MTSE 2020
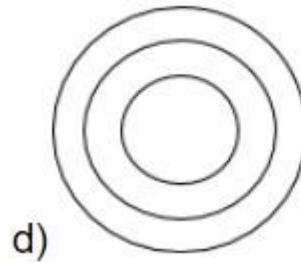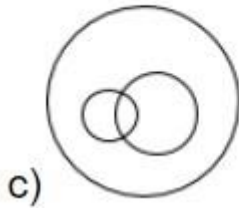
Class-8

1.Which of the following will replace the question mark in the following?
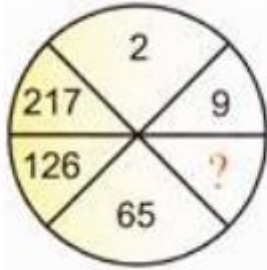
    1.26

○ **2.**27

○ **3.**28

○ **4.**63

2.If 'rain' is called 'water' , 'water' is called 'road', 'road' is called 'cloud', 'cloud' is called 'sky' , 'sky' is called 'sea' and 'sea' is called 'path' then where do aeroplanes fly?

○ **1.**sea

○ **2.**sky

○ **3.**water

○ **4.**road

3. Which of the following Venn diagrams best represents the relationship amongst,

"Bus,Scooter,Conveyance"?

a) b)

c) d)
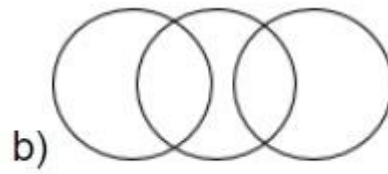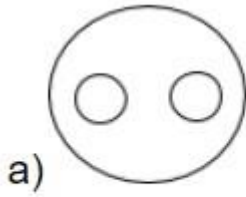
○ **1.**Figure 1

○ **2.**Figure 2

○ **3.**Figure 3

○ **4.**Figure 4

4. In a class of some students standing in a straight line, the position of Prayas is 31st from the end and 19th from the start. How many students are there in the class?

○ **1.**39

○ **2.**49

○ **3.**48

○ **4.**52

5. How many pairs of letters are there in the word "CASTRAPHONE" which have as many letters between them in the word as in the alphabet?

○ **1.**3

○ **2.**4

○ **3.**5

○ **4.**6

6. **In a certain code language,**
'134' means 'good and tasty';

'478' means 'see good pictures' and

'729' means 'pictures are faint'.

Which of the following digits stands for 'see'?

7. In the given diagram,the triangle represents the students who passed in Physics,the rectangle represents the students who passed in Chemistry and the circle represents the students who passed in Mathematics in a class. How many students passed in Mathematics only?
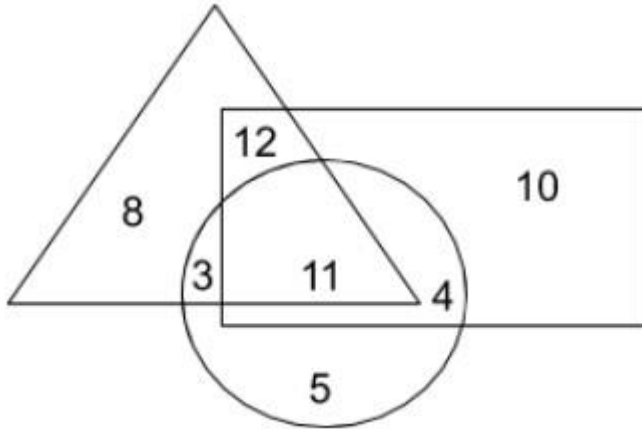
○ **1.**3

○ **2.**5

○ **3.**4

○ **4.**11

8. There are 23 poles with a constant distance between each pole. A car takes 21 second to reach the 15th pole. How much will it take to reach the last pole? (Choose the option after adding the digits)

○ **1.**7

○ **2.**6

○ **3.**25

○ **4.**34

9. Two bus tickets from city A to B and three tickets from city A to C cost Rs. 77 but three tickets from city A to B and two tickets from city A to C cost Rs. 73. What are the fares for cities C and B from A?

○ **1.**Rs.4, Rs. 23

○ **2.** Rs. 17, Rs. 13

○ **3.**Rs. 13, Rs. 17

○ **4.** Rs. 15, Rs. 15

10. If in the word 'DISTURBANCE' , the first letter is interchanged with the last letter ,the second letter is interchanged with the tenth letter and so on , which letter would come after the letter 'T' in the newly formed word?

1.I

2.N

3.S

4.U

11. Study the following information carefully and answer the given question.

i.A, B ,C, D, E, F and G are playing cards sitting around a circular table.
ii.D is not the neighbour of C and E.
iii.A is the neighbour of B and C.
iv.G, who is second to the left of D, is the neighbour of E and F.

What is the position of 'C'?

1.To the immediate left of A.

2.To the immediate right of E.

3.Third to the right of F

4.Second to the right of B.

12. **Direction (Qs 12-14):**Study the following information carefully and answer the questions given below.
In a Family, there are six members namely: A1, A2, A3, A4, A5, A6
A6 is the sister of A3
A2 is the brother of A5's husband.
A4 is the father of A1 and grandfather of A6.
A5 is the daughter-in-law of A4.
There will be 2 fathers, 1 mother and 3 brothers in family.

Who is the husband of A5?

1.A2

2.A1

3.A3

4.A4

13. **Direction (Qs 12-14):**Study the following information carefully and answer the questions given below.
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A4 is the father of A1 and grandfather of A6.
A5 is the daughter-in-law of A4.
There will be 2 fathers, 1 mother and 3 brothers in family.
Who is the mother?

1.A2

2.A1

3.A5

4.A3

14. **Direction (Qs 12-14):**Study the following information carefully and answer the questions given below.
In a Family, there are six members namely: A1, A2, A3, A4, A5, A6
A6 is the sister of A3
A2 is the brother of A5's husband.
A4 is the father of A1 and grandfather of A6.
A5 is the daughter-in-law of A4.
There will be 2 fathers, 1 mother and 3 brothers in family.
How many male members are there?

1.1

2.2

3.5

4.4

15. Mrs. X's husband is the only son of Mrs. Y's mother. If Mrs. X's brother and Mrs. Y's husband are cousins (brother) then how is Mrs. X related to Mrs. Y?

1.Mother

2.Sister

3. Aunty

4. Sister-in-law

16. Among A, B, C, D and E each having a different height, B is shorter than only E and D is shorter than A and B. Who among them is the shortest?

1.C

**2.**D

3.A

4. Data inadequate

17. Six family members Pankaj, Gopi, Chetan, Dinesh, Akash and Vyom are standing around a circular table. Gopi is between Vyo, and Chetan. Pankaj is between Akash and Dinesh. Vyom is to the immediate right of Dinesh. Who is opposite to Dinesh?

1.Pankaj

2.Chetan

3.Vyom

4.Gopi

18. Madan is taller than Shyam, who is shorter than Rohit.Vipin is taller than Akash.Ahmed is shorter than Vivek.Neither Vipin nor Vivek is the tallest.If Rohit is standing second in decreasing order of heights, who will stand in the middle in the group of these seven persons?

○ **1.**Vipin

○ **2.**Vipin or Vivek

○ **3.**Ahmed

○ **4.**Can't be determined

19. Find the missing number:-
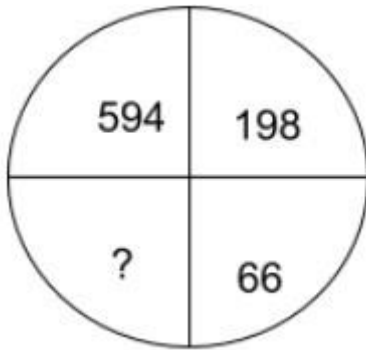
○ **1.**11

○ **2.**12

○ **3.**22

○ **4.**33

20. Kunal walks 10 km towards North.From there, he walks 6 km towards South.Then, he walks 3 km towards East.How far and in which direction is he with reference to his starting point?

○ **1.**5 km West

○ **2.**5 km North-East

○ **3.**7 km East

○ **4.**7 km West

21.
Six persons P,Q,R,S,T and U are sitting in a circle facing one another front to front.P is sitting in front of Q , Q is sitting to the right of T and left of R , P is to the left of U and right of S.

    i.Who is sitting opposite to R?
    ii.Who is sitting opposite to S?
    iii.Who is sitting between P and R?

- **1.**P,U,S
- **2.**Q,T,T
- **3.**S,R,U
- **4.**U,T,S

22. At what time between 7 and 8 o'clock will the hands of a clock be in the same straight line but not together?

- **1.**5 min past 7
- **2.**(5+2/11) min past 7
- **3.**(5+3/11) min past 7
- **4.**(5+5/11) min past 7

23. If ENGLAND is written as 1234526 and FRANCE is written as 785291, how is GREECE coded?

- **1.**381171
- **2.**381191
- **3.**832252
- **4.**835545

24. Which of the following diagrams indicates the best relation between Factory, Product and Machinery ?

a.

b.

c.

d.
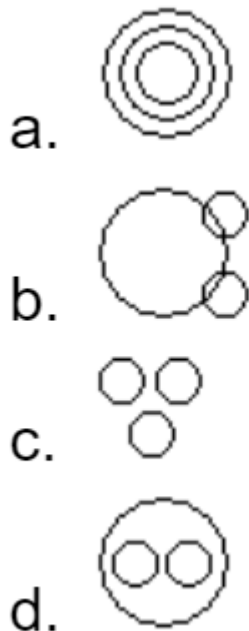
- **1.**Figure 1
- **2.**Figure 2
- **3.**Figure 3

25. What was the day of the week on 15th August,2010 according to the current 2020 calendar?

○ **1.**Sunday

○ **2.**Monday

○ **3.**Tuesday

○ **4.**Friday

26. If axb = (a+b)/2 and a-b=(2a+b)/3 then what is the value of (4x6)-(12x4)?

○ **1.**4

○ **2.**6

○ **3.**8

○ **4.**10

27. In the following question, a matrix of certain characters is given. These characters follow a certain trend, row wise or column wise. Find out this trend and choose the missing character accordingly.

72	24	6
96	16	12
108	?	18

○ **1.**16

○ **2.**20

○ **3.**12

○ **4.**18

28. **Direction (Qs 28-Qs30):**
Read the following statements carefully.

Five plays A, B, C, D and E were organised in a week from Monday to Sunday with one play each day and no play was organised on one of these days. Play D was organised before Thursday but after Monday. Play E was organised on saturday. Play C was not organised on the first day. Play B was organised on the day before the day on which Play C was organised. Play A was organised on Tuesday.

On which day was play B organised?

○ **1.**Monday

○ **2.**Tuesday

○ **3.**Wednesday

○ **4.**Thursday

29. On which day was no play organised ?

   ○ **1.**Monday

   ○ **2.**Tuesday

   ○ **3.**Wednesday

   ○ **4.**Thursday

30. Which play was organised on Thursday ?

   ○ **1.**A

   ○ **2.**B

   ○ **3.**C

   ○ **4.**D

31. Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle". How is the boy related to the girl?

   ○ **1.**Brother

   ○ **2.**Nephew

   ○ **3.**Uncle

   ○ **4.**Son-in-law

32. Cats : meow :: Giraffes : ?

   ○ **1.**Scream

   ○ **2.**Bark

   ○ **3.**bleat

   ○ **4.**Cluck

33. Find the missing element in sequence:-
4, 6, 18, 108, _ ,31104

   ○ **1.**1296

   ○ **2.**2592

   ○ **3.**648

   ○ **4.**324

34.
Find the missing number in the following series?
3, 5, 5, 19, 7, 41, 9, ?

   ○ **1.**71

   ○ **2.**61

   ○ **3.**79

   ○ **4.**69

35. Fill in the blank with the appropriate number from the option.
4, 8, 12, 24, _____

   ○ **1.**36
   ○ **2.**96
   ○ **3.**42
   ○ **4.**18

36. A Concave mirror has a focal length of 12 cm. At which of the following distance should an object be placed so that it may form virtual, erect and magnified image

   ○ **1.**14 cm
   ○ **2.**18 cm
   ○ **3.**8 cm
   ○ **4.**25 cm

37. In the following question, there are four different words out of which one is wrongly spelt. Find the wrongly spelt word.

   ○ **1.**Criteria
   ○ **2.**Convince
   ○ **3.** Pionear
   ○ **4.**Innovative

38. Match the following:

Type of crops	Examples of crop
1.kharif crops	A.wheat, gram, pea
2.rabi crops	B.urea and superphosphate
3.chemical fertilizers	C. maize and paddy
4.organic manure	D.cow dung,plant waste

   ○ **1.**(1-C) ,(3-B) ,(2-A),(4-D)
   ○ **2.**(2-C) ,(4-D), (1-B) ,(3-A)

3.(3-D) ,(4-C) ,(2-B) ,(1-A)

4.(4-D),(3-C) ,(2-B) ,(1-A)

39. Deserts are characterised by

1.High humidity

2.Scanty vegetation

3.Heavy rainfall

4. Hot climate

40.   Which of these chemical elements is the most abundant in our universe?

1.Carbon

2.Helium

3. Hydrogen

4. Oxygen

41. The fighter plane Rafale is manufactured and developed by which company?

1.AirBus

2.Boeing

3.Lockheed Martin

4.Dassault Aviation

42. How many zeroes are there in the product of 1x2x3x4..........49x50:

1.10

2.11

3.12

4.13

43. Which of the following chemicals are used to neutralize the basic nature of the soil?

1.Slaked lime

2.Quick lime

3.Organic matters

4.None

44. A deep sea diver's ears get hurt when he is inside the water. What is the cause for it?

1.Lack of oxygen

2.Decrease in atmospheric pressure

3.Increase in water pressure

4. All of the above

45. In a circular field, there is a rectangular tank of length 130 m and breadth 110 m. If the area of the land portion of the field is 20350 m² then the radius of the field is

1. 85 m

2. 95 m

3. 105 m

4. 115 m

46. **State TRUE or FALSE.**
(A) All metals react with the other substances to form chemical compounds .

(B) All the elements having one electron in their outermost shell are metals.

(C) Metals are good reducing agent.

(D) Non metals are good oxidising agent.

	P	Q	R	S
(a)	FALSE	TRUE	TRUE	FALSE
(b)	TRUE	FALSE	FALSE	TRUE
(c)	FALSE	FALSE	TRUE	TRUE
(d)	TRUE	FALSE	TRUE	FALSE

1. option A

2. option B

3. option C

4. option D

47.

The To and Fro motion of simple pendulum is an example of

     I.Periodic motion
     II.Oscillatory motion
     III.Uniform Motion
     IV.Non-uniform motion

1.I &II

2.I, II & III

3.I, II & IV

4.I & III

48.

Fill in the blank with the correct preposition.

From the top of the skyscraper the cars _____ us looked like insects.

1.across

2.below

3.above

4.along

49. Which of the following horizon of soil profile represents bedrock?

1.A-horizon

2.B-horizon

3.C-horizon

4.R-horizon

50. Who has been appointed as the new Deputy Governor of the Reserve Bank of India in July 2020?

1. Michael Debabrata Patra

2. Shyamala Gopinath

3. Arundhati Bhattacharya

4. Viral V Acharya

51. What is the perimeter of trapezoid ABCD?
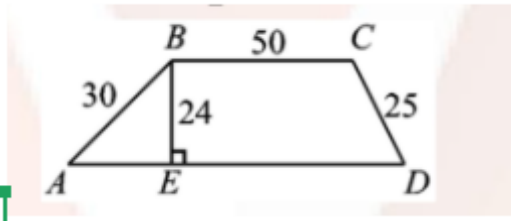
○ **1.**180

○ **2.**188

○ **3.**196

○ **4.**200

52. Which of the following statement is correct?

○ **1.**Respiration is not a chemical process .

○ **2.**In the absence of air or oxygen, rust is not formed.

○ **3.**When coal is burnt no new substance is produced.

○ **4.**The fizz that comes out when a soad bottle is opened is due to a chemical change.

53. A man earns X% on the first Rs. 2,000 of his income and Y% on it's rest. If he earns Rs. 700 with his income being Rs. 4,000 whereas Rs. 900 if his income will be Rs. 5,000. Find X%.

○ **1.**20%

○ **2.**15%

○ **3.**25%

○ **4.**None of these

54.
READ THE FOLLOWING STATEMENTS AND SELECT THE CORRECT OPTION:

Statement 1:In human male,Testis lie outside the abdominal cavity in a thin pouch called scrotum.

Statement 2: Scrotum helps in maintaining the low temperature of the testis necessary for spermatogenesis.

○ **1.**Both statement 1 and 2 are true and statement 2 is the correct explanation of statement 1.

○ **2.**Both statement 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

○ **3.**Statement 1 is true but statement 2 is false.

○ **4.**Both statement 1 and 2 are false.

55.
Fill in the blank with the correct conjunction.
We haven't needed extra staff as yet, ____ we may need in the future.

○ **1.**and

2. hence

3. because

4. But

56. A popular Bengali newspaper of pre-independence India was:

1. Maharatta

2. Kesari

3. Bande Mataram

4. Yugantar

57. The list price of a pen is Rs 160 and a customer buys it for Rs 122.40 after two successive discounts .The first is 10% and the second is :

1. 18%

2. 17%

3. 16%

4. 15%

58. Waste produced in liver after decomposition of unused food proteins is:

1. Urine and urea

2. Mainly urea

3. Faecal matter

4. Carbon dioxide

59. A concave mirror cannot be used as

1. A magnifying mirror

2. A torch reflector

3. A dentist mirror

4. A rear view mirror

60.
Which of the following statements is/are correct ?

i. Moon is the only satellite in the solar system with thick atmosphere and clouds.
ii. The fastest winds in the solar system blow on Neptune.
iii. Extra-vehicular activity involves venturing out of the spacecraft, in the space, to perform experiment.
iv. Halley's comet can be seen once in 78 years.

1. (i) and (ii)
2. (ii) only
3.(ii) and (iii)
4. (iv) only

61. Manish has one-rupee coins, 50-paisa coins and 25-paisa coins. The number of coins are in the ratio 2.5 : 3 : 4. If the total amount with me is Rs. 210, find the number of one-rupee coins

1.90
2.85
3.100
4.105

62.
The first and the last parts of the sentence are marked 1 and 6. The rest of the sentence is split into four parts and marked P , Q, R and S. These four parts are not given in their proper order . Read the sentences and find out which of the four combinations is correct.

1. Hibernation is a deep sleep

P. During hibernation the animal's body temperature drops

Q. that helps the animals to save energy

R. and its heartbeat and its breathing slow down

S. and survive the winter without eating much

6. So that it does not use much energy .

1.RQSP
2.PSQR
3.SPQR
4.QSPR

63. The Tughluqs mostly used this for their buildings:

1.Red sandstone
2.Yellow sandstone
3.Grey sandstone
4. Marble

64. An element X reacts with oxygen to form Y which turns red litmus to blue ,then which of the following is correct ?

1.X is a metal and Y is acidic oxide

2.X is a non metal and Y basic oxide

3.X is a non metal and Y is acidic oxide.

4.X is a metal and Y is basic oxide.

65. If 'x' is a natural number, how many values of x will give an integral value of $(16x^2 + 7x + 6) \div (x)$.

1.2

2.3

3.4

4.None of these

66. Which of the following statements is **incorrect**?

1.Veins carry blood from all parts of the body back to the heart.

2.Veins carry deoxygenated blood

3.Pulmonary artery carry deoxygenated blood.

4.Pulmonary vein carries blood from heart to other parts of the body

67. **DIRECTION(Q67-Q70)**
Read the following passage carefully and complete the following sentences.
A penguin is a water bird that can't fly. It has webbed feet and wings that look like flippers. It uses its wing flippers for underwater swimming. Many penguins live in the icy waters in or near Antarctica. They seldom visit land except to raise their young ones. Penguins have short legs and tall, torpedo shaped bodies. On land they are able to stand upright, and because of their stature, they walk with a waddle. They may appear awkward, but penguins actually walk about as fast as people. They also climb rocky shores by hopping from rock to rock. Some penguins travel over ice and snow by 'tobogganing' sliding on their bellies. But penguins travel best by swimming, hour after hour. There are 17 species of penguins, ranging in size from the largest emperor penguin to the diminutive fairy penguin. Penguins will not cross warm ocean water; therefore, they are all found in south of the equator. The Galapagos penguin lives in the farthest north, near the equator in the cold waters around the islands of the same name. Penguins are popular around the world, primarily for their unusually upright, waddling gait and (compared to other birds) lack of fear of humans. Their striking black and white plumage is often likened to a tuxedo suit.

What does the expression 'walk with a waddle' means?

1.Walk with short steps and a clumsy swaying motion.

2. Run speedily with slim legs.

3.Stand still at a place and move one's head.

4.None of the above.

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Which word in the passage means 'extremely or unusually small'?

○ **1.** Webbed

○ **2.** Diminutive

○ **3.** Awkward

○ **4.** Farthest

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When do Penguins come on land?

○ **1.** When they are hungry.

○ **2.** When they have to bring up their children

○ **3.** When they have to migrate to a warmer place.

○ **4.** None of the above.

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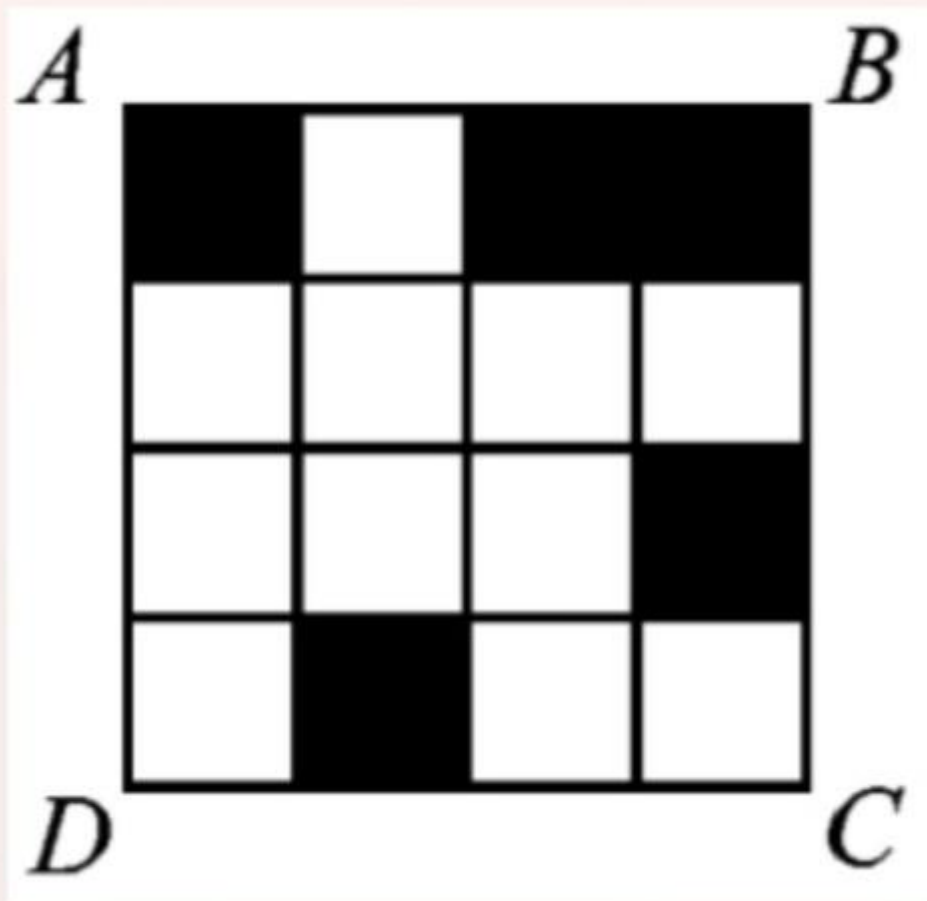
What is the meaning of the word 'gait'?

○ **1.**Threshold

○ **2.**Entrance

○ **3.**Manner of walking

○ **4.**Speed

71. Which Film won the National Awards in 2019 for the best feature film category?

○ **1.** Uri : The Surgical Strike

○ **2.**Badhaai Ho

○ **3.**Hellaro

○ **4.**Andhadhun

72. What is the minimum number of small squares that must be colored black so that a line of symmetry lies on the diagonal BD of square ABCD?

1. 1
2. 2
3. 3
4. 4

73. We should not sleep in a room with burning coal fire. Why?

1. Incomplete combustion of coal produces carbon monoxide ,which is non poisonous
2. Incomplete combustion of coal produces carbon dioxide ,which is poisonous .
3. Burning of coal produces oxides of nitrogen ,the fumes of which are very toxic
4. Incomplete combustion of coal produces carbon monoxide ,which is poisonous

74. By mistake,Ravi left a slice of bread in the kitchen in summers.when he came back after 2 days he found a dark green layer over the bread .This layer was of ____and it reproduces by____.

1.Bacteria ,budding

2.Spirogyra ,fragmentation

3.Mould, budding

4. None

75. Find the word which is most similar to the given word "Sad":-

1.Happy

2.Optimist

3.Cheerful

4.Miserable

76. In quadrilateral ABCD, sides AB and BC both have length 10, sides CD and DA both have length 17, and the measure of angle ADC is 60^0. What is the length of diagonal AC ?
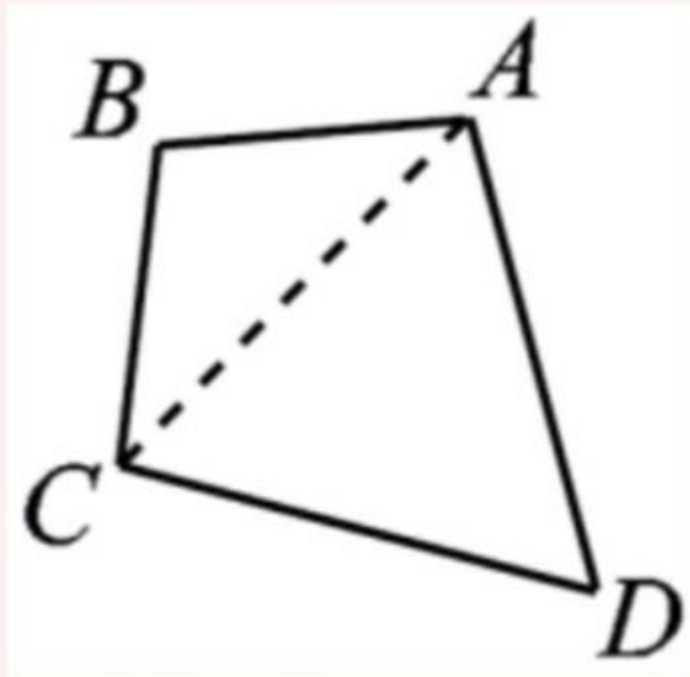
1.13.5

2.14

3.15.5

4.17

77. Which of the following is incorrect?

1. Friction act on ball rolling on ground

2. Friction act on a boat moving on water

3. Friction act on bicycle moving on smooth road

4. Friction does not act on ball moving through water

78.
In the following question a part of the sentence may have an error . Find out which part of a sentence has an error and mark your answer accordingly . If there is no error , mark (d) 'No error' as your answer .
Neither Rita (a)/
nor her sisters is (b)/
coming to the party. (c)/
No Error (d)

1. (a)

2. (b)

3. (c)

4. (d)

79. The presiding officer of the Rajya Sabha is the

1. Vice-President

2. President

3. Speaker

4. Prime Minister

80. If m and n are integers divisible by 5, which of the following is not necessarily true?

1. m – n is divisible by 5

2. $m^2 – n^2$ is divisible by 25

3. m + n is divisible by 10

4. None of these