- b) Sputnik 2, Russia, Oct 5, 1957
- c) Sputnik, Russia, Oct 7, 1967
- d) Aryabhata, India, Aug 15, 1947

50. The rate of evaporation is affected by:

- (i) Wind
 - (ii) Temperature
 - (iii) Area of exposed surface
 - (iv) Humidity
- a) i, ii and iv only
 - b) i, ii and iv only
 - c) i,ii and iii only
 - d) i,ii,iii and iv

51. The species that is threatened with extinction is called :

- a) endangered species
- b) rare species
- c) vulnerable species
- d) extinct species

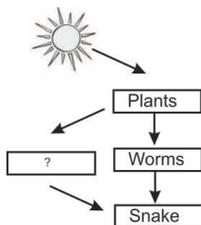
52. Highest quantity of energy occurs in the :

- a) Primary producers
- b) herbivores
- c) carnivores
- d) decomposers

53. Pesticides sprayed on the crops can:

- a) enter the food chain
- b) destroy useful insects
- c) both A and B
- d) none of the above

54. Which of the following can be placed in the empty box in the given foodweb ?



- a) Tiger b) Hen c) Man d) Vulture
55. Sonia hold her metal spoon above a pot of boiling soup. What will she see forming on the spoon ?

- a) Water vapour b) Water droplets
c) Steam d) Ice
56. The rate of evaporation of water is slower when
- a) Temperature is higher.
b) Wind is stronger.
c) Area of exposed surface is greater
d) Humidity of the surrounding air is higher

57. Study the given statements.

- I. Taking a shower instead of a bath.
II. Brushing your teeth with tap running
III. Collecting rain water to water plants.

Which of the following activities help to conserve water ?

- a) I and II only b) I and III only
c) II and III only d) All of the above
58. Which of the following is not a property of air?
- a) Air occupies space b) Air exerts pressure
c) Air has no mass d) Air cannot be seen

59. What does I, II, III and IV in the processes shown below represent ?

Water \xrightarrow{I} Steam \xrightarrow{II} Water

Ice \xrightarrow{III} Water \xrightarrow{IV} Steam

The information in which row completes the given blanks ?

	I	II	III	IV
a)	Heat	Cool	Cool	Heat
b)	Heat	Cool	Heat	Heat
c)	Heat	Heat	Heat	Heat
d)	Cool	Cool	Heat	Cool

60. Which of the following fabrics does not take stains easily?

- a) Cotton b) Nylon c) Wool d) Silk

61. Many household articles such as bed sheets are made from _____. This is a soft yet durable material that is spun from flax.

- a) Linen b) Plastic
c) Nylon d) Wool

62. Which fabric is made of staple fiber?

- a) Cotton b) Nylon
c) Polyester d) Silk

63. _____ is a synthetic material that is strong and elastic. It is also made in laboratories, and the fibre is used to make products such as sheer women's stockings.

- a) Silk b) Rubber
c) Linen d) Nylon

64. Houses in hot and dry regions have

- a) Thick flat roof b) Sloping roof
c) Dome roof d) Circular roof

65. Houses made of bricks and cements are

- a) Permanent houses
- b) Temporary houses
- c) Kuchha houses
- d) None of these

66. Which of the following kind of houses is most effective in a place that is very hot and dry ?

- a) A house made of bricks and mortar
- b) A house made up of ice
- c) A house made up of clay and thatch or coconut branches.
- d) All of these.

67. Wire netting doors are used

- a) To allow fresh air
- b) To allow sunlight
- c) To keep mosquitoes and flies away
- d) All of these

68. The Rhino project has been implemented in the _____

- a) Sri Sailam wild life sanctuary
- b) Panchmarhi wildlife sanctuary
- c) Kaziranga wildlife sanctuary
- d) Kanha national park

69. Sanctuaries are established to

- a) Develop commercial tree plantation
- b) Conduct tourism on wild life
- c) Protect animals
- d) Conduct research on biodiversity

70. Fossil fuels are

- a) Water
- b) Solar energy
- c) Coal and gas
- d) All the above

71. A rise in the Earth's surface temperature may cause

- a) Ice caps to melts
- b) Sea levels to rise
- c) Changes in precipitation
- d) All of the above

72. Which of the following can be used to send and receive instant messages?

- a) Postal Letter
- b) Radio
- c) Pager
- d) Television

73. STD stands for

- a) Standard Trunk Dialing
- b) State Level Trunk Dialing
- c) Subscriber Trunk Dialing
- d) Specific Trunk Dialing

74. Sanjana wants to talk to her friend Neha who stays in different country.

What equipment she can use to talk to her friend ?

- a) Communication satellite and handphone.
- b) Telephone and weather satellite.
- c) Computer and fax machine
- d) Walkie- talkie and the internet

75. Airlines operating within India is

- I. Air India
 - II. Indian Airlines
 - III. Jet Air ways
 - IV. Lufthansa
- a) I and II only
 - b) II and III only
 - c) III and IV only
 - d) IV and I only

KEY TO MODEL PAPER - I

- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| 1. c | 2. b | 3. b | 4. a | 5. b | 6. b |
| 7. d | 8. b | 9. b | 10. c | 11. a | 12. b |
| 13. d | 14. a | 15. b | 16. a | 17. a | 18. d |
| 19. d | 20. d | 21. c | 22. a | 23. d | 24. d |
| 25. c | 26. b | 27. a | 28. a | 29. a | 30. c |
| 31. c | 32. b | 33. a | 34. d | 35. b | 36. a |
| 37. c | 38. a | 39. c | 40. c | 41. c | 42. b |
| 43. b | 44. a | 45. b | 46. d | 47. a | 48. d |
| 49. a | 50. d | 51. a | 52. a | 53. c | 54. b |
| 55. b | 56. d | 57. b | 58. c | 59. b | 60. d |
| 61. a | 62. a | 63. d | 64. c | 65. a | 66. c |
| 67. d | 68. c | 69. c | 70. c | 71. d | 72. c |
| 73. c | 74. a | 75. b | | | |

SCIENCE & RESEARCH TEST-II

CODE:2152

FINALS

Max. Marks : 40

Duration : 60 Mins.

General Instructions :

1. Please find the separate Answer Sheets along with the question paper.
2. Mention your Test Code, Student ID, Name, Class, Section, Contact no. and School Name on the Answer Sheet as per Question Paper and Hall Ticket.
3. This question paper contains V sections, duration is 60 minutes.
4. Please read the instructions carefully before attempting the question.
5. Answer questions in Answer Sheet only.
6. Don't write or tick anything on the question paper.
7. Use only Black or Blue Ball Point Pen to answer the question in Answer Sheet.
8. Submit only answer sheet(s) to the invigilator.

SECTION – I

10 × 1 = 10m

DIRECTIONS : (1 - 10) – Each question contains statements given in two columns which have to be matched. Statements in column A have to be matched with statements in column B and write in the answer sheet.

Column A

1. Changing water to vapour
2. Changing vapour to liquid water

Column B

- A) Solid, liquid, gas
- B) Cloud

- | | |
|--------------------------------------|---------------------|
| 3. Changing solid to vapour directly | C) Rain, snow, hail |
| 4. Evaporation in plants | D) Liquids |
| 5. Forms of precipitation | E) Snow |
| 6. States of water | F) Evaporation |
| 7. Collection of water droplets | G) Condensation |
| 8. Solid form of precipitation | H) Frost |
| 9. Frozen precipitation | I) Transpiration |
| 10. Frozen dew | J) Sublimation |
| | K) Solids |
| | L) Hail |

SECTION – II**10 × 1 = 10m**

DIRECTIONS : (11 - 20) – Read the following statements and write your answer as true or false with reasons or solutions in the answer sheet.

11. Fish are cold blooded vertebrates.
12. A bat is a bird not a mammal.
13. Blood carries food and oxygen to all body parts.
14. Lungs, skin and kidney help in removing waste from the body.
15. Dietary fibres helps our body in growth
16. Germs do not breed in cold storage.
17. Barometer is an instrument used to measure atmospheric pressure.
18. Air rushes from low pressure area to high pressure area.

19. National park is a reserved area for preserving wild life.
20. Twisting increases the strength of the yarns.

SECTION – III

10 × 1 = 10m

DIRECTIONS: (21 - 30) – Complete the following statements with an appropriate word/term to be written in the answer sheet.

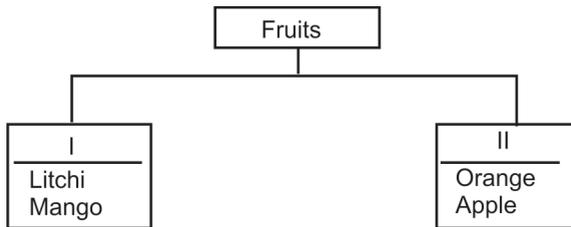
21. Plants obtain energy from _____ .
22. Reptiles and mammals breathe through _____ .
23. Animals give off _____ during respiration for plants.
24. Fibres obtained from _____ give off the smell of burning hair when burnt.
25. _____ is the active part of air that helps in burning.
26. _____ is a good solvent.
27. The person who supervise the construction of a building and ensures the quality of material used is _____
28. Energy that can be obtained from hot interiors of the Earth is _____ energy
29. Honey is rich in _____ .
30. The part of the skelton that protects the brain _____ .

SECTION – IV

10 × 1 = 10m

DIRECTIONS : (31 - 40) – Identify the correct answer from the given options and write in the answer sheet.

31. Study the chart given below.



How are the fruits grouped in the given chart?

	Group I	Group II
a)	Juicy	Dry
b)	Hairy skin	Smooth skin
c)	One seed	Many seed
d)	Edible	Inedible

32. Study the given descriptions about an animal 'X'.

- I. Its skin is scaly and dry
 - II. It has four legs.
 - III. It lays eggs.
 - IV. It uses its sticky tongue to catch insects.
- a) Crocodile
 - b) Turtle
 - c) Lizard
 - d) Frog

33. Study the given diagrams. The diagram A Shows the touch - me - not plant with its leaves opened while diagrams B shows the same touch me not plant with its leaves closed after being touched.



A. Leaves open



B. Leaves closed after being touched

Which of the following characteristics of living things do the diagram show?

- a) Living things need food, air and water
 - b) Living things reproduce themselves
 - c) Living things grow
 - d) Living things can respond to changes in their surroundings.
34. Which of the following organisms is a producer?
- a) Cow
 - b) Grass
 - c) Goat
 - d) Tiger
35. Mohan is having excessive fats in his diet, It may lead to
- a) Kwashiorkor
 - b) Night - blindness
 - c) Weakness
 - d) Obesity

SECTION - V

10 × 2 = 20m

Answer the following Questions (41 - 50)

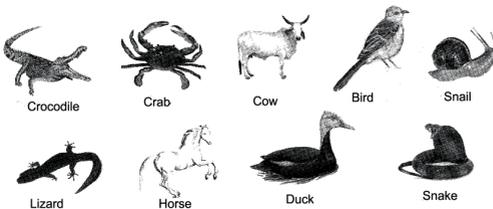
(Concept, Application, Skill based)

41. The functions of the various parts of the plant are given in the box, Complete the blanks using appropriate words given below.

Roots, Stems, Leaves, Branch

<p>(1) _____</p> <p>Functions :-</p> <p>1. Supports branches and leaves</p> <p>2. Carries water to leaves and flowers</p>	<p>(2) _____</p> <p>Functions :-</p> <p>1. Take water from the soil</p> <p>2. Anchor the plant</p>
<p>(3) _____</p> <p>Functions :-</p> <p>1. Makes food for the plant</p> <p>2. Helps the plant to breathe</p>	<p>(4) _____</p> <p>Functions :-</p> <p>1. Spreads the leaves to catch light</p>

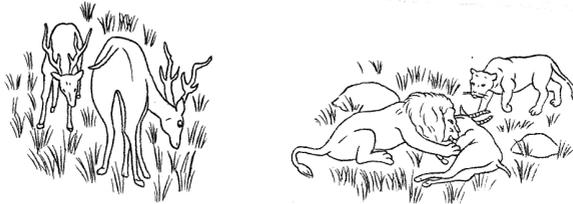
42. Study the given animals.



Write the names of the given animals in the correct groups.

<p>(I) Animals with hair</p> <p>Ans. _____</p>	<p>(ii) Animals with feathers</p> <p>Ans. _____</p>
<p>(iii) Animals with shell</p> <p>Ans. _____</p>	<p>(iv) Animals with scales</p> <p>Ans. _____</p>

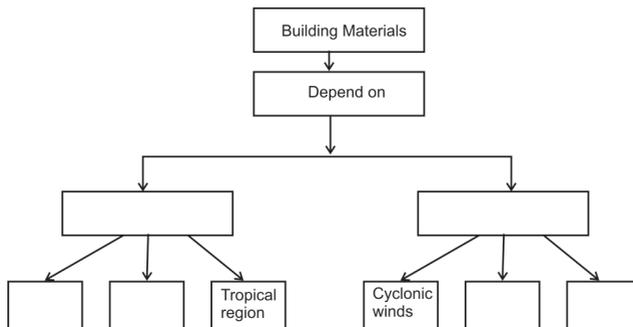
43. Study the diagram given below. The diagram shows some antelopes eating grass and some lions eating antelopes.



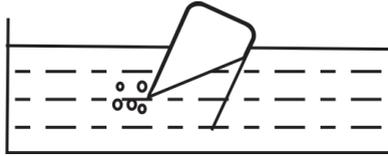
What will happen to the antelopes and lion if there is no rain for a long time and all grasses die ?

44. (a) Is petroleum a renewable or non-renewable resource? Give reason.
 (b) How is petroleum formed?
45. Define the term natural resources, Give one example.
46. Complete the following chart using the words given below.

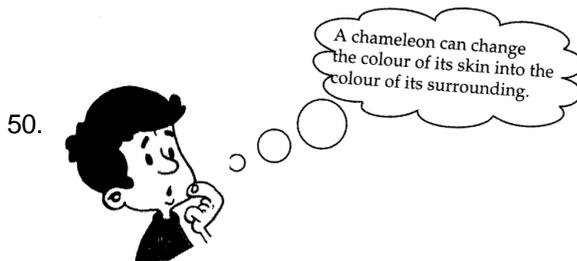
Earthquake, Environment, In equator region, In desert region, Floods, Weather



47. Shyam filled a glass and pushed into a tough of water, He observed bubbles coming out of the glass. Why?



48. A good house should have proper drainage system. What is the use of drains in our house?
49. Make the diagram of a First Aid Box. Make a list of objects to be kept in the box.



Is this feature useful to chameleon? How?

SOLUTIONS TO MODEL PAPER - II**SECTION – I****Match the Following**

- 1) → F; 2) → G; 3) → J; 4) → I;
5) → C; 6) → A; 7) → B; 8) → E;
9) → L; 10) → H

SECTION – II**True / False**

- 11) True 12) False 13) True 14) True
15) False 16) True 17) True 18) False
19) True 20) True

SECTION – III**Fill in the Blanks**

- 21) Sunlight 22) lungs 23) CO₂
24) Animals 25) O₂ 26) Water
27) Builder 28) Geothermal
29) Carbohydrates 30) Skull

SECTION – IV**Multiple Choice Questions**

- 31) c 32) c 33) d 34) b
35) d 36) d 37) c 38) c
39) c 40) c

SECTION – V**Answer the following questions**

41. (1) stem (2) root (3) Leaves (4) branches
42. (i) cow, horse (ii) bird, duck
(iii) crab, snail (iv) crocodile, snake lizard
43. Antelopes will die when there is no more grass and lions will die when there are no more antelopes
44. petroleum is a non - renewable resource
45. Natural resources are the stock of nature such as air, water, coal etc.,
46. Environment, equator region, Desert region
weather, Floods, Earthquake
47. The air inside the glass gets pushed out by the water. The escaping air is seen as air bubbles.
48. Drains take away dirty water and other waste materials from our house to outside
49. Cotton, bandages, antiseptic creams and few medicines
50. This adaptation helps chameleon to escape from its enemies. It also helps chameleon to hide in its surrounding while hunting for its food.