| Division P LEVEL 2 (Year 5 & 6) | ASIAN SCIENCES OLYMPIAD 2018 CONTEST | |
|---|---|---|

| | | |
|---|---|---|
| **Full Name** | **Year:** | |
| **IC No:** | **Date:** | **Time:** |
| **School Name:** | **School Code:** | |

# Rules and Regulations

**(Please read these rules and regulation carefully)**

1. Please fill in your **FULL name** correctly, IC no, school name, school code (if available) and the date and time of contest clearly in the spaces above. Those who do not fill in the required particulars will be disqualified automatically.
2. Do not open the question booklet until you are told to do so.
3. No calculators and any unauthorized electronic devices (including mobile phones) are allowed during the contest.
4. Strict silence must be observed at all times in the examination hall and please be reminded that you **MAY NOT** leave your seat without permission.
5. If you have any request or enquiry, please raise your hand and wait for an invigilator.
6. Only one candidate is allowed to leave the hall at a time. You are required to return to the hall within 10 minutes or else you will automatically be disqualified from the contest.
7. Each question in the contest have been verified by experienced trainers, thus no further explanation will be given.
8. The time allowed for the paper is **60 minutes**. You must stop writing when you are told to do so.
9. You **MUST** fill in your answer in the answer sheet provided in second page of the question booklet. You will not be awarded marks for any answer written in the question booklet.
10. Please be reminded that this is a contest and not an examination, try your level best to answer all questions within the prescribed time.
11. **Please tear off the answer sheet carefully and returned to invigilator along with contest paper. Participant only can bring back the contest papers on next week.**

**Scoring System**

1. For **Question 1- 10, 3 marks** will be awarded for each correct answer.
   For **Question 11- 20, 4 marks** will be awarded for each correct answer.
   For **Question 21- 25, 6 marks** will be awarded for each correct answer.
   However, you will **NOT** be penalized for each incorrect answer.
2. The organizer reserves the right to disqualify the event of malpractice to differentiate between those outstanding students.
3. Contestants or a team who are disqualified from the contest will be forfeited any right to re-sit this year.

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LIVEWORKSHEETS

Division
P
LEVEL 2
(Year 5 & 6)

# 2018
# ANSWER SHEET

| | | | | |
|---|---|---|---|---|
| 1 | 6 | 11 | 16 | 21 |
| 2 | 7 | 12 | 17 | 22 |
| 3 | 8 | 13 | 18 | 23 |
| 4 | 9 | 14 | 19 | 24 |
| 5 | 10 | 15 | 20 | 25 |

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**Question 1-20 are Multiple Choices Questions.**

| System | Organ |
|---|---|
| X | Skin, lung |
| Y | Vein, heart |
| Z | Uterus, ovary |

1. The table above shows organs for systems X, Y and Z. Which of the following systems are represented by X, Y and Z?

| | X | Y | Z |
|---|---|---|---|
| A. | Blood circulatory | Reproductive | Excretory |
| B. | Digestive | Nervous | Reproductive |
| C. | Excretory | Blood circulatory | Reproductive |
| D. | Nervous | Digestive | Excretory |

(3 Marks)

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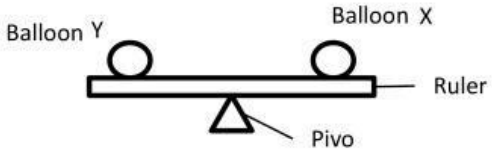
2. Which of the following cell parts can only be found in plant cells?

I Cytoplasm
II Cell wall
III Cell membrane
IV Chloroplast

A. I and III only
B. II and IV only
C. I, II and IV only
D. II, III and IV only

(3 Marks)

---




3. The pivot in figure above is in equilibrium at the start of the experiment. What happens to the ruler if balloon X is burst by puncturing it with a needle?

A. The ruler slopes to the left.
B. The ruler slopes to the right.
C. The ruler will still be in equilibrium.
D. The ruler swings from left to right.

(3 Marks)

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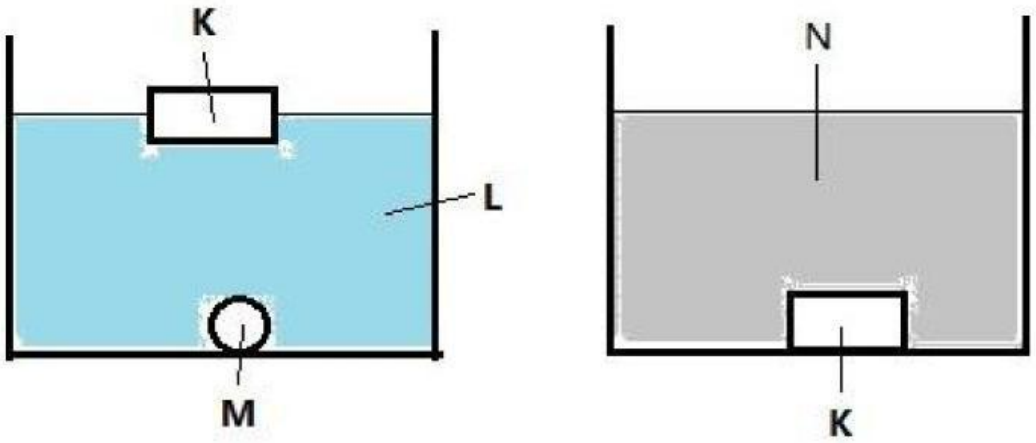
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| Medium | Rate of diffusion |
|---|---|
| X | The fastest |
| Y | The slowest |
| Z | Moderate speed |

4. Table above shows the medium and the rates of diffusion of the particles in the medium. Which of the following represents X, Y and Z?

| | X | Y | Z |
|---|---|---|---|
| A. | gas | solid | liquid |
| B. | liquid | solid | gas |
| C. | solid | liquid | gas |
| D. | gas | liquid | solid |

(3 Marks)




5. Figure above shows an experiment that is carried out to study the densities of substances. Which of the following shows the sequence of increasing densities?

A. K, L, M, N

B. L, N, K, M

C. M, L, K, N

D. N, K, L, M

(3 Marks)

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LIVEWORKSHEETS

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Food + X → carbon dioxide + water

6. Equation above is for a chemical reaction that takes place in the body of a type of living thing.Which of the following resource is substance X?

A. Water

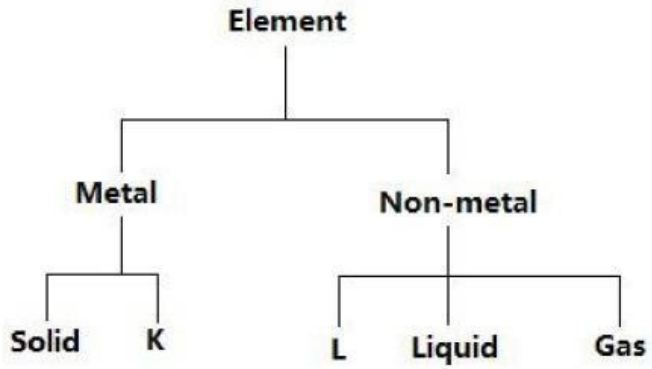
B. Soil

C. Air

D. Living things

(3 Marks)

---




7. Figure above shows the classification of elements into metals and non-metals. Which of the following substances represent K and L?

| | K | L |
|---|---|---|
| A. | Sodium | Iodine |
| B. | Mercury | Phosphorus |
| C. | Carbon | Chlorine |
| D. | Mercury | Bromine |

(3 Marks)

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| Gas | Percentage in the air(%) |
|---|---|
| W | 78 |
| X | 0.03 |
| Y | 1 |
| Z | 21 |

8. Table above shows the percentage of gases W, X, Y and Z in the air. Which of the gases is needed for combustion?

| I. W | II. X | III. Y | IV. Z |
|---|---|---|---|

A. II only
B. IV only
C. I and III only
D. II and IV only

(3 Marks)

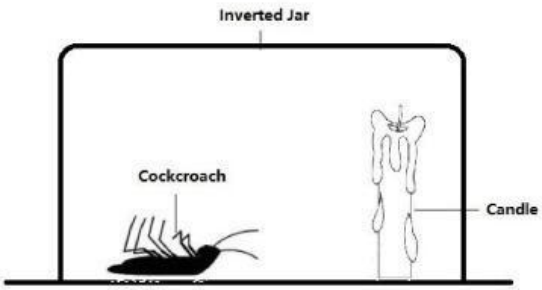
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9. A student is 50cm in front of a plane mirror and then he walks 10cm forward. What is the distance between the image of student and himself?

A. 40cm
B. 60cm
C. 80cm
D. 100cm

(3 Marks)

---




10. Figure above shows a dead cockroach. What might have caused its death?

A. The cockroach is killed by the heat of from candle.
B. The cockroach dies from hunger.
C. The cockroach dies from suffocation.
D. The cockroach dies after reaching its maximum life span.

(3 Marks)

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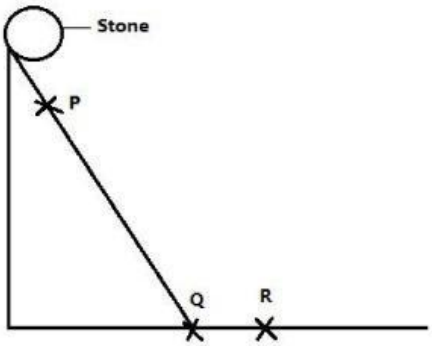
Carbon + oxygen $\xrightarrow{burning}$ Y

11. Based on the equation above, which of the following is the use of gas Y?

A. It is used to fill gas tanks used by astronauts
B. It is used to fill fire extinguishers
C. It is used to burn fuel
D. It is used to fill the meteorological balloons

(4 Marks)

---




12. A stone rolls from the top of a slope to the bottom as shown in figure above. At which point does the stone have kinetic energy?

| I.P | II.Q | III. R |
|---|---|---|

A. I only
B. I and II only
C. II and III only
D. I, II and III

(4 Marks)

---

13. Light years is a unit used to measure _____?

A. Distance
B. Time
C. Number of years
D. Intensity

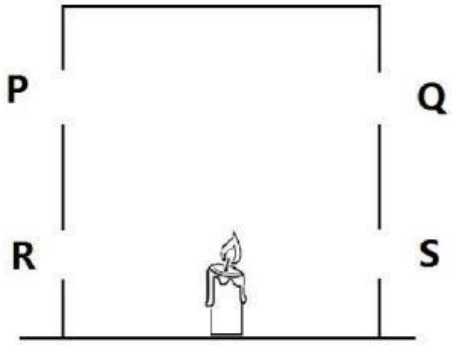
(4 Marks)

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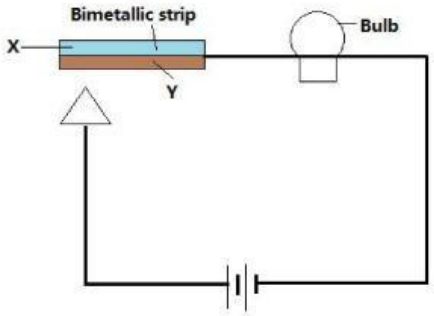



14. Figure above shows a lighted candle in a tin with four openings, P, Q, R and S. The candle will light up brightly if…

I. P and Q are closed while R and S are opened
II. P and S are opened while Q and R are closed
III. Q and R are opened while P and S are closed
IV. Q is opened while P, R and S are closed

A. I and II only
B. II and III only
C. III and IV only
D. I, II and III only

(4 Marks)




15. Figure shows a model of an automatic fire alarm. Which of the following is true of the automatic fire alarm?

A. Metal Y does not expand when heated
B. Metal Y is a poor conductor of heat
C. Electric current flows faster in metal X
D. Metal X expands more than metal Y

(4 Marks)

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Division P
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# ASIAN SCIENCES OLYMPIAD 2018 CONTEST

| Type of food | Calorific value (kJ) |
|---|---|
| rice | 1500 |
| chicken egg | 700 |
| papaya | 160 |

16. Table above shows 3 types of food and their calorific values in 100g. A student eats 200g of rice, 100g of chicken egg and 50g of papaya for breakfast. How much calorific value has he consumed?

A. 350kJ

B. 450kJ

C. 2360kJ

D. 3780kJ

(4 Marks)

---

17. Which of the following processes takes place in the large intestine?

| I. Reabsorption of water | II. Defecation | III. Digestion of food |
|---|---|---|

A. II only

B. I and II only

C. II and III only

D. I, II and III only

(4 Marks)

---

| Non-flowering plant | Characteristic |
|---|---|
| P | Has chlorophyll |
| Q | Produces spores |

18. Table above shows two types of non-flowering plants and their characteristics. Which of the following are presented by P and Q?

| | P | Q |
|---|---|---|
| A. | Moss | Yeast |
| B. | Moss | Spirogyra |
| C. | Fern | Mushrooms |
| D. | Yeast | Fern |

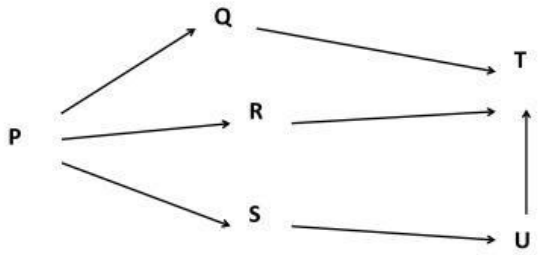
(4 Marks)

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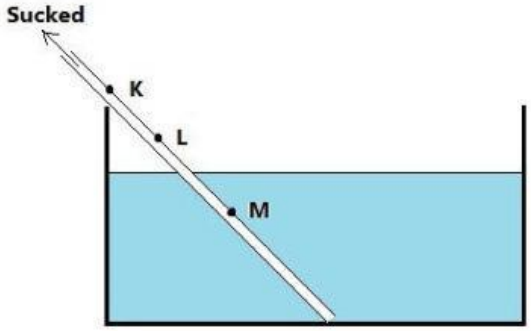



19. Figure above shows a food web. Which of the following organisms are the greatest and least in number?

| | Greatest in number | Least in number |
|---|---|---|
| A. | P | T |
| B. | Q | T |
| C. | S | R |
| D. | T | P |

(4 Marks)

---




20. A hole is pierced at which point K, L or M as shown in figure above, will prevent water from flowing up from the beaker?

| I. K | II. L | III. M |
|---|---|---|

A. I only

B. I and II only

C. II and III only

D. I, II and III

(4 Marks)

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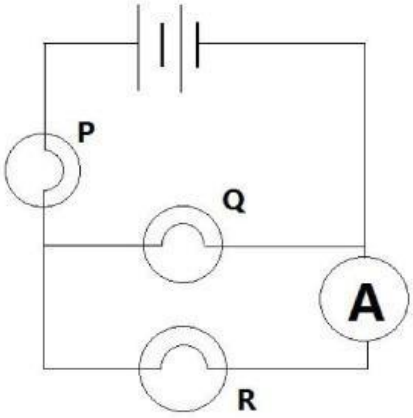
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**Question 21-25 are Short Answer Questions.**

Answers questions 21 and 22 based on your knowledge.




21. Figure above shows a circuit that a student set up, using identical bulbs, P, Q and R. After some time, bulb Q fuses. Which of the following will happen?

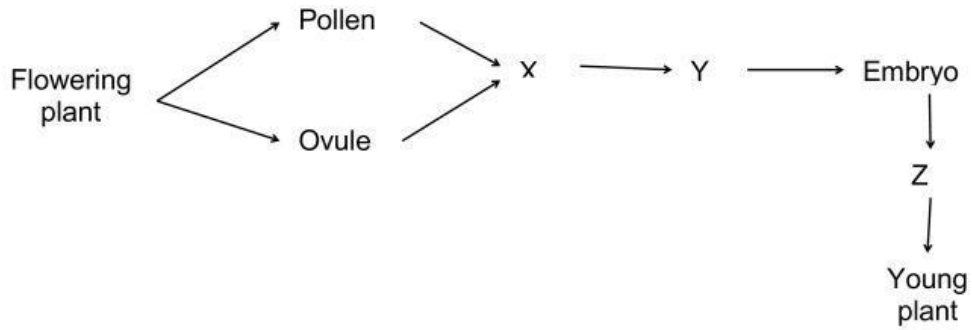
I. Bulbs P and R will continue to light up

II. The ammeter reading remains the same

III. Bulb R glows very brightly then fuses

Answer _____ (6 Marks)

---




22. Flow chart above shows the sexual reproduction of flowering plants with process X, Y and Z not stated. What is formed at process Y?

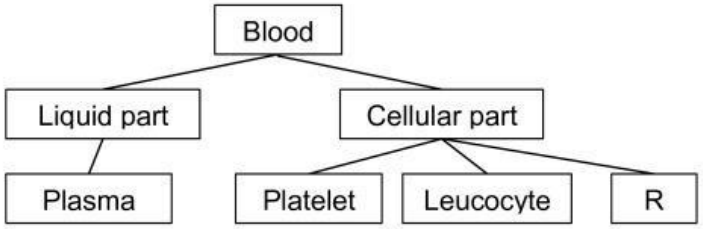
Answer: _____ (6 Marks)

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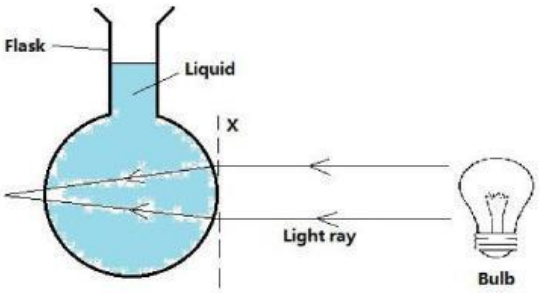
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23. What is the function of R?

Answer : _____ (6 Marks)

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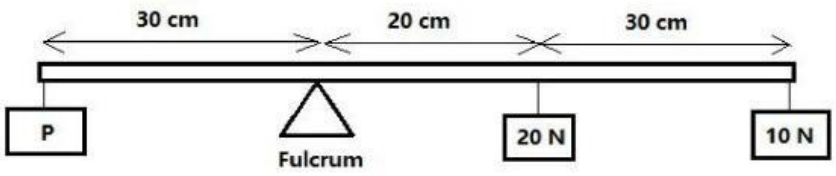



24. Figure above shows an experiment carried out to show the formation of an image on a model of the eye. At a certain position, the light ray focus behind the wall of flask. Which of the following can be done so that light rays are focused on the wall of flask?

I. Place a convex lens at X
II. Place a concave lens at X
III. Change to liquid with higher density
IV. Change to liquid with lower density

Answer : _____ (6 Marks)

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25. Figure above shows a balanced lever system. What is the load of P?
*Hint: Force x Distance = Moment of force*

Answer. _____ (6 Marks)

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## THE END

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