



INTERNATIONAL CATS CONTESTS

COMPETENCE & APTITUDE TESTING SERVICES
FASTEST GROWING CONTESTS IN PAKISTAN

QUESTION BOOKLET



ICATS SCIENCE CONTEST 2019

**GRADE 3 & 4
(KIDS)**

Time Allowed: 75 Mins
Maximum Marks: 75

ICATS SCIENCE CONTEST 2019

KIDS (GRADE 3 & 4)

TIME ALLOWED : 75 MINUTES

MAXIMUM MARKS : 75

TOTAL QUESTIONS : 25 MCQS

INSTRUCTIONS

1. DON'T START ATTEMPTING THE PAPER UNTIL INSTRUCTED BY THE INVIGILATORS.
2. INSTRUCTIONS FROM THE EXAMINATION INVIGILATORS MUST BE CARRIED OUT PROMPTLY.
3. CAREFULLY RECHECK YOUR NAME, FATHER NAME, SCHOOL NAME, ADDRESS ETC AT THE BUBBLE SHEET / ANSWERSHEET.
4. RECORD ALL ANSWERS ON THE BUBBLE SHEET ONLY. SELECT BEST ANSWER FROM THE FOUR GIVEN OPTIONS AND MARK ONLY ONE OPTION IN EACH QUESTION.
5. USE BLUE / BLACK INK TO FILL UP THE CIRCLES FOR YOUR ANSWERS ON THE BUBBLE SHEET. USE OF LEAD PENCIL IS NOT ALLOWED.
6. USE OF ANY HELPING MATERIAL INCLUDING CELL PHONES AND ELECTRONIC DEVICES IS STRICTLY PROHIBITED.
7. EVERY CORRECT ANSWER EARNS THREE POINTS. THERE WOULD BE NEGATIVE MARKING. ONE POINT WOULD BE DEDUCTED FOR EVERY INCORRECT ANSWER.
8. CANDIDATES MAY NOT LEAVE THE EXAMINATION ROOM UNESCORTED FOR ANY REASON, AND THIS INCLUDES USING THE WASHROOM.
9. NO MATERIALS OR ELECTRONIC DEVICES SHALL BE BROUGHT INTO THE ROOM.
10. THERE ARE FIVE CATEGORIES OF THE CONTEST AS UNDER:
 - A. TODDLERS (GRADE 1 & 2)
 - B. KIDS (GRADE 3 & 4)
 - C. JUNIORS (GRADE 5 & 6)
 - D. JUVENILES (GRADE 7 & 8)
 - E. ADOLESCENTS (GRADE 9 & 10 / O-LEVELS)
11. ONLY REGISTERED STUDENTS CAN PARTICIPATE IN THE CONTEST.
12. NO CANDIDATE SHALL TAKE OUT OF THE HALL ANY ANSWER BOOK(S) OR PART OF AN ANSWER BOOK, WHETHER USED OR UNUSED, OR OTHER SUPPLIED MATERIAL.
13. IF A PARTICIPANT DOES NOT UNDERSTAND A WORD OR PHRASE ON THE EXAM PAPER, NEITHER EXAMINER NOR INVIGILATOR IS PERMITTED TO ANSWER.
14. FOR INFORMATION ABOUT UPCOMING CONTESTS OR PROVIDING VALUABLE FEEDBACK, PLEASE VISIT WWW.CATSCONTESTS.ORG
15. ANY ACADEMIC MISCONDUCT OR MALPRACTICE MUST BE REPORTED TO INTERNATIONAL CATS CONTESTS AT INFO@CATSCONTESTS.ORG

Q1. This tool is used to measure



A | time.

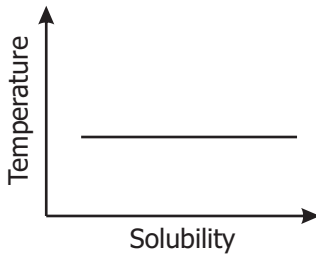
B | temperature.

C | volume.

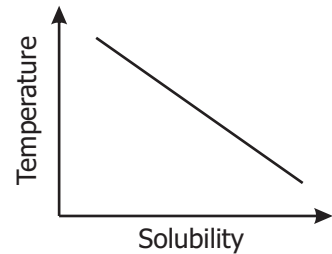
D | mass.

Q2. Soft drinks go “flat” as they warm. Which graph best illustrates the relationship between temperature and the solubility of gases in a soft drink?

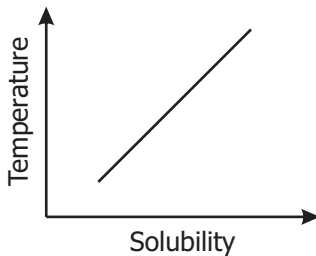
A



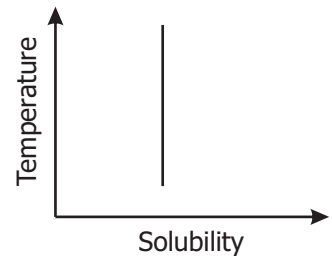
C



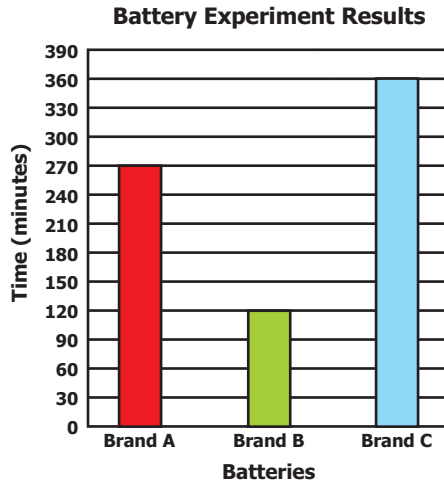
B



D



Q3. Ali tested three brands of batteries to learn which would last the longest in a flashlight. He placed two brand "A" batteries in a flashlight, turned the flashlight on, and measured the time that the light shined. He repeated the experiment with battery brands "B" and "C" using the same flashlight. He recorded the data on the bar graph below.



Which of these is an accurate conclusion that Ali can make about the batteries he tested?

- A** | Brand "C" batteries lasted twice as long as brand "A" batteries.
- B** | Brand "C" batteries lasted three times longer than brand "B" batteries.
- C** | The light was twice as bright with brand "A" batteries than with brand "B" batteries.
- D** | The light shined three times farther with brand "C" batteries than with brand "B" batteries.

Q4. The most appropriate scientific units for measuring the volume of the liquid in the petri dish would be



- A** | milliseconds.
- B** | milliliters.
- C** | millimeters.
- D** | milligrams.

- Q5.** Two substances are mixed in four beakers, and a thermometer is placed in each beaker. The thermometers are checked every minute for five minutes, and the temperature is recorded in the table.

Temperature in Beakers Over Time

Time (minutes)	Beaker A (°C)	Beaker B (°C)	Beaker C (°C)	Beaker D (°C)
0	20	20	20	20
1	21	19	21	20
2	22	18	22	20
3	20	18	23	20
4	20	17	24	20
5	20	16	25	20

Which beaker shows the **greatest temperature change** over five minutes?

A | Beaker A

B | Beaker B

C | Beaker C

D | Beaker D

- Q6.** Use the following information to calculate the volume of an irregularly shaped rock specimen:

- I.** Place 250 ml of water in a graduated cylinder.
- II.** Place the rock specimen in the graduated cylinder.
- III.** The water level in the graduated cylinder then rises to a level of 318 ml.

The volume of the rock specimen is

A | 68 ml

B | 250 ml

C | 318 ml

D | 568 ml

Base your answers to questions 7 and 8 on the information below.

One hot summer day, it rained very heavily. After the rain, a plastic pan on a picnic table had 2 cm of rainwater in it. Four hours later, all the rainwater in the pan was gone.

Q7. Which process caused the rainwater in the pan to disappear as it sat outside in the hot air?

A | condensation

B | evaporation

C | precipitation

D | erosion

Q8. If the day were cool instead of hot, the rainwater in the pan would have disappeared:

A | slower

B | faster

C | in the same amount of time

D | Never

Q9. Temperatures below freezing are expected overnight. What might be done to protect plants growing outside?

A | trim the leaves

B | weed them

C | cover them

D | give them plant food

Q10. A student reaches one hand into a bag filled with smooth objects. The student feels the objects but does not look into the bag. Which property of the objects can the student most likely identify?

A | shape

B | color

C | ability to reflect light

D | ability to conduct electricity

Q11. A student has a ball of clay that sinks when placed in a pan of water. Which property should he change to make the clay float?

A | color

B | texture

C | mass

D | shape

Q12. The diagram below shows an incomplete electrical circuit that includes a battery, a bulb, and three wires labeled A, B, and C.

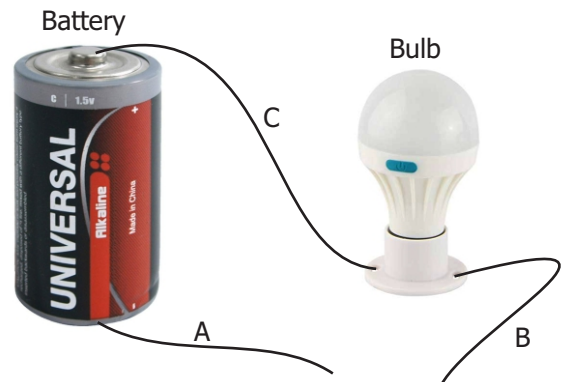
The bulb is not lit. What should be done in order to light the bulb and complete the circuit?

A | Remove wire C.

B | Remove the battery.

C | Connect wires B and C.

D | Connect wires A and B.



Q13. Fourth graders are planning a roller-skate race. Which surface would be the best for this race?

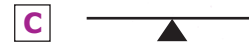
A | gravel

B | sand

C | blacktop

D | grass

Q14. Two objects of the same mass are going to be placed the same distance from the support of a balance beam. Which diagram shows where the support should be placed under the beam so the objects will balance?



Q15. A dog opens its mouth and lets its tongue hang out. A human's body produces sweat. These are two ways that organisms may adjust to

A | cold temperatures

C | a shortage of food

B | hot temperatures

D | a shortage of drinking water

Q16. Which animal is preparing for a seasonal change in the environment?

A | a bat flying at night

C | an owl eating a mouse

B | a deer drinking water

D | a squirrel storing nuts

Q17. The illustration below shows a student approaching the door to a building.



Which two simple machines are being used to enable the student to reach the door?

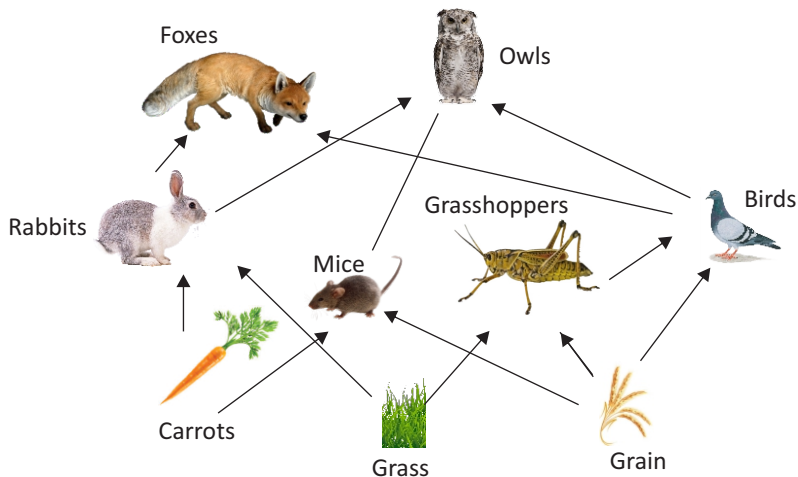
A | inclined plane and pulley

C | pulley and lever

B | lever and wheel-and-axle

D | wheel-and-axle and inclined plane

Base your answers to questions 18 through 20 on the food web below and your knowledge of science.



(Not drawn to scale)

Q18. What is the role of the foxes in this food web?

A | carnivore

B | herbivore

C | decomposer

D | producer



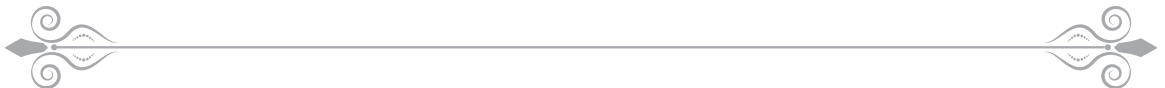
Q19. Which organisms in this food web are omnivores?

A | birds

B | grasshoppers

C | carrots

D | rabbits



Q20. Which statement would be true if the owl population disappeared?

A | The mouse population would increase.

B | The carrot population would increase.

C | The fox population would decrease.

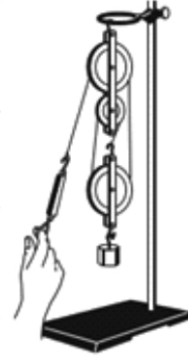
D | The rabbit population would decrease.

Q21. Which setup below would require the least force to lift a 100-gram mass a distance of 10 centimeters?

A



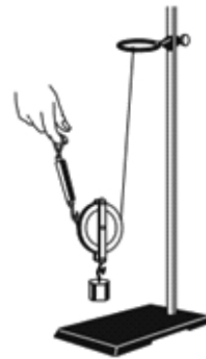
C



B



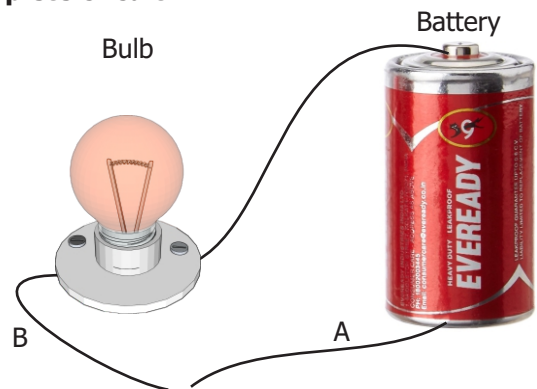
D



Q22. The diagram below shows an incomplete circuit.

Which item would allow the bulb to light up if it were used to connect point A to point B?

- A** | a glass rod
- B** | a metal coin
- C** | a plastic comb
- D** | a paper cup



Q23. The functions of a plant roots are to support the plant and

A | make food

B | produce fruit

C | take in water and nutrients

D | aid in germination



Base your answers to questions 24 and 25 on the table below and on your knowledge of science. The table shows the weather conditions in a city at noon for five days in March.

Weather Conditions at Noon for Five Days in March

Day	Temperature	Sky Condition	Snow
Monday	31°F	partly cloudy	none
Tuesday	31°F	cloudy	$\frac{1}{2}$ inch
Wednesday	29°F	mostly cloudy	2 inches
Thursday	18°F	cloudy	3 inches
Friday	32°F	clear	none

Q24. Which statement describes what happened to the temperature at noon from Tuesday through Friday?

A | It increased, only.

C | It increased then decreased.

B | It decreased, only.

D | It decreased then increased.



Q25. What was the sky condition on the day with the most snow?

A | clear

B | cloudy

C | partly cloudy

D | mostly cloudy

ICATS English Linguistics Contest 2019 National Toppers

Student Name	Father Name	Grade	School	City
AMATULLAH	ADNAN	1	MSB EDUCATIONAL INSTITUTE	KARACHI
MUHAMMAD MOHSIN	WAHEED SHEHZAD	1	RANGERS PUBLIC SCHOOL FOR BOYS	LAHORE
ZAIN-UL-ABIDIN	INAM-ULLAH	2	ARMY PUBLIC SCHOOL GARRISON JUNIOR	LAHORE
MUHAMMAD ASIS JAVED	MUHAMMAD SHAHEER JAVED	3	THE CITY SCHOOL CHASHMA BRANCH	MIANWALI
AYESHA SIDDIQUI	M. ASHRAF UL KABIR SIDDIQUI	4	THE CITY SCHOOL GULSHAN JUNIOR CAMPUS	KARACHI
AYESHA FAISAL	FAISAL EHSAN	5	LAHORE GRAMMAR SCHOOL LANDMARK PROJECT	LAHORE
ASAD IMRAN	M. IMRAN	6	THE CITY SCHOOL CANTT CAMPUS II	QUETTA
MANAAL TARIQ	DR. TARIQ MEHMOOD	7	THE CITY SCHOOL GIRLS CAMPUS	SIALKOT
FIZZA RIZVI	ALI ABBAS RIZVI	8	HABIB GIRLS SCHOOL	KARACHI
LAMISAH BEHRAM KHAN	BEHRAM BASHIR KHAN	9	LAHORE GRAMMAR SCHOOL	ISLAMABAD
FAIZ UL HASSAN GILANI	GHULAM UL HUSSAIN GILANI	10	THE CITY SCHOOL TOWN SENIOR SECTION	PESHAWAR

ICATS Mathematics Contest 2019 National Toppers

Student Name	Father Name	Grade	School	City
HIBA MALIK	BILAL MALIK	1	KOHSAR CHILDREN'S ACADEMY	MANSEHRA
DURYAB ZAHRA	MUHAMMAD RASHID	1	BEACONHOUSE HAFIZABAD	HAFIZABAD
ABDUL RASHEED	ABDUL WAHEED	2	ARMY PUBLIC SHOOOL & COLLEGE SYSTEM SADDAR CAMPUS	KARACHI
BURHANUDDIN	M. ALI ASGHER SAMIWALA	2	MSB EDUCATIONAL INSTITUTE	KARACHI
M. HUMMAS	M. SHAKIL	3	DEFENCE HOUSING AUTHORITY COLLEGE AND SCHOOL SYSTEM	KARACHI
EHAN QURESHI	ASSADULLAH QURESHI	4	FFC GRAMMAR SCHOOL AND COLLEGE	MIRPUR MATHELO
MAHAD ABID	M. HARIIS UMER	5	THE CITY SCHOOL CHENAB CAMPUS	FAISALABAD
UROOJ AJMAL	AJMAL IBRAHIM	6	KIPS SCHOOL	LAHORE
MUHAMMAD SALAMAT	SADAT MEHMOOD	7	GARRISON ACADEMY TUFAIL SHAHEED CAMPUS (SENIOR)	LAHORE
ABDULLAH JUNAID KHAN	ABDUL RAUF	8	THE SCIENCE SCHOOL	ISLAMABAD
SAAD ALI HASSAN	ABDUL HAYEE	8	THE SCIENCE SCHOOL	RAWALPINDI
DANIYAL KALEEM SHEIKH	MUHAMMAD KALEEM	9	ROOTS IVY INTERNATIONAL SCHOOL IB CAMPUS	RAWALPINDI
AHMED ALI	AUN ALI	10	MSB EDUCATIONAL INSTITUTE	KARACHI

COMPETE if you are
the **BEST**