

# GRADE - 9

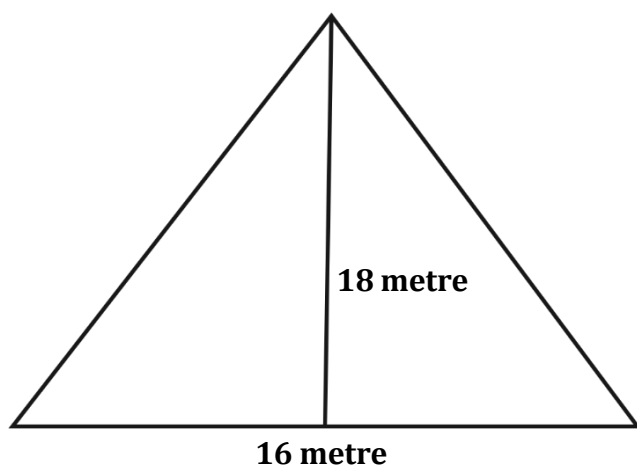
## Practice questions -Competency Assessments

### MATHEMATICS

**Q1** A book shop owner sold 60% of the books and still has 540 books. What is the total number of books he originally had?

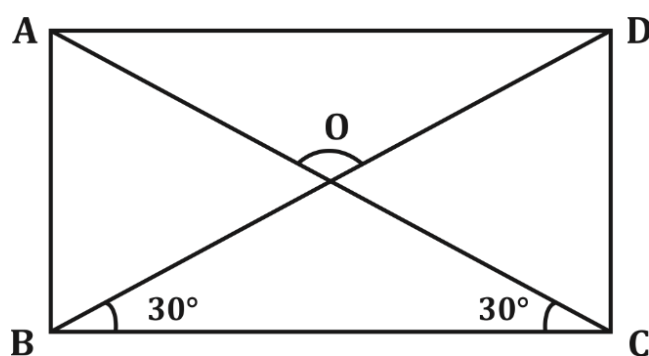
- A. 900
- B. 810
- C. 1100
- D. 1350

**Q2** Find the area of given figure.



- A. 144 square metre
- B. 288 square metre
- C. 216 square metre
- D. 128 square metre

**Q3** From the given figure, find the measure of  $\angle AOD$ .



- A.  $60^\circ$
- B.  $120^\circ$
- C.  $140^\circ$
- D.  $30^\circ$

**Q4** A number is added to 8, and the result is then multiplied by 5. If the final answer is 70, find the original number.

- A. 10
- B. 14
- C. 6
- D. 4

**Q5** Find the coefficient of  $x^2$  in the given expression.

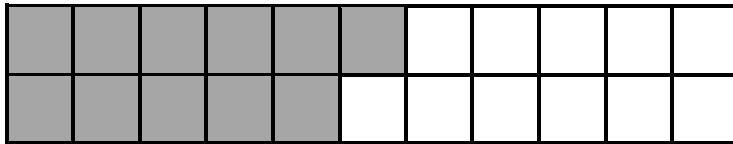
$$2x^2 - 3xy + 5$$

- A. 2  
B. 3  
C. 4  
D. 5

**Q6** A boy is twice as old as his sister. If his sister is  $x$  years old what is the age of the boy?

- A.  $2x$  years  
B.  $2+x$  years  
C.  $x/2$  years  
D.  $x-2$  years

**Q7** In the figure given, find the percentage of region shaded.



- A. 25%  
B. 50%  
C. 60%  
D. 35%

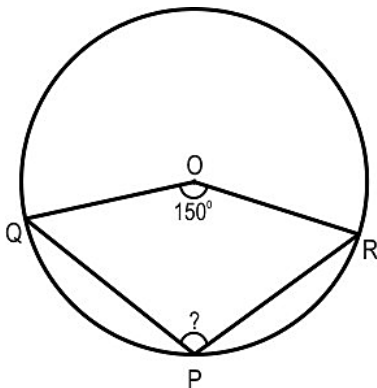
**Q8** Which is smallest rational number?

- A.  $-9/5$   
B.  $-4/5$   
C.  $-5/9$   
D.  $-9/8$

**Q9** For which of these values of  $x$  and  $y$  is  $2x - 3y = 3x - 2y$ ?

- A.  $x = 1, y = -1$   
B.  $x = 2, y = 0$   
C.  $x = 0, y = 1$   
D.  $x = 1, y = 1$

**Q10**  $O$  is the centre of the circle shown below.



- A.  $30^\circ$   
B.  $105^\circ$   
C.  $120^\circ$   
D.  $150^\circ$

**Q11** Charisma has simplified an expression as shown below.

$$\begin{aligned} & \frac{6\sqrt{2} - 3\sqrt{8} + 5\sqrt{8} - 4\sqrt{2}}{2} \\ = & \frac{2\sqrt{2} + 2\sqrt{8}}{2} \dots\dots\dots (\text{Step 1}) \\ = & \frac{2(\sqrt{2} + \sqrt{8})}{2} \dots\dots\dots (\text{Step 2}) \\ = & \sqrt{2} + \sqrt{8} \dots\dots\dots (\text{Step 3}) \\ = & \sqrt{10} \dots\dots\dots (\text{Step 4}) \end{aligned}$$

**In which step has she made an error?**

- A. Step 1, because  $-3\sqrt{8} + 5\sqrt{8} \neq 2\sqrt{8}$
- B. Step 2, because  $2\sqrt{2} + 2\sqrt{8} \neq 2(\sqrt{2} + \sqrt{8})$
- C. Step 4, because  $\sqrt{2} + \sqrt{8} \neq \sqrt{10}$
- D. There is no error.

**Q12** In which of the following cases would the volumes of cone and cylinder be DIFFERENT?

- A. Radii are the same and the height of the cone is 3 times the height of the cylinder.
- B. Heights are the same and the radius of the cone is  $\sqrt{3}$  times the radius of the cylinder.
- C. Heights are the same and the radius of the cone is 3 times the radius of the cylinder.
- D. Height of the cone is  $1/3$  the height of the cylinder and radius of the cone is 3 times the radius of the cylinder.

**Q13** What number should come in the box to make the following statement true?

$$3^4 + 3^2 = 9 \times \square$$

- A. 4
- B. 9
- C. 10
- D. 81

**Q14** In which of the following equations will the value of y decrease as the value of x increases?

- A.  $y = x/3$
- B.  $y = x - 1$
- C.  $y = 5 - 2x$
- D.  $y = 2x - 15$

**Q15** Ekta has to run an average of 12 kms per day every week to prepare herself for the marathon race she is participating in. She ran a total of 36 kms over the first 4 days, and could not run on the 5th day.

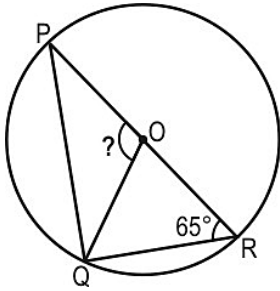
**What is the average number of kms she needs to run on the remaining days of the week to achieve the weekly average target of 12 kms per day?**

- A. 12 kms
- B. 16 kms
- C. 24 kms
- D. 48 kms

**Q16**  $3^{20} + 3^{20} + 3^{20} =$

- A.  $9^{60}$
- B.  $9^{20}$
- C.  $3^{60}$
- D.  $3^{21}$

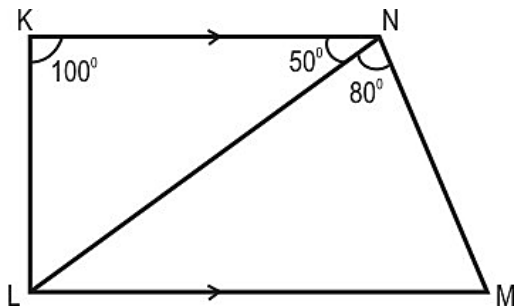
**Q17**



PR is the diameter of the circle with centre O. If the measure of  $\angle PRQ = 65^\circ$ , what will be the measure of  $\angle POQ$ ?

- A.  $90^\circ$
- B.  $115^\circ$
- C.  $130^\circ$
- D.  $150^\circ$

**Q18** In the quadrilateral KLMN shown below, KN is parallel to LM.



The sides of the quadrilateral KLMN in increasing lengths are \_\_\_\_\_ .

- A. KL, KN, MN, LM
- B. KN, KL, MN, LM
- C. MN, KL, KN, LM
- D. KN, MN, KL, LM

**Q19** Complete the following pattern:

$21 + 23 + 25 + 27 + 29 = ?$

- A.  $3^3$
- B.  $4^3$
- C.  $5^3$
- D.  $6^3$

**Q20** Find the value of the given expression when  $p = -3$ .

$5p^3 - p^2 + 8p - 1$

- A. 153
- B. -149
- C. 149
- D. -169

# ENGLISH

Read the poem given below and answer the questions that follow.

## I Asked The Little Boy Who Cannot See

I asked the little boy who cannot see,  
"And what is colour like?"  
"Why green," said he,  
"Is like the rustle when the wind blows through  
The forest; running water, that is blue;  
And red is like a trumpet sound; and pink  
Is like the smell of roses; and I think  
That purple must be like a thunderstorm;  
And yellow is like something soft and warm;  
And white is a pleasant stillness when you lie

**Q1** What does the poem tell us about the little boy?

- A. He is an artist.
- B. He is colour blind.
- C. He is very imaginative.
- D. He is pretending to be blind.

**Q2** How many colours have been mentioned in the poem?

- A. five
- B. three
- C. seven
- D. eight

**Q3** Which of the following has been used the most to describe the colours?

- A. music
- B. nature
- C. dream
- D. happiness

**Q4** Which word in the poem means 'the sound made by the movement of leaves, paper, etc.'?

- A. blow
- B. rustle
- C. dream
- D. trumpet

**Q5** Which colour is described 'like the smell of roses'?

- A. red
- B. pink
- C. yellow
- D. purple

**"Read the given passage and answer the questions below"**

### **Discus Throw**

Discus Throw is one of the oldest individual sports. It was a popular event in the Olympic Games of the ancient Greeks.



Athletes, in ancient times, threw a discus made of stone or metal, while the discus used today is a round plate of wood or other material that is tapered at the edge and has a smooth metal rim. Men's discus is 21.9 cm in diameter, 4.4 cm thick at the centre and weighs 2 kilograms. Women's discus is 18 cm in diameter, 3.7 cm thick at the centre and weighs 1 kilogram.

Athletes throw the discus from a circle of diameter 2.5 metres. They hold the discus in the palm of one hand, the ends of the fingers curling around the rim, then whirl in a complete turn to gather speed and power, and hurl the discus at the end of another half turn. The fingertips spin the discus as it leaves the athlete's hand and it flies through the air in a fairly flat position.

Judges measure the throw from the inside edge of the circle to the nearest point at which the discus struck the ground. If the thrower steps on the circle or touches the ground outside the circle before the discus strikes the ground, the throw is not counted.

**Q6** The ancient discus was made of \_\_\_\_\_.

- A. stone only
- B. stone or wood
- C. metal or wood
- D. metal or stone

**Q7** The athlete takes a complete turn in order to \_\_\_\_\_.

- A. focus on the direction towards which the discus has to be thrown
- B. gain momentum to throw the discus as far as possible
- C. coordinate the legs, body and arms, while throwing the discus
- D. learn to use only one leg when throwing the discus

**Q8** According to the passage, which of these statements is true?

- A. Athletes throw the discus from a raised spot.
- B. The discus has a smooth metallic surface.
- C. The present day discus is made up of wood alone.
- D. Women's discus is fairly thinner than men's discus.

**Q9** The word "tapered" in the passage means the same as "\_\_\_\_\_".

- A. faded
- B. pointed
- C. narrowed
- D. Weakened

**Q10** Complete the sentence correctly based on the information given in the passage.

If the thrower steps on the circle, \_\_\_\_\_.

- A. his throw is disallowed
- B. he is booked for foul play
- C. he is disqualified from the competition
- D. his next throw is not considered as a penalty

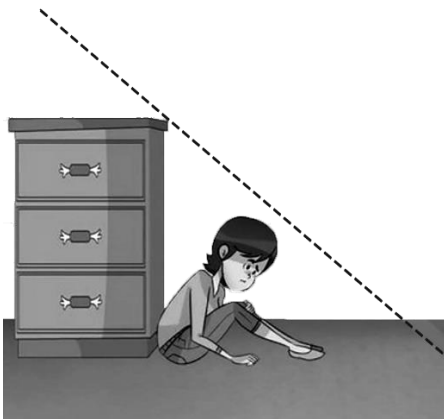
Read the given poster and answer the questions.

### Stay Safe During an Earthquake

Don't panic,  
keep calm



Get next to a large, bulky object.  
Curl up in a fetal position. Find a  
triangle of life



Stop, drop, cover and hold on



Have a plan

Talk about earthquakes with your family. Make an EMERGENCY PLAN FOR what to do in case of an earthquake. Discussing ahead of time helps reduce fear, particularly for younger children.



Prepare in Advance  
Make a survival kit

- ✓ Water
- ✓ Non-perishable food
- ✓ Torch
- ✓ Whistle
- ✓ Extra batteries
- ✓ First aid kit
- ✓ Medications
- ✓ Multi-purpose tool
- ✓ Sanitation and personal hygiene items



### An Earthquake Story

The ground shook violently, sending tremors through the building. Priya froze, unsure of what to do. Then she remembered the school drill about the "triangle of life" and quickly dropped to the floor beside her bed. She curled up into a tight ball, protecting her head with her arms. The shaking continued for what seemed like an eternity, but Priya stayed put, her heart pounding in her chest.

Finally, the tremors subsided. Priya cautiously crawled out from under her bed, relieved to find her family safe. She had learned an important lesson that day – being prepared can save lives. The triangle of life, a simple technique of finding shelter next to sturdy objects during an earthquake, had protected her.

**Q11** What did Priya do when she felt the earthquake?

- A. Ran outside
- B. Hid under a table
- C. Dropped to the floor beside her bed
- D. Screamed for help

**Q12** Why did Priya feel relieved after the earthquake was over?

- A. She had successfully practised the "triangle of life" technique.
- B. She was happy the earthquake was over.
- C. She found her family safe and unharmed.
- D. She was excited to tell her friends about her experience.

**Q13** Why does the poster suggest that you include a torch and extra batteries in your survival kit?

- A. Because earthquakes usually happen at night
- B. Because earthquakes often cut off the supply of electricity
- C. Because you can sell these items to your neighbours after an earthquake
- D. Because you can play with the torch if you are bored

**Q14** Why is it important to have a family discussion about earthquakes before they happen, according to the poster?

- A. To learn interesting facts about earthquakes
- B. To practice different survival techniques
- C. To reduce fear and prepare everyone for what to do
- D. To educate people in how to prevent earthquakes

**Q15** How is the earthquake story intended to increase the effectiveness of the poster?

- A. By providing a relatable story about using the techniques mentioned in the pamphlet
- B. By explaining some of the technical language used in the pamphlet
- C. By adding new information that was left out of the pamphlet
- D. By suggesting that earthquakes are not as dangerous as many people think they are



**Read the given passage and answer the questions.**

I love getting lost in the world of books. Oh, I mean the public library in my town. As you enter, you see tall shelves full of books. Quite overwhelming, I would say. But then, you'll find people who can help you out.

My librarian can locate any book I need for my school project and suggest good recommendations as well. He also organises fun events like book clubs and storytelling sessions for children. Those are quite popular for sure! The librarian also keeps things in order and makes sure the books are returned to the right place.

Recently though, it seems like libraries are attracting fewer people. Maybe they aren't reading as much or perhaps they don't have the time to read. It's a bit sad because libraries used to be a community space where people with shared interests could gather and have discussions. Losing libraries means losing that valuable connection.

So, it's important for all of us to keep reading and to encourage others to do the same. Libraries aren't just about books; they're about bringing people together and sparking imagination.

**Q16 What does the author find overwhelming?**

- A. Talking to the librarian
- B. Seeing the tall shelves full of books
- C. Doing research for school projects
- D. Meeting people at libraries

**Q17 As per the passage, what does the librarian NOT do?**

- A. Make school projects for children.
- B. Host book clubs at the library.
- C. Organise sessions for children.
- D. Suggest interesting books to read.

**Q18 As per the passage, what would happen if libraries were to disappear?**

- A. The public library will be turned into a bookstore.
- B. Children will start reading more books.
- C. Children won't have books for school projects.
- D. The community space for discussions will disappear.

**Q19 What evidence does the passage have to suggest libraries aren't as popular anymore?**

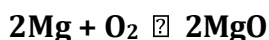
- A. People find libraries too old-fashioned.
- B. Libraries aren't hosting book clubs anymore.
- C. Fewer people are visiting libraries.
- D. Libraries don't have a good variety of books.

**Q20 Which statement is true as per the passage?**

- A. Libraries are a community space to promote musical interests.
- B. Visitors find it difficult to find good books at libraries.
- C. The decline in library visitors is because of high membership fees.
- D. Librarians are important for keeping libraries alive and active.

# SCIENCE

**Q1** What will happen to the blue litmus paper if the product of the reaction specified below is poured on the paper?



- A. It will turn red
- B. It will remain blue
- C. It will turn green
- D. It will turn pink

**Q2** Based on the given atmospheric pressure data for three places, what can be concluded about the altitudes of places A, B, and C?

Place	A	B	C
Atmospheric pressure (Pa)	3937	4450	5700

- A. A is the highest place.
- B. B is the lowest place.
- C. C is the highest place.
- D. A is the lowest place.

**Q3** If a ray of light is incident normally to a plane mirror, then what will be the angle between incident ray and reflected ray?

- A.  $0^\circ$
- B.  $90^\circ$
- C.  $180^\circ$
- D.  $360^\circ$

**Q4** Based on the information in the table, what inference can you make about the force of attraction among the molecules of liquid A and the force of attraction among the molecules of liquid B?

Liquid Name	Liquid A	Liquid B
Boiling point	$120^\circ \text{C}$	$180^\circ \text{C}$

- A. The force of attraction among molecules in Liquid A is stronger.
- B. The force of attraction among molecules in Liquid B is stronger.
- C. Both liquid A and liquid B have the same force among their molecules.
- D. It is not possible to make any inferences about the force of attraction with the information provided.

**Q5** Technological advances have resulted in innovations in the fields of building, entertainment, textiles, etc. In allowing the use of new technologies and materials, governments are likely to be concerned with \_\_\_\_\_.

- A. the novelty of the technology
- B. the safety and health risks involved
- C. their effect on energy efficiency of houses
- D. the ability of existing factories to produce them

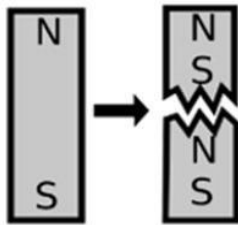
**Q6** Which type of organism's asexual reproduction involves a daughter cell growing on a parent cell and then separating?

- A. Amoeba
- B. Hydra
- C. Human
- D. Paramecium

**Q7** A child poured honey into a glass of water and then oil. After letting them settle, the child dropped a coin into the glass. What will be the sequence of layers from top to bottom?

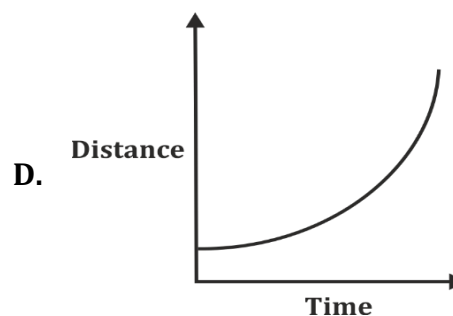
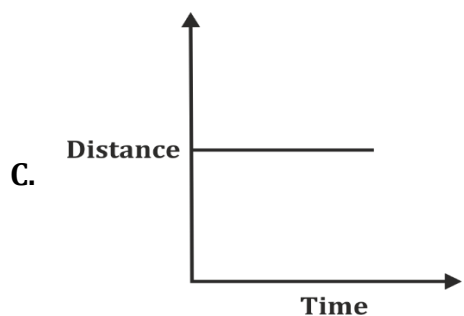
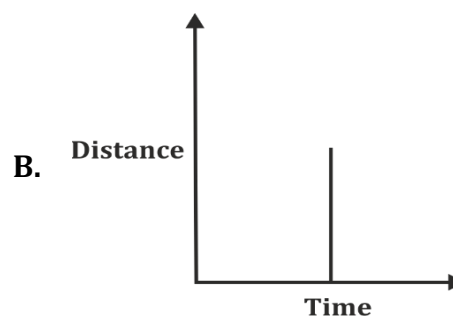
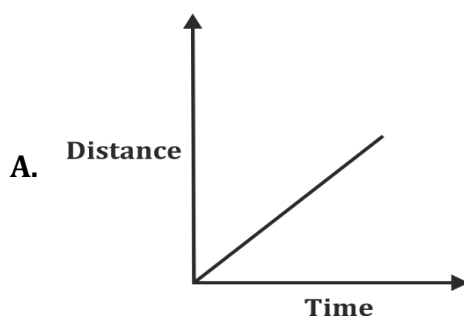
- A. Water-oil-honey-coin
- B. Water-honey-oil-coin
- C. Oil-honey-coin-water
- D. Oil-water-coin-honey

**Q8** A magnet is broken into two pieces from its center. If we bring the broken end of the first piece to the other end of the second magnet, what will happen?

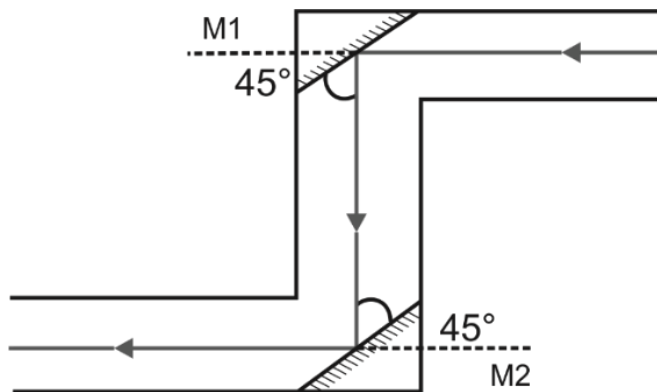


- A. Both magnets will attract.
- B. Both magnets will repel.
- C. Both magnets will not affect each other.
- D. Both magnets will become de-magnetised.

**Q9** A person goes for a run every day, but they stop at the nearby temple for ten minutes to meditate. Which of the following graph represents their time spent at the temple?



**Q10** Diagram of a periscope



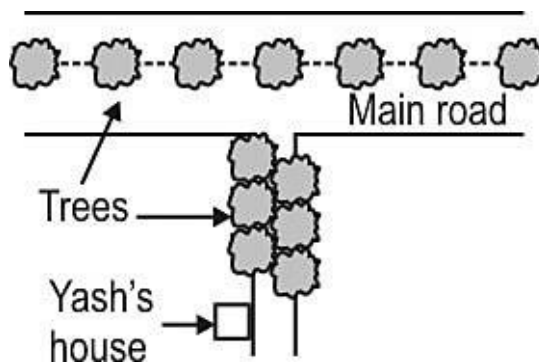
What is the angle between the incident ray from the first mirror and the reflected ray from the second mirror in the periscope?

- A.  $0^\circ$
- B.  $45^\circ$
- C.  $90^\circ$
- D.  $180^\circ$

**Q11** One morning, Yash saw that the main road and the lane in front of his house were completely wet due to rain.

After an hour, he saw that the main road was dry, but the small lane in front of his house was still wet.

Shown here is a top view of the locality where Yash lived.

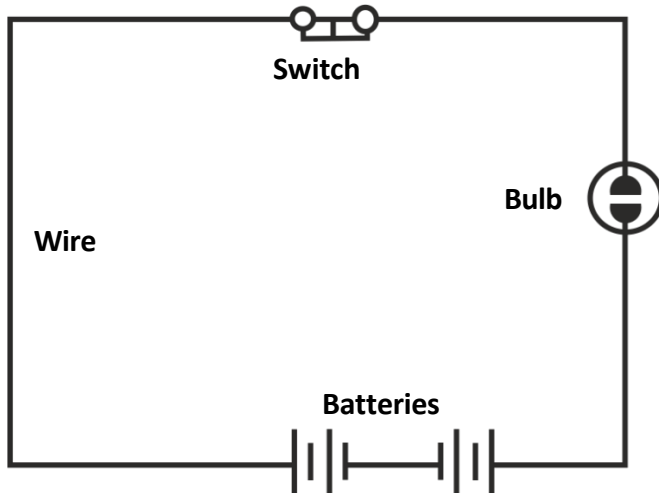


Which of the following statements can explain what he saw?

P	The rate of evaporation was different on the main road and the lane due to a difference in tree cover.
Q	A greater number of vehicles moved on the main road and dried it faster.
R	The rain was not enough to wet all parts of the wider main road.

- A. only P and Q
- B. only P and R
- C. only Q and R
- D. all - P, Q and R

**Q12** What is a problem with the circuit given below?



- A. The switch is open.
- B. The bulb is placed in the wrong position.
- C. The batteries are not connected properly.
- D. The connecting wires are broken.

**Q13** Electrical fires cannot be safely put out by dousing them with water. However, fire extinguishers that spray carbon dioxide on the fire work very effectively because it forms a blanket around the burning material.

**But these carbon dioxide extinguishers cannot be used for wood fires. Why?**

- A. The carbon dioxide blanket itself acts as a fuel and starts burning along with the wood.
- B. The extinguished wood can retain enough heat inside the carbon dioxide blanket to re-ignite when the gas dissipates.
- C. In the presence of carbon dioxide from the extinguisher, the burning wood reacts with oxygen to release heat and make the fire worse.
- D. Carbon dioxide reacts with wood to give carbon and oxygen; the oxygen makes the fire worse and the carbon burns along with the wood.

**Q14** Which of the following factors should be used to compare the environmental impacts of various types of electric power plants?

**P - the cost of the fuel required**

**Q - the amount of electricity produced**

**R - the cost of setting up the power plant**

**S - the area of land required to set up the power plant**

**T - the types and the amount of the by-products produced**

- A. only S and T
- B. only P, R and S
- C. only Q, S and T
- D. all - P, Q, R, S and T



**Q20** Which of the following causes an increase in the greenhouse effect in the Earth's atmosphere?

**P. burning of coal**

**Q. ozone hole near the South Pole**

**R. increase in the level of methane in the atmosphere due to increase in animal farming**

**A. only P and Q**

**B. only Q and R**

**C. only P and R**

**D. all - P, Q and R**

# SOCIAL SCIENCE

**Q1** Which type of forest is characterized by high rainfall and diverse flora and fauna?

- A. Tropical rainforest
- B. Temperate deciduous forest
- C. Taiga forest
- D. Mediterranean forest

**Q2** Which idea from the Indian national movement is reflected in the directive principles of state policy of the Indian Constitution?

- A. Liberty
- B. Equality
- C. Fraternity
- D. Socialism

**Q3** Which tier of local self-government in India is responsible for planning and implementing schemes related to rural development at the village level?

- A. Panchayat Samiti
- B. Gram Panchayat
- C. Zilla Parishad
- D. Municipal Corporation

**Q4** Mahatma Gandhi, a victim of racial discrimination himself, was actively engaged in many non-violent protests against racial discrimination in South Africa. Which of the below mentioned movements was inspired from his ideas and sought the end of racial discrimination?

- A. The Civil Rights Movement in the United States during the 1950s and 1960s.
- B. The Suffragette Movement in the early 20th century.
- C. The Environmental Movement in the 1960s.
- D. The LGBTQ+ Rights Movement in the 21<sup>st</sup> century.

**Q5** Which session of the Indian National Congress first demanded the idea of a Constituent Assembly?

- A. Lahore session, 1929
- B. Karachi session, 1931
- C. Bombay session, 1934
- D. Lucknow session, 1936

**Q6** Which process is responsible for the breakdown of rocks into smaller particles during soil formation?

- A. Erosion
- B. Weathering
- C. Deposition
- D. Compaction

**Q7** How does India demonstrate unity in diversity across its cultural elements, languages, and practices?

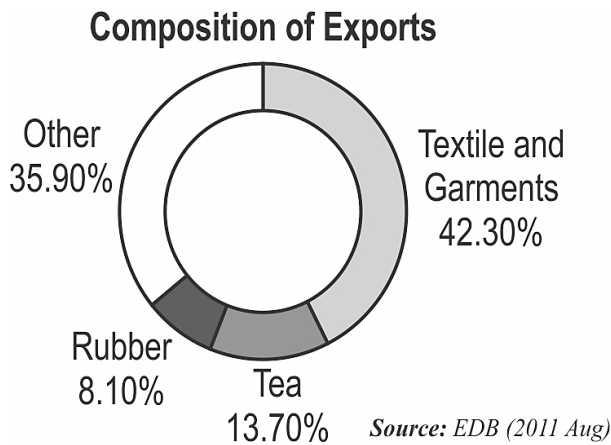
- A. By including only one language in the constitution.
- B. Through its rich diversity in languages, art and cuisine celebrated nationwide.
- C. By enforcing uniformity in clothing styles and traditions.
- D. Through strict regulation of cultural festivals and traditions.



**Q8** Which aspect of India showcases its diverse topography and biodiversity?

- A. Uniformity of climate throughout the country.
- B. Presence of snow-clad mountains in the southern region.
- C. Variety of landscapes
- D. Absence of coastal areas in the north.

**Q9** This image shows the composition of exports of a country.



**Identify the country.**

- A. Japan
- B. Bhutan
- C. Sri Lanka
- D. South Korea

**Q10**



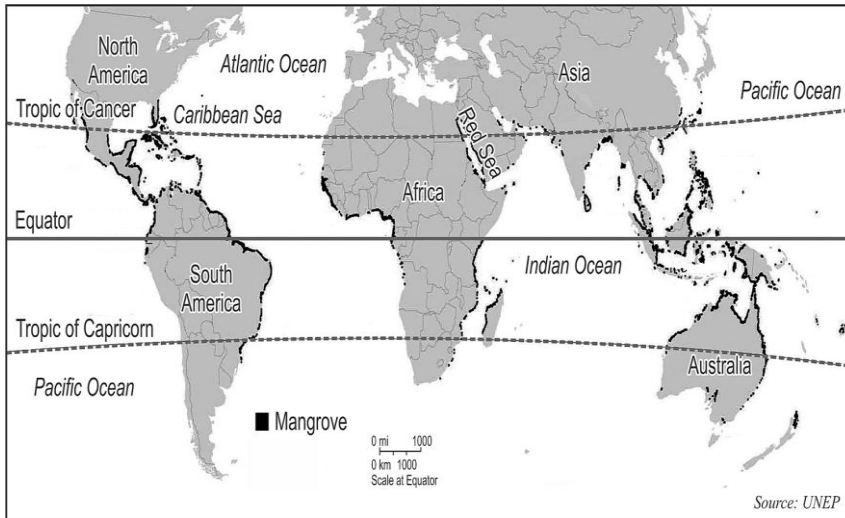
Romani girls

**The accurate history of the Romanis (also called the Roma) is not really known but they are known to be a nomadic ethnic group originating from the northern Indian subcontinent.**

**Which one of the following would be BEST indicative of the fact that they are nomads?**

- A. their physical appearance
- B. the mode of transport they use to get from place to place
- C. the presence of words from different languages in their speech
- D. the fact that the most of them now reside in European countries

**Q11** This map shows the global distribution of mangroves.



It indicates that mangroves are **MOST LIKELY** to be tolerant to \_\_\_\_\_.

- A. high rainfall
- B. saline water
- C. cold weather
- D. desert conditions

**Q12** Which of these monuments is **MOST LIKELY** to have aspects that show the influence of Islam?



**A**



**B**



**C**



**D**

- A. A
- B. B
- C. C
- D. D

**Q13** Which of the following recognizes elements of the continued prevalence of certain beliefs, relationships, practices, and activities in human society despite major changes in the society?

- A. Social Evolution
- B. Cultural Continuity
- C. Technological Advancement
- D. Industrial Revolution

**Q14** What was a major effect of the spread of industrialization and factories in the world during the 19<sup>th</sup> and 20<sup>th</sup> Century?

- A. Rapid growth of cities
- B. Increase in social equality
- C. Decrease in armed conflict.
- D. Decline in food production

**Q15** Which of the following is an example of the tyranny of the majority?

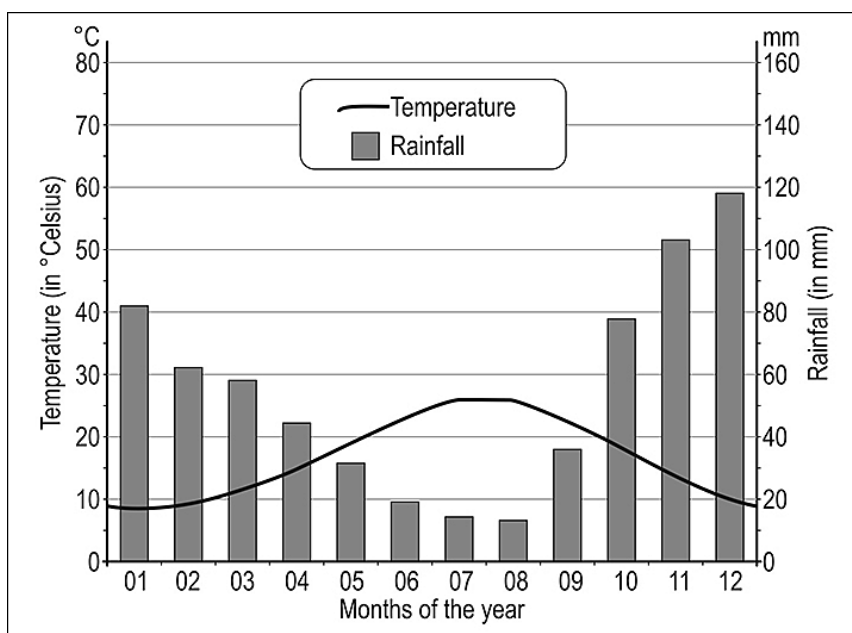
- A. Minority groups have limited access to the things they need because of public policies.
- B. There are political processes which enable minority problems to be discussed and resolved.
- C. The representation of minority groups in government jobs and elected positions is increased.
- D. The government intervenes to change the personal laws of all religions and makes them uniform.

**Q16** Slash and burn agriculture is a widely used method of shifting cultivation in which wild land is cleared and any remaining vegetation burned. This land is used for agriculture for a few years after which new land is cleared.

Which of the following is an environmental problem NOT caused by this?

- A. deforestation and loss of biodiversity
- B. increased rates of soil erosion
- C. pesticide residue in food
- D. increase in air pollution

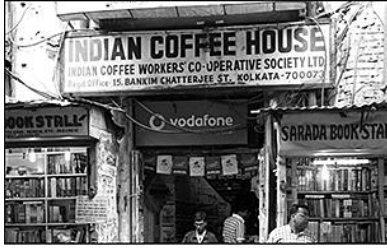
**Q17** Shown here is the average monthly temperature and precipitation of a region.



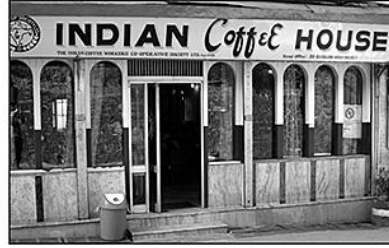
Identify the climate type of this region.

- A. tundra
- B. dry polar
- C. semi-arid
- D. hot desert

**Q18** Indian Coffee House is a restaurant chain run by worker cooperatives.



Kolkata



Shimla



Bengaluru

Which of the following is **MOST LIKELY** true about such restaurants?

- A. It is owned and operated by a single individual.
- B. It is democratically managed by the employees.
- C. It is owned and managed by members of a single family.
- D. It is managed by a group of members appointed by the government.

**Q19** In India, who among the following are **DIRECTLY** elected representatives of the people?

- A. Governors of States
- B. all members of Gram Sabhas
- C. all Members of the Parliament
- D. Ward Councillors of Municipal Corporations

**Q20** After 1869, the journey between the north Atlantic and northern Indian oceans was cut short by almost 7,000 kilometres. Ships could now travel via the Mediterranean and Red seas and avoid the south Atlantic and southern Indian oceans.

Which of the following would have made this possible?

- A. the opening of the Suez Canal
- B. the establishment of a port in Dubai
- C. a global change in the pattern of monsoon winds
- D. the control gained by Europeans over Southeast Asian islands