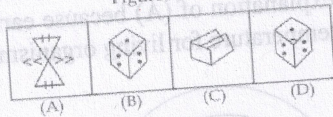
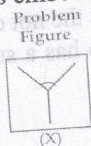


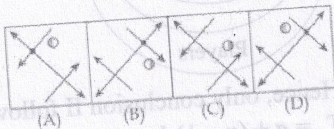
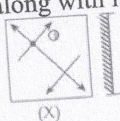
CUET General Test Solved Paper-2023

Held on 1 June 2023 (Shift-III)

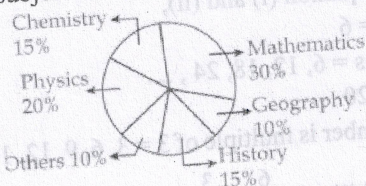
1. Choose the alternative figure in which the problem figure is embedded:



- (a) (A) (b) (B)
(c) (C) (d) (D)
2. Choose the correct mirror-image of the fig. (X) from amongst the four alternatives (A), (B), (C) and (D) given along with it.

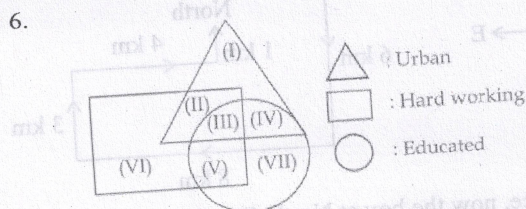


- (a) (A) (b) (B)
(c) (C) (d) (D)
3. The following pie chart shows the study time of different subjects of a student in a day.



If the total time spent to study History and Chemistry is 4h 30 m, then the student studied Physics for:

- (a) 1 h 30 m (b) 2.9 h
(c) 2 h (d) 3 h
4. During the Revolt of 1857, who was the Loyal Commander of Nana Sahib from Kanpur?
- (a) Liyaqat Ali (b) Amar Singh
(c) Bakht Khan (d) Tantiya Tope
5. On which date Indian's National Youth Festival is celebrated on the Birthday of Swami Vivekananda?
- (a) 5 January (b) 12 January
(c) 15 January (d) 2 February



Which part shows urban educated who are not hard-working?

- (a) II (b) I
(c) IV (d) V
7. "One Nation One FasTag Scheme" implemented in which year?
- (a) 1 December 2020 (b) 1 December 2019
(c) 1 December 2021 (d) 1 December 2022
8. Artificial language is given for sentences, so find correct artificial language for the asked sentence.
- 'Zongo talb' means Leave Application
'txlo zongo' means Sunday Leave
'pokto zongo' means Festival Leave
- What does Indian Festival' represent in that language?
- (a) bucot talb (b) pokto bucot
(c) beolk talb (d) zongo txlo
9. Moon is also known as the _____.
- (a) Fossil Planet (b) Blue Planet
(c) Red Planet (d) Evening Planet
10. If it is Friday on January 1, 1998 then January 1, 2000 would have been:
- (a) Monday (b) Wednesday
(c) Friday (d) Sunday
11. 5 Boys P, Q, R, S and T are sitting around a pentagonal table and their faces are towards each other, P is between Q and R. S is to the left of T. Q is to the left of S. Who is to the right of P?
- (a) T (b) Q
(c) R (d) S
12. The speed of sound will be fastest in _____.
- (a) Iron bar (b) Water
(c) Hill top (d) Vacuum
13. Which Blood Group in human is Universal Donar?
- (a) A Group (b) AB Group
(c) O Group (d) B Group
14. In which year Indian Space Research Organization (ISRO) has successfully established "CHANDRAYAAN-1"?
- (a) 22nd October 2009 (b) 22nd October 2010
(c) 22nd October 2008 (d) 22nd July 2019
15. If a rectangular sheet of paper of length 6 cm and width 3 cm is rolled to form a cylinder with height equal to the width of the paper, then what is the base radius of the cylinder (in cm)?

- (a) $\frac{6}{\pi}$ (b) $\frac{3}{\pi}$
(c) $\frac{3}{2\pi}$ (d) $\frac{9}{2\pi}$

16. Read the following information carefully and answer the question given below:

Anil and Kamal are good in Hockey and Volleyball. Suresh and Anil are good in Hockey and Baseball. Gopal and Kamal are good in Cricket and Volleyball. Suresh, Gopal and Mahesh are good in Football and Baseball.

Who is good in Hockey, Cricket and Volleyball?

- (a) Gopal (b) Mahesh
(c) Anil (d) Kamal
17. The age of a father is thrice the age of his daughter. Ten years ago, his age was five times his daughter's age. Find the present age of the father.
- (a) 50 years (b) 60 years
(c) 45 years (d) 40 years
18. Find the point on the x-axis which is equidistant from (2, -5) and (-2, 9).
- (a) (-7, 0) (b) (7, 0)
(c) (-5, 0) (d) (5, 0)
19. In a $\triangle ABC$ right angled at B if $AB = 4$ cm and $\angle C = 60^\circ$, then length of AC is:
- (a) $\frac{8\sqrt{3}}{3}$ cm (b) $\frac{2}{\sqrt{3}}$ cm
(c) $\sqrt{3}$ cm (d) $\frac{1}{\sqrt{3}}$ cm
20. The probability that a man will live for 10 more years is $\frac{1}{4}$ and the probability that his wife will live for 10 more years is $\frac{1}{3}$. The probability that none of them will live for 10 more years is
- (a) $\frac{5}{12}$ (b) $\frac{7}{12}$
(c) $\frac{1}{2}$ (d) $\frac{11}{12}$
21. The simplified value of $\frac{\frac{1}{3} \div 2 + 10}{\frac{1}{3} \times 2 + 10}$ is:
- (a) $\frac{61}{64}$ (b) $\frac{61}{24}$
(c) $\frac{1}{384}$ (d) $\frac{31}{24}$
22. Facing a man in the eye, Aman said, "Your son is my son's Uncle." How is the man related to Aman?
- (a) Grand Father (b) Brother
(c) Father (d) Uncle
23. Titan is the largest natural satellite of which Planet?
- (a) Venus (b) Saturn
(c) Pluto (d) Neptune

24. When the minute hand covers a distance of 1 hr 10 min, then what is the angular distance covered by it?
- (a) 400° (b) 410°
(c) 420° (d) 430°

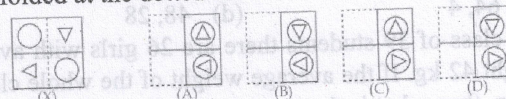
25. In a fort there was a food provision for 120 men for 200 days. After 5 days, 30 men moved to another place. How long will the remaining food last?
- (a) 140 days (b) 260 days
(c) 300 days (d) 290 days

26. Choose the correct alternative that will continue the same pattern.

1, 1, 4, 7, 22, 43, ____?

- (a) 101 (b) 111
(c) 121 (d) 130
27. By looking in a mirror, it appears that it is 6:30 in the clock. What is the real time?
- (a) 5:30 (b) 6:00
(c) 4:30 (d) 6:30

28. Figure out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.



- (a) (A) (b) (B)
(c) (C) (d) (D)
29. Big-Bang Theory regarding the origin of the universe was given by ____.

- (a) Herman Bondy (b) Thomas Gold
(c) E. George Lamaitre (d) Dr. Allen Sunders

30. Select the pair in which the numbers are similarly related as in the given pair?

8 : 448 :: ?

- (a) 9 : 729 (b) 7 : 1029
(c) 6 : 216 (d) 11 : 1210

31. Given below are two statements: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.
Assertion (A) : Mercury is the second farthest planet from the Sun.

Reason (R) : Mercury is the smallest planet in the entire solar system.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

- (a) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(b) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(c) (A) is correct but (R) is not correct
(d) (A) is not correct but (R) is correct

32. Match List-I with List-II

List-I

(Nick names)

- (A) Deenbandhu
(B) Andra Kesari
(C) Deshbandhu
(D) Frontier Gandhi

List-II

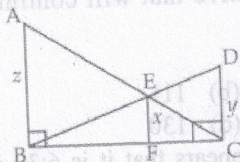
(Eminent Persons)

- (I) Abdul Gaffar Khan
(II) C.R. Das
(III) T. Prakasam
(IV) C. F. Andrews

Choose the **most appropriate** answer from the options given below:

- (a) (A)-(IV),(B)-(III),(C)-(II),(D)-(I)
 (b) (A)-(I),(B)-(III),(C)-(II),(D)-(IV)
 (c) (A)-(I),(B)-(III),(C)-(IV),(D)-(II)
 (d) (A)-(II),(B)-(I),(C)-(IV),(D)-(III)

33. From the given figure, find the relation between x , y and z if AB, EF and DC are perpendicular to B.



- (a) $xyz = x + y + z$ (b) $zx = y(x + z)$
 (c) $xy = z(x + y)$ (d) $yz = x(y + z)$

34. The two numbers whose arithmetic mean is 34 and their geometric mean is 16 are:

- (a) 60, 8 (b) 34, 34
 (c) 64, 4 (d) 48, 28

35. In a class of 39 students there are 26 girls with average weight 42 kg. If the average weight of the whole class is 48 kg, then what is the average weight of the boys in the class?

- (a) 54 kg (b) 66 kg
 (c) 60 kg (d) 62 kg

36. What is 'Blue Moon'?

- (a) Moon during total lunar eclipse
 (b) A sequence of four total lunar eclipse
 (c) Second full moon of the two full moons in a month
 (d) Full moon closest to the earth

37. Ram, Mohan and Sohan started a business with a total capital of Rs. 50000. Mohan invested Rs. 10000 less than Ram and Rs. 8000 more than Sohan. What is Mohan's share of profit in a total profit of Rs. 20000?

- (a) Rs. 6400 (b) Rs. 3200
 (c) Rs. 2800 (d) Rs. 7200

38. Half-life of C^{14} is around _____ years.

- (a) 4700 (b) 5700
 (c) 5000 (d) 4500

39. Salaries of Ravi, Anil and Kavita are in the ratio 1: 3 : 6. If their salaries are increased by 5%, 10% and 15% respectively, then what is the new ratio of their salaries?

- (a) 1: 2 : 3 (b) 7: 22 : 46
 (c) 7: 11: 23 (d) 7: 22 : 15

40. Chilika Lake is situated in which place?

- (a) Jammu & Kashmir (b) Rajasthan
 (c) Odisha (d) Himachal Pradesh

41. In the following question select the related option from the given alternative:

DXH: 4X8 :: MXQ: ?

- (a) MX18 (b) 12X16
 (c) 13X17 (d) 12X17

42. Match List I with List II

List I

(International Line)

- (A) Maginot Line
 (B) Durand Line
 (C) 38th Parallel
 (D) 49th Parallel

List II

(Between Two Countries)

- (I) North Korea and South Korea
 (II) France and Germany
 (III) USA and Canada
 (IV) Pakistan and Afghanistan

Choose the **most appropriate** answer from the options given below:

- (a) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
 (b) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
 (c) (A)-(I), (B)-(IV), (C)-(III), (D)-(II)
 (d) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

43. The sides of a triangle are in the ratio 8:9:10 and its perimeter is 270 cm. What is its area?

- (a) $175\sqrt{17}\text{cm}^2$ (b) $45\sqrt{231}\text{cm}^2$
 (c) $225\sqrt{231}\text{cm}^2$ (d) $375\sqrt{15}\text{cm}^2$

44. Match List-I with List-II

List-I (Book)

- (A) Train to Pakistan
 (B) Language of truth
 (C) Righteas Life
 (D) It is always possible

List-II (Authors)

- (I) Salman Rushdie
 (II) APJ Abdul Kalam
 (III) Kushwant Singh
 (IV) Kiran Bedi

Choose the **most appropriate** answer from the options given below:

- (a) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
 (b) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
 (c) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
 (d) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)

45. Which option will give same relationship on both sides:

SNAKE: REPTILE ::

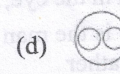
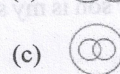
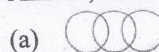
- (a) Fish : Water (b) Man : Mammal
 (c) Owl : Fly (d) Cow : Grass

46. Which of the following is the maximum speed?

- (a) 35 m/sec.
 (b) 2500 m/min
 (c) 90 km/hr.
 (d) 98000 m/hr

47. Identify the Diagram that best represent the relationship among Classes given below:

Animal, Land Animal, Sea Animal



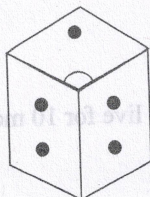
48. A sum becomes its double in 5 years on simple interest. What is the rate of interest?

- (a) 5% (b) 10%
 (c) 15% (d) 20%

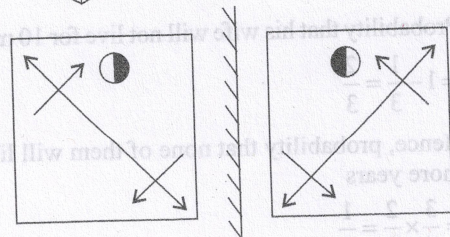
49. What is the pH value of human blood which is basic in nature?
 (a) 9.5 (b) 10.4
 (c) 7.4 (d) 8.7
50. Statements:
 Some Bottles are Papers
 Some Papers are pens
 No Pen is Pencil
Conclusions:
 (I) Some Bottle are Pencil
 (II) No Bottle is pencil
 (III) Some Bottle are pencil
 (a) Only (I) follow
 (b) Only (II) conclusion follow
 (c) Only (III) conclusion follow
 (d) Either (I) or (II) follows
51. Cathode Rays consist of
 (a) Neutrons (b) Alpha Particles
 (c) Electrons (d) Protons
52. A student has to obtain 33% of the total marks to pass an examination. He got 148 marks and failed by 50 marks. The maximum marks of the examination are
 (a) 400 (b) 450
 (c) 500 (d) 600
53. How many Indian States share their borders with Afghanistan?
 (a) One (b) Two
 (c) Three (d) Four
54. In which one of the following, $pq = 3$?
 (a) $2p : 3 = 1 : q$ (b) $2 : p = 3q : 1$
 (c) $3 : p = q : 2$ (d) $3 : p = q : 1$
55. Which among the following is not a type of direct tax?
 (a) Sales Tax (b) Property Tax
 (c) Stamp Duties (d) Land Revenue
56. When World Statistics Day is Celebrated?
 (a) 13 December (b) 22 October
 (c) 20 October (d) 09 December
57. A man makes his onward journey at 16km/hr and backward journey at 28km/hr. What is his average speed during the entire journey (correct to 2 decimal places)?
 (a) 22 km/hr (b) 20.36 km/hr
 (c) 32.15 km/hr (d) 30.56 km/hr
58. In the following question, choose one option which is similar to the number in the given set:
 (273, 365, 367)
 (a) (246, 257, 358) (b) (145, 235, 325)
 (c) (143, 253, 246) (d) (233, 343, 345)
59. Find the curved surface area of a cone having base diameter 42 cm and height 20 cm. $\left(\pi = \frac{22}{7}\right)$
 (a) 1642 cm² (b) 1876 cm²
 (c) 1914 cm² (d) 2016 cm²
60. Shivani moved a distance of 45 meters towards the north. She then turned to the left and walking for about 15 meters, turned left again and walked 50 meters. Finally, she turned to the right at an angle of 45°. In which direction was she moving finally?
 (a) North-West (b) South-West
 (c) North-East (d) South

Hints & Explanations

1. (d)



2. (*)

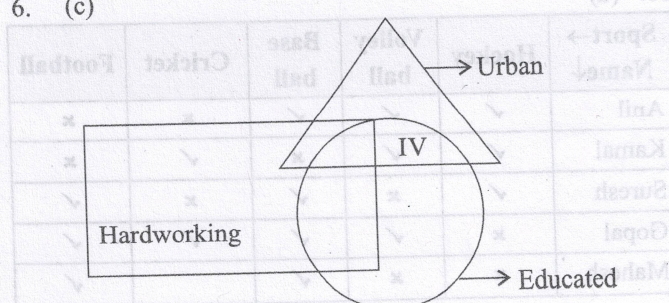


3. (d) Total time spent to study Physics by student

$$= \frac{270}{30\%} \times 20\% = 180 \text{ min} = 3 \text{ hrs}$$

4. (d) The revolt of 1857 was the first spark to the freedom movement. There were many revolt centres, Tantya Tope was the loyal commander of Nana Sahib from Kanpur
5. (b) The national Youth day is celebrated on 12th January, on the occasion of the birth anniversary of Swami Vivekanand.

6. (c)



7. (b) "One Nation, One Fastag" scheme is a central government scheme which was implemented on 1st December 2019, to integrate and electronically unify the toll plazas and provide the seamless mobility.

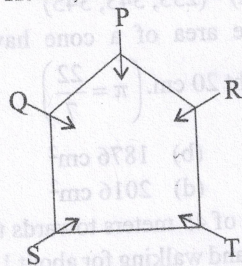
8. (b) Leave → Zongo
Application → talb
Sunday → txlo
Festival → pokto

Hence, 'Indian Festival' represents - pokto buetot'.

9. (a) Because it has no significant atmosphere, the Moon is referred to be a "fossil planet". As a result, there are no weather variations, which imply that nothing can be eroded or washed away.

10. (d) 1st Jan, 1998 = Friday (1 odd day)
1st Jan, 1999 = Saturday (1 odd day)
Hence, 1st Jan, 2000 = Sunday

11. (b)



Hence, Q is to the right of P.

12. (a) The speed of sound is directly proportional to density. The Iron bar is the most dense material from the given options, hence, the speed of sound will be the fastest in an Iron Bar.
13. (c) The Blood group O is considered to be a universal donor. A universal donor is a person who can donate blood to any receipt of any blood group.
14. (c) Chandrayaan-1 was the first Indian lunar probe under the Chandrayaan programme. It was launched by the Indian Space Research Organisation (ISRO) in October 2008, and operated until August 2009. The mission included a lunar orbiter and an impactor
15. (b) Circumference of base of cylinder = length of rectangular sheet

$$\Rightarrow 2\pi r = 6$$

$$\Rightarrow \frac{6}{\pi} = \frac{3}{\pi} \text{ cm Radius}$$

16. (d)

Sport→ Name↓	Hockey	Volley ball	Base ball	Cricket	Football
Anil	✓	✓	✓	×	×
Kamal	✓	✓	×	✓	×
Suresh	✓	×	✓	×	✓
Gopal	×	✓	✓	✓	✓
Mahesh	×	×	✓		✓

Hence, Kamal is good in Hockey, Cricket and Volley ball.

17. (b) Let the present age of daughter is x years.

$$\therefore \text{Father's present age} = 3x$$

According to question,

$$3x - 10 = 5(x - 10)$$

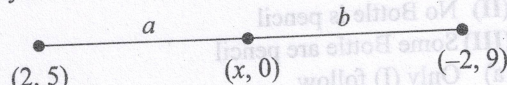
$$\Rightarrow 3x - 10 = 5x - 50$$

$$\Rightarrow 2x = 40$$

$$\Rightarrow x = 20$$

Hence, the present age of the father = $3 \times 20 = 60$ years

18. (a)



$$\therefore a = b$$

$$\sqrt{(x-2)^2 + (0-5)^2} = \sqrt{(-2-x)^2 + (9-0)^2}$$

$$\Rightarrow (x-2)^2 + 25 = (x+2)^2 + 81$$

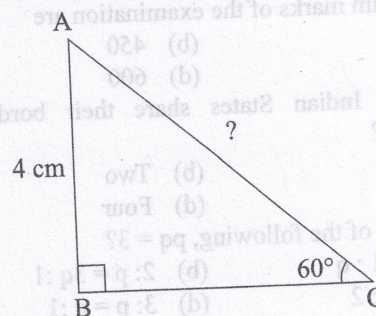
$$\Rightarrow x^2 + 4 - 4x + 25 = x^2 + 4x + 4 + 81$$

$$\Rightarrow 8x = -81 + 25 = -56$$

$$\Rightarrow x = -7$$

Hence, the point on x-axis is $(-7, 0)$

19. (a)



By pythagoras theorem

$$\sin 60^\circ = \frac{AB}{AC}$$

$$\Rightarrow \frac{\sqrt{3}}{2} = \frac{4}{AC}$$

$$\Rightarrow AC = \frac{8}{\sqrt{3}} = \frac{8\sqrt{3}}{3} \text{ cm}$$

20. (c) Probability that man will not live for 10 more years

$$= 1 - \frac{1}{4} = \frac{3}{4}$$

Probability that his wife will not live for 10 more years

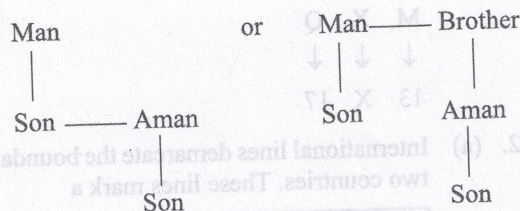
$$= 1 - \frac{1}{3} = \frac{2}{3}$$

Hence, probability that none of them will live for 10 more years

$$= \frac{3}{4} \times \frac{2}{3} = \frac{1}{2}$$

$$21. (a) \frac{\frac{1}{6} + 10}{\frac{2}{3} + 10} = \frac{\frac{1+60}{6}}{\frac{2+30}{3}} = \frac{61 \times 3}{32 \times 6} = \frac{61}{64}$$

22. (c, d)



Man is father of Aman Man is uncle of Aman

23. (b) Saturn, the gaseous - ring planet has the highest number of moons. Titan is the largest moon or natural satellite of Saturn.

24. (c) Minutes = 60 + 10 = 70 min

Angular distance covered by minute hand in 60 min = 360°

Hence, the angular distance covered by minute hand in 1 hr 10 min = $\frac{360}{60} \times 70 = 420^\circ$

25. (b) According to question,

$$120 \times 200 = 5 \times 120 + 90 \times d$$

$$\Rightarrow 24000 = 600 + 90 \times d$$

$$\Rightarrow 90 \times d = 23400$$

$$\Rightarrow d = \frac{23400}{90} = 260 \text{ days}$$

Hence, the remaining food will last for 260 days.

26. (d) Pattern of the series-

$$1 \times 2 - 1 = 1$$

$$1 \times 3 + 1 = 4$$

$$4 \times 2 - 1 = 7$$

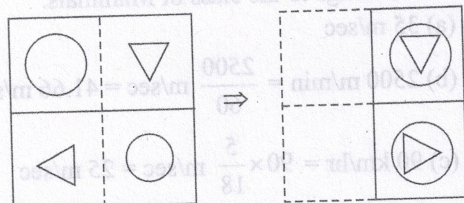
$$7 \times 3 + 1 = 22$$

$$22 \times 2 - 1 = 43$$

$$43 \times 3 + 1 = 130$$

27. (a) Real time in clock = 11 : 60 - 6 : 30 = 5 : 30

28. (d)



29. (c) The Big Bang Theory explains how the universe began with an infinitely hot and dense single point that inflated to form the ever-expanding universe. It explains the origin of universe. The theory was given by E. George Lamaitre.

30. (d) Pattern is that

$$8 \rightarrow (8)^2 \times (8 - 1) = 64 \times 7 = 448$$

Similarly

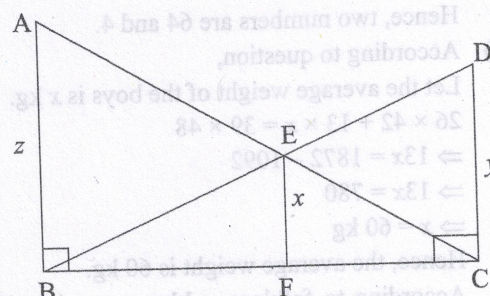
$$11 \rightarrow (11)^2 \times (11 - 1) = 121 \times 10 = 1210$$

31. (d) Mercury is the closest planet to the Sun and it is the smallest planet in our solar system. Hence, (A) is not correct but (R) is correct.

32. (a) During the freedom struggle movement, many freedom fighters were given nick names through which they were widely known,

Nick Names	Eminent Persons
Déenbandhu	C.F Andrews
Andhra Kesari	T. Prakasam
Deshbandhu	C.R Das
Frontier Gandhi	Abdul Gaffar Khan

33. (d)



In $\triangle CAB$ & $\triangle CEF$,

$$\angle ABC = \angle EFC = 90^\circ$$

$$\angle ACB = \angle ECF \text{ (Common angle)}$$

$\therefore$ By AA, $\triangle CAB \sim \triangle CEF$

$$\text{So, } \frac{x}{z} = \frac{CF}{BC} \quad \dots(i)$$

In $\triangle BCD$ and $\triangle BFE$

$$\angle BCD = \angle BFE = 90^\circ$$

$$\angle CBD = \angle FBE \text{ (Common angle)}$$

$\therefore$ By AA, $\triangle BCD \sim \triangle BFE$

$$\text{So, } \frac{EF}{CD} = \frac{BF}{BC}$$

$$\Rightarrow \frac{x}{y} = \frac{BF}{BC} \quad \dots(ii)$$

By adding equation (i) and (ii),

$$\frac{x}{z} + \frac{x}{y} = \frac{CF}{BC} + \frac{BF}{BC}$$

$$\Rightarrow x \left(\frac{1}{y} + \frac{1}{z} \right) = \frac{CF + BF}{BC} = \frac{BC}{BC} = 1$$

$$\Rightarrow \frac{1}{y} + \frac{1}{z} = \frac{1}{x}$$

$$\Rightarrow \frac{y+z}{yz} = \frac{1}{x}$$

$$\Rightarrow yz = x(y+z)$$

34. (c) Arithmetic mean = $\frac{a+b}{2} = 34$

$$\Rightarrow a + b = 68 \quad \dots(i)$$

$$\text{Geometric mean} = \sqrt{ab} = 16$$

$$\Rightarrow ab = 256$$

$$\Rightarrow = \frac{256}{b}$$

By equation (i) and (ii),

$$\frac{256}{b} + b = 68$$

$$\Rightarrow b^2 - 68b + 256 = 0$$

$$\Rightarrow b^2 - 64b - 4b + 256 = 0$$

$$\Rightarrow (b - 64)(b - 4) = 0$$

$$\therefore b = 4, 64$$

Hence, two numbers are 64 and 4.

35. (c) According to question,

Let the average weight of the boys is x kg.

$$26 \times 42 + 13 \times x = 39 \times 48$$

$$\Rightarrow 13x = 1872 - 1092$$

$$\Rightarrow 13x = 780$$

$$\Rightarrow x = 60 \text{ kg}$$

Hence, the average weight is 60 kg.

36. (c) According to folklore, a blue moon is said to be a second full moon in a calendar month. The term literally means seldom, absurd or rare.

37. (a) Let Mohan invested x amount

According to question,

$$x + (x + 10000) + (x - 8000) = 50000$$

$$\Rightarrow 3x = 48000$$

$$\Rightarrow x = 16000$$

$\therefore$ Ratio of their investment =

Mohan	Ram	Sohan
16000	26000	8000
= 8	13	4

$$\text{Hence, Mohan's share of profit} = 20000 \times \frac{8}{25} = ₹ 6400$$

38. (b) Carbon-12 and carbon-13 are both stable, while carbon-14 is unstable and have a half-life of 5700 ± 30 years. Half-life (symbol $t_{1/2}$) is the time required for a quantity (of substance) to reduce to half of its initial value. The term is commonly used in nuclear physics to describe how quickly unstable atoms undergo radioactive decay or how long stable atoms survive.

39. (b) New ratio of Ravi, Anil and Kavita's salaries

$$= 1 \times \frac{105}{100} : 3 \times \frac{110}{100} : 6 \times \frac{115}{100}$$

$$= 21 : 3 \times 22 : 6 \times 23$$

$$= 7 : 22 : 46$$

40. (c) Chilika Lake, a wetland of international importance and a prominent Ramsar site is located in Odisha.

41. (c) Pattern is that

D X H

$\downarrow \downarrow \downarrow$ (Their place value in alphabet)

4 X 8

Similarly,

M X Q

$\downarrow \downarrow \downarrow$

13 X 17

42. (a) International lines demarcate the boundaries between two countries. These lines mark a

International Line	Between Two Countries
Magnot Line	France and Germany
Durand Line	Pakistan and Afghanistan
38th Parallel	North Korea and South Korea
49th Parallel	USA and Canada

43. (c) Perimeter of triangle = $a + b + c$

$$\Rightarrow 270 = 8x + 9x + 10x$$

$$\Rightarrow 27x = 270 \Rightarrow x = 10$$

$$\therefore a = 80, b = 90 \text{ and } c = 100$$

$$\text{So, } S = \frac{a+b+c}{2} = \frac{270}{2} = 135$$

Hence, its area =

$$\sqrt{135 \times (135 - 80) \times (135 - 90) \times (135 - 100)}$$

$$= \sqrt{135 \times 55 \times 45 \times 35}$$

$$= \sqrt{5 \times 9 \times 3 \times 11 \times 5 \times 9 \times 5 \times 7 \times 5}$$

$$= 25 \times 9 \sqrt{3 \times 11 \times 7} = 225 \sqrt{231} \text{ cm}^2$$

44. (c)

Books	Authors
Train to Pakistan	Kushwant singh
Language of truth	Salman Rushdie
Righteous Life	APJ Abdul Kalam
It is always possible	Kiran Bedi

45. (b) As snake belongs to the class of Reptile. Similarly, Man belongs to the class of Mammals.

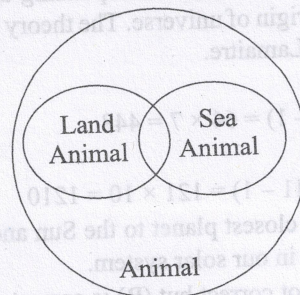
46. (b) (a) 35 m/sec

$$(b) 2500 \text{ m/min} = \frac{2500}{60} \text{ m/sec} = 41.66 \text{ m/sec (Max)}$$

$$(c) 90 \text{ km/hr} = 90 \times \frac{5}{18} \text{ m/sec} = 25 \text{ m/sec}$$

$$(d) 98000 \text{ m/hr} = 98000 \times \frac{1}{60 \times 60} \text{ m/sec} = 27.22 \text{ m/sec}$$

47. (c)



48. (d) Time = 5 years

Let sum is P.

$$\therefore \text{Simple interest} = 2P - P = P$$

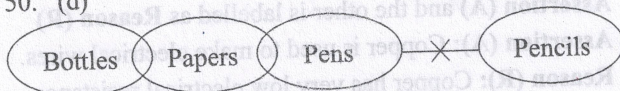
According to question,

$$P = \frac{P \times 5 \times R}{100}$$

$$\Rightarrow R = \frac{100}{5} = 20\%$$

49. (c) The human blood is slightly basic, with a normal pH range of about 7.35 to 7.45

50. (d)



Hence, either (I) nor (II) follows.

51. (c) The cathode ray tube experiment was performed by J.J Thompson, which led to the discovery of electrons, one of the most important discoveries in the history of physics. He was awarded a Nobel Prize in physics for this discovery.

52. (d) Let maximum marks of the examination are x.
According to question,

$$x \times \frac{33}{100} = 148 + 50$$

$$\Rightarrow x = \frac{198 \times 100}{33}$$

$$\Rightarrow x = 600$$

53. (a) India is a vast peninsular nation, which shares its borders with many countries. However, only the Union Territory of Jammu and Kashmir shares border with Afghanistan.

54. (d) (a) $\frac{2p}{3} = \frac{1}{q} \Rightarrow pq = \frac{3}{2}$

(b) $\frac{2}{p} = \frac{3q}{1} \Rightarrow pq = \frac{2}{3}$

(c) $\frac{3}{p} = \frac{q}{2} \Rightarrow pq = 6$

(d) $\frac{3}{p} = \frac{q}{1} \Rightarrow pq = 3$

55. (a, c) A direct tax is a tax that a person or organization pays directly to the entity that imposed it. Examples include income tax, real property tax, personal property tax, and taxes on assets, all of which are paid by an individual taxpayer directly to the government.

56. (c) The World Statistics Day is an international day to celebrate statistics. Created by the United Nations Statistical Commission, it was first celebrated on 20 October 2010.

57. (b) Average speed during entire journey = $\frac{2 \times 16 \times 28}{16 + 28}$
 $= \frac{32 \times 28}{44} = 20.36 \text{ km/hr}$

58. (a) Pattern is that-

$$2 + 7 + 3 = 12, 3 + 6 + 5 = 14, 3 + 6 + 7 = 16$$

Similarly,

$$2 + 4 + 6 = 12, 2 + 5 + 7 = 14, 3 + 5 + 8 = 16$$

59. (c) Radius (r) = $\frac{42}{2} = 21 \text{ cm}$

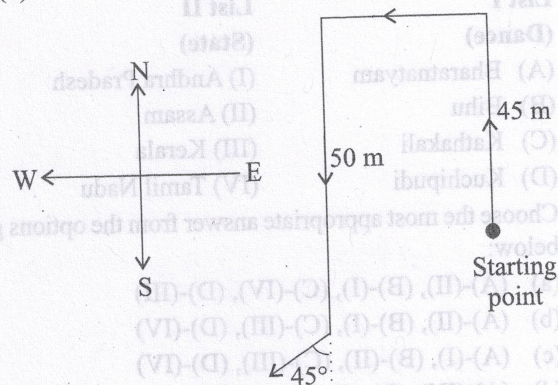
$$\therefore \text{Slant height (l)} = \sqrt{(21)^2 + (20)^2} = \sqrt{441 + 400}$$

$$= \sqrt{841} = 29 \text{ cm}$$

Hence curved surface area of cone

$$= \pi r l = \frac{22}{7} \times 21 \times 29 = 1914 \text{ cm}^2$$

60. (b)



Hence, Shivani was moving finally in South-West direction.