RRB NTPC 18 Jan 2021 Shift 2 Solution

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1. **Select the correct sequence of words in the order in which they appear in an English dictionary.**
a. Practical → Practise → Praise → Prank → Prayer
b. Praise → Practical → Prank → Prayer → Practise
c. Practical → Prank → Prayer → Practise → Praise
d. Praise → Practical → Prayer → Practise → Prank

Ans. Answer: a
The correct dictionary order is as follows:
The first three letters are common to each word: P, R, A.
So, we will compare the words from the fourth letter.
i) Practical
ii) Practise
iii) Praise
iv) Prank
v) Prayer
Hence, 'Practical → Practise → Praise → Prank → Prayer 'is the correct answer.

2. A can complete a task in the same time in which B and C together can complete it. If A and B together can complete it in 10 days and C alone can complete it in 60 days, then B alone can complete it in:
a. 23 days
b. 22 days
c. 21 days
d. 24 days

Ans. d
Explanation:
Given:
A can complete a task in the same time in which B and C together can complete it. A and B together can complete it in 10 days C alone can complete it in 60 days
Concept used:
Total work = Work done each day (Efficiency) × Total time taken (in days)
Calculation:
Let the entire work be the LCM of 10 and 60.
Hence, total work = LCM (10, 60) = 60 units
Efficiency of C = 60 ÷ 60 = 1 units

Let the efficiencies of A and B are P units and Q units a day respectively.
B and C together do each day = (Q + 1) units of work According to the question,
60 ÷ P = 60 ÷ (Q + 1)
⇒ P = Q + 1 ....(1)
(P + Q) × 10 = 60
⇒ (P + Q) = 6
⇒ Q + 1 + Q = 6
⇒ Q = 2.5
Hence, time taken by B to complete the work alone = 60 ÷ 2.5 = 24 days
∴ B will take 24 days to complete the work alone.

3. If LCM and HCF of two numbers are 70 and 7 respectively and if one number is 35, then what will be the second number?
a. 49
b. 25
c. 40
d. 14

Ans. d
Explanation:
Given:
LCM and HCF of two numbers are 70 and 7 respectively
One of the numbers is 35 Concept used:
LCM × HCF = The Product of two numbers
Calculation: The second number = $\frac{70\times7}{35}$ = 14
∴ The second number will be 14

4. When was the None Of The Above (NOTA) option first used in the assembly election in India?
a. October 2000
b. November 2013
c. January 1950
d. August 1947

Ans. : b
Explanation:
The correct answer is November 2013.
NOTA option was first used in November 2013.

5. Name the Spanish professional tennis player known as the King of Clay.
a. Roy Emerson
b. Roger Federer
c. Rafael Nadal Parera
d. Neale Fraser

Ans. c
Explanation:
The correct answer is Rafael Nadal Parera.
Rafael "Rafa" Nadal Parera is a Spanish professional tennis player.
He is also known as King of Clay.

6. If θ = 45°, then what will be the value of $\frac{sin\,\theta + cos\,\theta}{sin\,\theta - cos\,\theta}$?
a. 0
b. 1
c. -1
d.∞
Ans. d
Explanation:
Given: θ = 45°
Calculation:
$\frac{sin\,\theta + cos\,\theta}{sin\,\theta - cos\,\theta}$
$\Rightarrow \frac{sin\,45^\circ + cos\,45^\circ}{sin\,45^\circ - cos\,45^\circ}$
$\Rightarrow \frac{\frac{1}{\sqrt{2}} + \frac{1}{\sqrt{2}}}{\frac{1}{\sqrt{2}} - \frac{1}{\sqrt{2}}}$
$\Rightarrow \infty$
∴ The required answer is ∞.

7. Which of the following statements is NOT true about cottage industry?
a. Uses local raw material
b. Involves Household Industry
c. Uses family or part-time labour
d. Requires advance technological skills
Ans. d
Explanation:
The correct answer is Requires advanced technological skills.
Requiring advanced technological skills is NOT true for the cottage industry. A cottage industry is a small-scale , decentralised manufacturing operation that is usually run from a house rather than a purpose-built facility.

8. The L.C.M. of any two consecutive positive integers x and x + 1 is:
a. x
b. x + 1
c. 1
d. (x) (x + 1)

Ans. d
Explanation:
Given:
Given numbers are X and (X + 1)
Concept used:
Co-prime numbers are a set of numbers or integers which have only 1 as their common factor i.e. their highest common factor (HCF) will be 1.
LCM is the smallest common multiple of two or more numbers.
Calculation:
Two consecutive positive integers are always co-primes.
Hence, their LCM should be their product only. Thus, LCM (X, X + 1) = X(X + 1)
∴ The L.C.M. of any two consecutive positive integers x and x + 1 is (x) (x + 1)

9. Which of the following unicellular organisms causes kala-azar?
a. Liver fluke
b. Leishmania
c. Tapeworm
d. Ascaris

Ans. b
Explanation:
The correct answer is Leishmania.
Kala-Azar is a slow progressing indigenous disease caused by a protozoan parasite of the genus Leishmania .

10. The value of $4\cos(\frac{\pi}{6}-\alpha)\sin(\frac{\pi}{3}-\alpha)$ is equal to:
a. 3 + 4sin 2α
b. 3 + sin 2 α
c. 3 - sin 2 α
d. 3 - 4sin 2 α

Ans. d
Explanation:
Given: $4\cos(\frac{\pi}{6}-\alpha)\sin(\frac{\pi}{3}-\alpha)$
Concept used:
Cos (θ - α) = (Cos θ Cosα + Sin θ Sinα)

Sin (θ - α) = (Sinθ Cosα - Cosθ Sinα)
(A + B) (A - B) = A 2 - B 2
Sin 2θ + Cos 2θ = 1 π = 180°
Calculation:
4 $\cos(\frac{\pi}{6}-\alpha)$ $\sin(\frac{\pi}{3}-\alpha)$
⇒ 4 × Cos (30° - α) Sin (60° - α)
⇒ 4 × (Cos 30° Cosα + Sin 30° Sinα) × (Sin60° Cosα - Cos60° Sinα)
⇒ 4 × ($\frac{\sqrt{3}}{2}$Cosα + $\frac{1}{2}$Sinα) × ($\frac{\sqrt{3}}{2}$Cosα - $\frac{1}{2}$Sinα)
⇒ ($\sqrt{3}$ Cosα + Sinα) × ($\sqrt{3}$Cosα - Sinα)
⇒ ($\sqrt{3}$ Cosα) 2 - Sin 2α
⇒ 3Cos 2α - Sin 2 α
⇒ 3 × (1 - Sin 2 α) - Sin 2 α
⇒ 3 - 4sin 2 α
∴ The required answer is 3 - 4sin 2 α.

11. Which of the following is known as the highest battlefield of the world?
a. Gangotri glacier
b. Nanda Devi glacier
c. Siachin glacier
d. Rathong glacier

Ans. c
Explanation:
The correct answer is Siachin glacier.
The Siachen Glacier is located in the Eastern Karakoram range in the Himalayas, just northeast of Point NJ9842 where the Line of Control between India and Pakistan ends.
The Siachen Glacier is the world's highest battlefield

12. NITI Aayog is a policy Think Tank of the Government of India. It replaced:
a. National Development Council
b. Finance Commission of India
c. Planning Commission of India
d. Election Commission of India

Ans. c
Explanation:
The correct answer is Planning Commission of India.
NITI Aayog (abbreviation for National Institution for Transforming India) was established in 2015 to replace the Planning Commission which followed a topdown model .

13. What is the value of the following expression?

$\frac{1+sec\,\theta+tan\,\theta}{1+sec\,\theta-tan\,\theta}$

a. $\frac{1-tan\,\frac{\theta}{2}}{1+tan\,\frac{\theta}{2}}$

b. $\frac{1-tan\,\frac{\theta}{2}}{tan\,\frac{\theta}{2}}$

c. $\frac{1+tan\,\frac{\theta}{2}}{tan\,\frac{\theta}{2}}$

d. $\frac{1+tan\,\frac{\theta}{2}}{1-tan\,\frac{\theta}{2}}$

Ans. : d

Explanation:

Given:

$\frac{1+sec\,\theta+tan\,\theta}{1+sec\,\theta-tan\,\theta}$

Concept used: Sin2θ = 2Sinθ Cosθ

Cos2θ = Cos 2θ - Sin 2θ

Sin 2θ + Cos 2θ = 1

tanθ = $\frac{sin\theta}{cos\theta}$

Calculation:

$\frac{1+sec\,\theta+tan\,\theta}{1+sec\,\theta-tan\,\theta}$

$\Rightarrow \frac{1+\frac{1}{Cos\,\theta}+\frac{Sin\,\theta}{Cos\,\theta}}{1+\frac{1}{Cos\,\theta}-\frac{Sin\,\theta}{Cos\,\theta}}$

$\Rightarrow \frac{Cos\,\theta+1+Sin\,\theta}{Cos\,\theta+1-Sin\,\theta}$

$\Rightarrow \frac{(Cos^2\frac{\theta}{2}-Sin^2\frac{\theta}{2})+(Sin^2\frac{\theta}{2}+Cos^2\frac{\theta}{2})+2Sin\frac{\theta}{2}Cos\frac{\theta}{2}}{(Cos^2\frac{\theta}{2}-Sin^2\frac{\theta}{2})+(Sin^2\frac{\theta}{2}+Cos^2\frac{\theta}{2})-2Sin\frac{\theta}{2}Cos\frac{\theta}{2}}$

$\Rightarrow \frac{(2Cos^2\frac{\theta}{2}+2Sin\frac{\theta}{2}Cos\frac{\theta}{2})}{(2Cos^2\theta-2Sin\frac{\theta}{2}Cos\frac{\theta}{2})}$

$\Rightarrow \frac{2Cos^2\frac{\theta}{2}\times(1+tan\frac{\theta}{2})}{2Cos^2\frac{\theta}{2}\times(1-tan\frac{\theta}{2})}$

$\Rightarrow \frac{1+\tan\frac{\theta}{2}}{1-\tan\frac{\theta}{2}}$

$\therefore$ The required answer is $\frac{1+\tan\frac{\theta}{2}}{1-\tan\frac{\theta}{2}}$

14. Which of the following countries became the first post-communist country of the EU to legalize same sex marriage?

a. Albania

b. Croatia

c. Hungary

d. Czech Republic

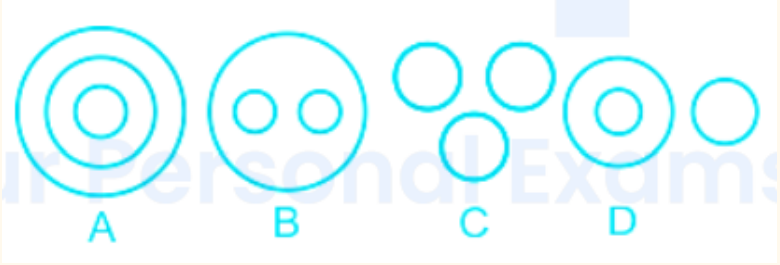
Ans. d

Explanation:

The correct answer is Czech Republic.

The Czech Republic became the first post-communist country in the EU to legalize same-sex marriage.

15. Select the Venn diagram that best represents the relationship between the following classes. Day, Week, Year



a. A

b. C

c. B

d. D

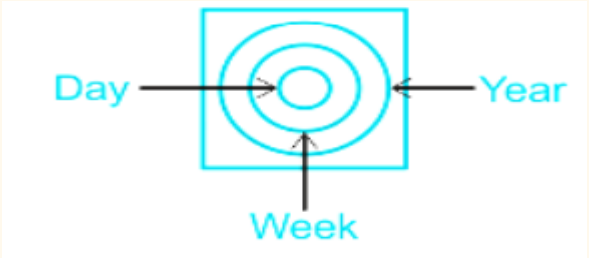
Ans. a

Explanation:

The correct Venn diagram is:

i) All Days are present in Week.

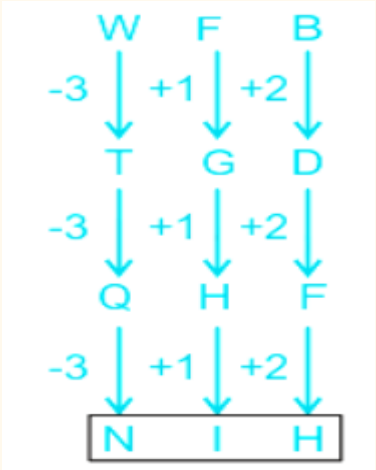
ii) All Weeks are present in Year



Hence, the figure A is the correct answer.

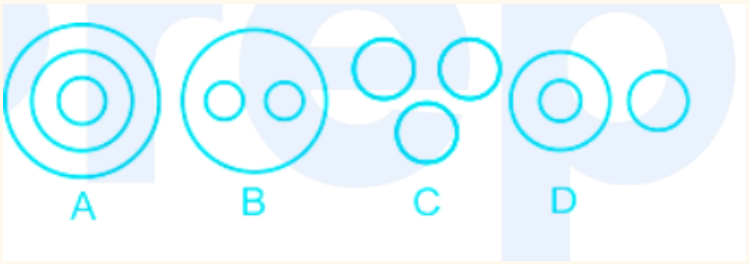
16. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.
WFB, TGD, QHF, ?
a. NJK
b. NIK
c. NIH
d. NIJ

Ans. c
Explanation:
The logic followed here is:



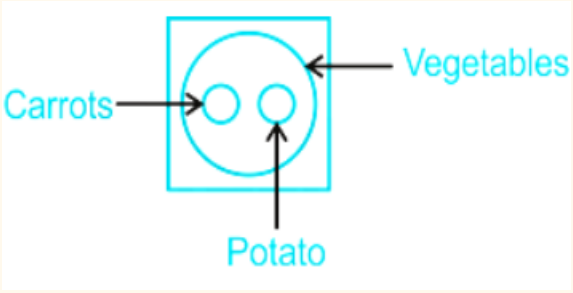
So, the next term in the given series is NIH.
Hence, the correct answer is "NIH".

17. Select the Venn diagram that best represents the relationship between the following classes: Vegetable, Carrot, Potato



a. B
b. A
c. C
d. D

Ans. a
Explanation:
The logic followed here is:
All carrots are Vegetables.
All Potato are Vegetables.
Therefore the least possible Venn Diagram is as follows:



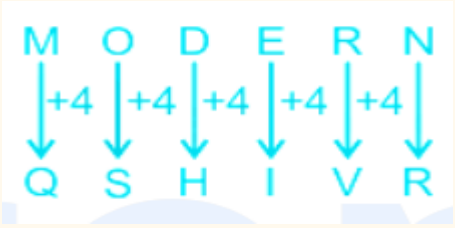
Hence, the answer figure 2 is the correct answer.

18. In a certain code language, MODERN is coded as QSHIVR. Which of the given options would be coded as WMIRG in that language?

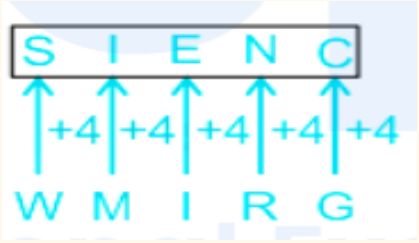
a. SINEC
b. SEINC
c. SIENC
d. SNEIC

Ans. c

The logic followed here is:



Similarly, ? = WMIRG



Hence, 'SIENC' is the correct answer.

19. The first site discovered at the Indus Valley Civilisation is:

a. Lothal
b. Mohenjo-Daro
c. Kalibangan
d. Harappa

Ans. d

Explanation: The correct answer is Harappa.
Harappa is the earliest city discovered in India was Harappa.

20. Which of the following is not a voice assistant?

a. Cortana
b. Alexa

c. Siri
d. Carvaan

Ans. d
Explanation:
The correct answer is Carvaan.
Caravaan is a music player.
Hence Carvaan is the correct answer.

21. Four cities have been listed, out of which three are alike in some manner and one is different. Select the odd one.
a. Bhopal
b. Chandigarh
c. Gandhinagar
d. Kanpur

Ans. d
Explanation:
The logic followed here is:
Bhopal, Gandhinagar and Chandigarh are the capital of states Madhya Pradesh, Gujarat and Punjab/ Haryana respectively.
Whereas, Kanpur is in Uttar Pradesh but not the capital of Uttar Pradesh.

22. The value of ($\frac{32}{5}$)× 92 + ($\frac{3}{5}$)× 2 is:
a. 502
b. 590
c. 401
d. 812

Ans. b
Explanation:
Concept used:
Calculation: ($\frac{32}{5}$)× 92 +($\frac{3}{5}$) × 2
⇒ $\frac{1}{5}$(32 × 92 + 3 × 2)
⇒ $\frac{1}{5}$× 2950
⇒ 590
∴ The required answer is 590.

23. Which of the following options is equivalent to $\frac{(x^3-y^3)(x^2+5x+6)(x^4-16)}{(x-y)(x+3)(x-2)(x^2+4)}$?
a. (x + 2) 2
b. (x 2+ y 2- xy) (x + 2) 2

c. (x 2+ y 2- xy)
d. (x 2 + y 2 + xy) (x + 2) 2

Ans. d
Explanation:
Concept used:
A 3 - B 3 = (A - B) (A 2 + AB + B 2)
A 2 - B 2 = (A + B) (A - B)
Middle Term Factor
Calculation:

$$\frac{(x^3-y^3)(x^2+5x+6)(x^4-16)}{(x-y)(x+3)(x-2)(x^2+4)}$$

$$\Rightarrow \frac{(x-y)(x^2+y^2+xy)(x+2)(x+3)(x^2-4)(x^2+4)}{(x-y)(x+3)(x-2)(x^2+4)}$$

$$\Rightarrow \frac{(x-y)(x^2+y^2+xy)(x+2)(x+3)(x-2)(x+2)(x^2+4)}{(x-y)(x+3)(x-2)(x^2+4)}$$

$$\Rightarrow (x^2+y^2+xy)(x+2)^2$$

$$\therefore \text{The required answer is } (x^2+y^2+xy)(x+2)^2.$$

24. What is the term used for the direct exchange of goods or services without the use of tokens, credit or money?
a. Commodity money
b. Tallies
c. Balance of trade
d. Barter

Ans. d
Explanation:
The correct answer is Barter
In the Barter system, the direct exchange of goods or services is done without the use of tokens, credit or money.

25. What will be the area of a parallelogram with base 44 cm and height 22 cm?
a. 988 cm 2
b. 978 cm 2
c. 958 cm 2
d. 968 cm 2
Ans. d
Explanation:
Given:
Base = 44 cm

Height = 22 cm
Concept used:
Area of a parallelogram = Base × Height
Calculation:
The area of the parallelogram = 44 × 22 = 968 cm 2
∴ The area of the parallelogram will be 968 cm 2

26. If a man travels at a speed of 15 km/h instead of travelling at a speed of 9 km/h, he travels 30 km more. The actual distance travelled by him is:
a. 43 km
b. 45 km
c. 41 km
d. 42 km

Ans. b
Explanation:
Given:
The man travels at a speed of 15 km/h instead of travelling at a speed of 9 km/h, he travels 30 km more.
Concept used:
Time × Speed = Distance
Calculation: Let's suppose he travelled for T hours.
According to the question, (15 - 9) = 6 kmph extra speed speed made him cover 30 km more distance
Hence
6 × T = 30
⇒ T = 5 Thus, the actual distance traveled by him = 9 × 5 = 45 km
∴ The actual distance travelled by him is 45 km.

27. Which of the following statements is INCORRECT?
a. Blood protects the body from disease.
b. Blood carries oxygen from the lungs to the other parts of the body. 1,2
c. Blood helps in sensory inputs.
d. Blood carries carbon dioxide from the body cells to the lungs.

Ans. c
Explanation:
The correct answer is Blood helps in sensory inputs.
Blood carries oxygen from the lungs to the other parts of the body .
Blood carries carbon dioxide from the body cells to the lungs.
But Blood does not help with sensory inputs.

28. Which of the following fractions is greater than $\frac{8}{5}$ and less than $\frac{7}{4}$

a. $\frac{1}{4}$

b. $\frac{8}{3}$

c. $\frac{2}{7}$

d. $\frac{19}{11}$

Ans. d

Explanation:

Given:

$\frac{8}{5}$= 1.60

$\frac{7}{4}$= 1.75

Calculation:

Given options are

$\frac{1}{4}$= 0.25

$\frac{8}{3}$ ≈ 2.67

$\frac{2}{7}$≈ 0.2857

$\frac{19}{11}$≈ 1.73

Hence, only $\frac{19}{11}$ fits.

∴ Among the following fractions, $\frac{19}{11}$ is greater than $\frac{8}{5}$ and less than $\frac{7}{4}$.

29. Which of the following is the first large-scale iron and steel plants in India?

a. Bhilai Steel Plant

b. Bokaro Steel Plant

c. Rourkela Steel Plant

d. TISCO

Ans. d

Explanation:

The correct answer is TISCO.

TISCO is the first large-scale iron and steel plant in India.

30. Among the four numbers given, three are alike in some manner and one is different. Select the number that is different from the rest.

a. 49

b. 84

c. 50

d. 63

Ans. c

Explanation:

The logic followed here is:
Numbers 49, 84 and 63 are multiples of 7 whereas 50 is not a multiple of 7.
Option 1 → 49 ÷ 7 = 7
Option 2 → 84 ÷ 7 = 12
Option 3 →50 ÷ 7 = 7.14
Option 4 → 63 ÷ 7 = 9
Hence, 50 is different from the rest.

31. What will be the cost (in Rs.) of 15.2 kg of rice if the cost of 1 kg rice is Rs. 45?
a. 425
b. 325
c. 684
d. 615

Ans. c
Explanation:
Given: The cost of 1 kg rice is Rs. 45
Calculation:
the cost of 15.2 kg rice = 15.2 × 45 = Rs. 684
∴ The cost of 15.2 kg rice is Rs. 684.

32. The General Agreement on Tariffs and Trade came into existence in the year:
a. 1995
b. 1945
c. 1948
d. 1950

Ans. c
Explanation:
The correct answer is 1948.
The General Agreement on Tariffs and Trade came into existence in the year 1948 .

33. What is the value of the following expression?
$\frac{(2.7)^2-(0.8)^2}{2.7-0.8}$
a. 3.5
b. 2.5
c. 7.0
d. 0

Ans. a
Explanation:
Concept used:

A 2 - B 2 = (A + B) (A - B)
Calculation:
$\frac{(2.7)^2-(0.8)^2}{2.7-0.8}$
$\Rightarrow \frac{(2.7-0.8)\,(2.7+0.8)}{(2.7-0.8)}$
⇒ 3.5
∴ The required answer is 3.5.

34. If '+' means '÷', '-' means '×', '÷' means '+' and '×' means '-', then find the value of the following expression. 11 - 2 × 4 ÷ 12 + 4
a. 18
b. 7.5
c. 26
d. 21

Ans. : d
Explanation:
Given : 11 - 2 × 4 ÷ 12 + 4
On replacing the codes: 11 × 2 - 4 + 12 ÷ 4
→ 11 × 2 - 4 +12 ÷ 4
→11 × 2 - 4 + 3 →22 - 4 + 3
→ 2 5 - 4 → 21
Hence, 21 is the correct answer.

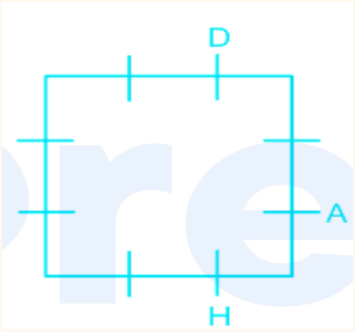
35. Which of the following books is written by Megasthenes?
a. Yajnavalkya Smriti
b. Malvikagnimitram
c. Harshacharita
d. Indica

Ans. : d
Explanation:
The correct answer is Indica.
Megasthenes compiled information about India in the book Indika/Indica , which is now a lost work and only survives in quotes quoted by later writers in their books.

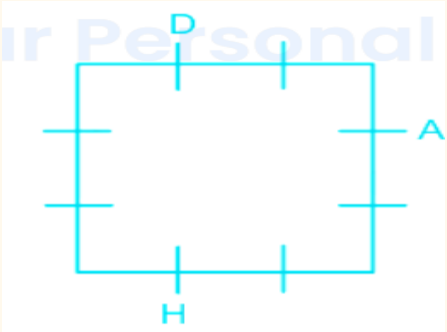
36. 8 boys A, B, C, D, E, F, G and H are sitting around a square table facing towards the centre (not necessarily in the same order). Two boys are sitting on each side. D is second to the right of A. H and D sit on the opposite sides. H is either third to the left of D or third to the right of D. A and B are sitting on the same side. E is not the neighbour of H or D. F is not the neighbour of E and H. Who are the neighbours of E?

a. B and D
b. A and D
c. H and A
d. C and G

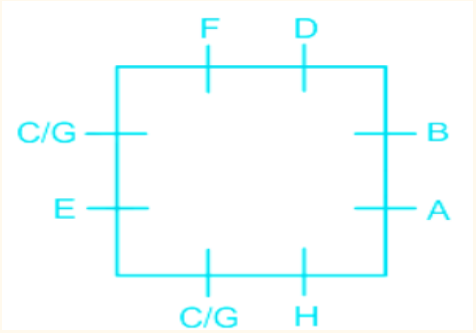
Ans. : d
Explanation:
Eight Boys: A, B, C, D, E, F, G and H;
i) Two boys are sitting on each side.
ii) D is second to the right of A.
iii) H and D sit on the opposite sides.
iv) H is either third to the left of D or third to the right of D.
Case 1:



Case 2:



v) A and B are sitting on the same side.
vi) E is not the neighbour of H or D.
This eliminates Case 2.
vii) F is not the neighbour of E and H.



Here, C and G are neighbours of E.
Hence, C and G is the correct answer.

37. What is contour ploughing?
a. Ploughing on sloping land along the contour lines.
b. Ploughing on plains along the contour lines
c. Ploughing on barren land along the contour lines.
d. Ploughing in a zig-zag manner along the contour lines.

Ans. a
Explanation:
The correct answer is Ploughing on sloping land along the contour lines.
Contour ploughing is the farming practice of plowing and/or planting across a slope following its elevation contour lines. In this method, water doesn't erode the soil but rather socks into it.

38. As of Oct 2020, who is the Secretary-General of the UN?
a. Boutros Boutros-Ghali
b. Ban Ki-Moon
c. Kofi Annan
d. Antonio Guterres

Ans. d
Explanation: The correct answer is Antonio Guterres.
Antonio Guterres is the Secretary-General of the UN. Current General Assembly President is Tijjani Muhammad Bande. The United Nations General Assembly is one of the six principal organs of the United Nations (UN). The UN General Assembly is the only UN organ wherein all member states have equal representation.

39. What is the name of the scheme launched by the Government of India to achieve a clean and open defecation-free India?
a. Swachhata Hi Sewa
b. Clean India
c. Swachh Raho, Swastha Raho
d. Swachh Bharat Abhiyan

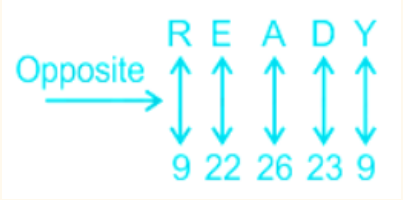
Ans. d
Explanation: The correct answer is Swachh Bharat Abhiyan.
Swachh Bharat Mission, Swachh Bharat Abhiyan , or Clean India Mission is a country-wide campaign initiated by the Government of India in 2014 to eliminate open defecation and improve solid waste management.

40. In the URL, https://www.d2h.com/login.php, which component identifies the path of a web page?
a. /login.php
b. https:
c. //www
d. www.d2h.com

Ans. a
Explanation: The correct answer is /login.php.
/login.php identifies the path of a web page.

41. In a certain code language, R is written as 9 and D is written as 23. How will READY be written as in that language?
a. 92234232
b. 92236232
c. 92226232
d. 92336232

Ans. c
Explanation:
The logic followed here is :
Each letter is coded with the number that represents its place value in reverse alphabetical order. R → 9 D → 23
Here, the code for READY will be



Hence, the code for 'READY' will be '92226232'.

42. The value of cos 75° + sin 15° is equal to:
a. $\frac{\sqrt{3}}{\sqrt{2}}$
b. $\frac{\sqrt{2}}{\sqrt{3}}$
c. $\frac{\sqrt{3}+1}{\sqrt{2}}$
d. $\frac{\sqrt{3}-1}{\sqrt{2}}$

Ans. d
Explanation:
Concept used: Cos (90 ° - θ) = Sin θ
Sin (α - β) = Sinα

Cosβ - Sinβ Cosα
Calculation: cos 75° + sin 15°
⇒ Cos (90° - 15°) + sin 15°
⇒ sin 15° + sin 15°
⇒ 2 × sin 15°
⇒ 2 × Sin (45° - 30°)
⇒ 2 × (Sin 45° Cos 30° - Sin 30° Cos45°)
⇒ 2 × $(\frac{1}{\sqrt{2}} \times \frac{\sqrt{3}}{2} - \frac{1}{2} \times \frac{1}{\sqrt{2}})$
⇒ 2 × $\frac{\sqrt{3}-1}{2\sqrt{2}}$
$\frac{\sqrt{3}-1}{\sqrt{2}}$
∴ The required answer is $\frac{\sqrt{3}-1}{\sqrt{2}}$.

43. Who became the last governor-general and first viceroy of India during the rule of the British crown?
a. Lord Canning
b. Lord William Bentinck
c. Sir John Macpherson
d. Lord Dalhousie

Ans .a
Explanation: The correct answer is Lord Canning.
Lord Canning became the last governor-general and first viceroy of India during the rule of the British crow

44. Excluding stoppage station, the speed of a train is 60 km/h and including stoppage station it travels at a speed of 45 km/h. For how many minutes does the train stop per hour? a. 15 min
b. 20 min
c. 30 min
d. 10 min

Ans. a
Explanation:
Given:
Excluding stoppage station, the speed of a train is 60 km/h and including stoppage station it travels at a speed of 45 km/h.
Concept used: Time × Speed = Distance
1 hour = 60 minutes
Calculation:

Let the distance be D So, the time required to cover the distance without stoppage will be = (D/60) hours
Time required for the same distance to cover with stoppage = (D/45) hours
Then, the train stop for {(D/45) - (D/60)} hours
⇒ D/180 hours So, the stoppage time of the train per hour = {(D/180) ÷ (D/45)} hours
⇒ 1/4 hours
⇒ (1/4 × 60) minutes
⇒ 15 minutes
∴ For 15 minutes the train stops per hour.

45. Which of the following is the greatest three digit number that is divisible by 13?
a. 575
b. 908
c. 990
d. 988

Ans. d
Explanation:
Concept used:
Multiply the last digit of a number by 9, and subtract it from the rest of the number.
If the outcome is divisible by 13 then the number N is divisible by 13.
Calculation:
According to the divisibility rule of 13, 988
⇒ 98 - (8 × 9) = 26, which is divisible by 13.
Only, 988 turns out to be a multiple of 13.
∴ 988 amongthe following is the greatest three-digit number that is divisible by 13.

46. Which of the following nation has one of the largest domestic communication satellite systems in Asia-Pacific region?
a. Bangladesh
b. Nepal
c. Sri Lanka
d. India

Ans. d
Explanation:
The correct answer is India.
India has one of the largest domestic communication satellite systems in the Asia-Pacific region.

47. Dividing Rs. 742 into two parts in the ratio of 5 : 9 will give the two parts as:
a. Rs. 290, Rs. 452
b. Rs. 260, Rs. 482
c. Rs. 275, Rs. 467
d. Rs. 265, Rs. 477

Ans. d
Explanation:
Given:
Rs. 742 is being divided into two parts in the ratio of 5 : 9
Concept used:
Ratio and Proportion
Calculation: First part = $742 \times \frac{5}{(5+9)}$ = Rs. 265
First part = $742 \times \frac{9}{(5+9)}$ = Rs. 477
∴ Dividing Rs. 742 into two parts in the ratio of 5 : 9 will give the two parts as Rs. 265, Rs. 477.

48. If 0.75 : x :: 2.5 : 8, then the value of x will be equal to:
a. 2.4
b. 0.50
c. 1.5
d. 0.42

Ans. a
Explanation:
Given: 0.75 : x :: 2.5 : 8
Concept used:
In the case of a proportion, the product of the extreme terms is equal to the product of the middle terms.
Calculation: 0.75 : x :: 2.5 : 8
⇒ 2.5x = 0.75 × 8
⇒ x = 2.4
∴ The required value of x is 2.4.

49. Which one of the following is NOT a wired broadband?
a. Satellite
b. Dial-up
c. Cable
d. Digital Subscriber Line

Ans. a
Explanation: The correct answer is Satellite.

50. Name the female weightlifter from Manipur who has received India's highest sporting honour, Rajiv Gandhi Khel Ratna for 2018.

a. Hima Das

b. Mary Kom

c. Saikhom Mirabai Chanu

d. Karnam Malleswari

Ans. c

Explanation: The correct answer is Saikhom Mirabai Chanu.

Saikhom Mirabai Chanu is an Indian weightlifter. She is the female weightlifter from Manipur who has received India's highest sporting honour, Rajiv Gandhi Khel Ratna for 2018.

51. Which of the following is responsible for dwarfism in humans?

a. Thyroxin

b. Pituitary

c. Adrenaline

d. Pancreas

Ans. b

Explanation: The correct answer is Pituitary.

The pituitary is responsible for dwarfism in humans.

52. What is the value of the following expression?

$\frac{\sqrt{7}-\sqrt{3}}{\sqrt{7}+\sqrt{3}} + \frac{\sqrt{7}+\sqrt{3}}{\sqrt{7}-\sqrt{3}} + \frac{\sqrt{3}+1}{\sqrt{3}-1} + \frac{\sqrt{3}-1}{\sqrt{3}+1}$

a. 9

b. 1

c. 0

d. $\frac{1}{2}$

Ans. a

Explanation:

Given:

$\frac{\sqrt{7}-\sqrt{3}}{\sqrt{7}+\sqrt{3}} + \frac{\sqrt{7}+\sqrt{3}}{\sqrt{7}-\sqrt{3}} + \frac{\sqrt{3}+1}{\sqrt{3}-1} + \frac{\sqrt{3}-1}{\sqrt{3}+1}$

Concept used:

(A + B) 2 = A 2 + B 2 + 2AB

(A - B) 2 = A 2 + B 2 - 2AB

(A + B) (A - B) = A 2 - B 2

Calculation:

$$\frac{\sqrt{7}-\sqrt{3}}{\sqrt{7}+\sqrt{3}}+\frac{\sqrt{7}+\sqrt{3}}{\sqrt{7}-\sqrt{3}}+\frac{\sqrt{3}+1}{\sqrt{3}-1}+\frac{\sqrt{3}-1}{\sqrt{3}+1}$$

$$\Rightarrow \frac{(\sqrt{7}-\sqrt{3})^2+(\sqrt{7}+\sqrt{3})^2}{(\sqrt{7}-\sqrt{3})(\sqrt{7}+\sqrt{3})}+\frac{(\sqrt{3}+1)^2+(\sqrt{3}-1)^2}{(\sqrt{3}-1)(\sqrt{3}+1)}$$

$$\Rightarrow \frac{7+3-2\sqrt{21}+7+3+2\sqrt{21}}{7-3}+\frac{3+1+2\sqrt{3}+3+1-2\sqrt{3}}{3-1}$$

⇒ 5 + 4
⇒ 9
∴ The required value is 9.

53. _____ is the first rapper to win Pulitzer Prize for music.
a. Joyner Lucas
b. J. Cole
c. Eminem
d. Kendrick Lamar

Ans . d
Explanation:
The correct answer is Kendrick Lamar.
Kendrick Lamar is the first rapper to win Pulitzer Prize for music.

54. The movement of a sunflower facing the sun is called:
a. phototropism
b. rotation
c. locomotion
d. Movement
Ans. a
Explanation: The correct answer is phototropism.
The movement of a sunflower facing the sun is called phototropism.

55. If A is 80% more than B and B is 20% less than C, then what will be the value of A : B : C?
a. 36 : 20 : 25
b. 36 : 5 : 20
c. 36 : 25 : 20
d. 20 : 25 : 36
Ans. a
Explanation:
Given:
A is 80% more than B and B is 20% less than C
Concept used: Application of Percentage
Calculation:

Let be C be 100Q
Hence, B = 100Q - 100Q × 20% = 80Q
A = 80Q + 80% × 80Q = 144Q
Thus,
A : B : C
⇒ 144Q : 80Q : 100Q
⇒ 36 : 20 : 25
∴ The value of A : B : C is 36 : 20 : 25.

56. If cot x = 3, then what will be the value of $\frac{(3+3\ sin\ x)(1-sin\ x)}{(2+2\ cos\ x)(3-3\ cos\ x)}$?

a. 9

b. $\frac{9}{4}$

c. $\frac{9}{3}$

d. $\frac{9}{2}$

Ans. d

Explanation:

Given: cot x = 3

Concept used: A 2 - B 2 = (A + B) (A - B)

Cot θ = $\frac{cos\theta}{sin\theta}$

Calculation:

$$\frac{(3+3\ \sin\ x)(1-\sin\ x)}{(2+2\ \cos\ x)(3-3\ \cos\ x)}$$

$$\Rightarrow \frac{3\times(1+sinx)(1-sinx)}{6\times(1+cosx)(1-cosx)}$$

$$\Rightarrow \frac{(1-sin^2x)}{2\times(1-cos^2x)}$$

$$\Rightarrow \frac{cos^2x}{2\times sin^2x}$$

$$\Rightarrow \frac{cot^2x}{2}$$

$$\Rightarrow \frac{3^2}{2}$$

$$\Rightarrow \frac{9}{2}$$

∴ The required value is $\frac{9}{2}$.

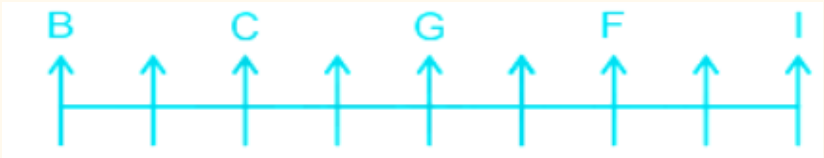
57. The UN Peacekeeping forces were awarded Nobel Prize for Peace in the year _____.

a. 2000
b. 1988
c. 1945
d. 1899

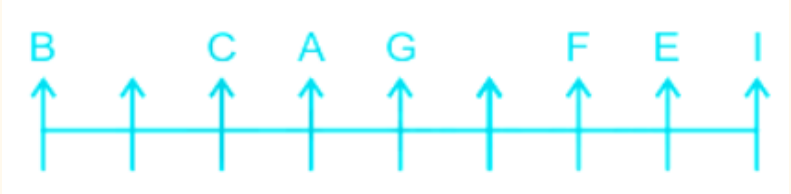
Ans. b
Explanation: The correct answer is 1988.
The UN Peacekeeping forces were awarded Nobel Prize for Peace in the year 1988 .

58. 9 persons A, B, C, D, E, F, G, H and I are sitting in a row facing towards north (not necessarily in the same order). G sits fourth to the right of B. F is fourth to the right of C and is second to the left of I. D is not the neighbour of I and B. There are only three persons between E and A. G is second to the right of C. I is fifth to the right of A. Which of the given options correctly identifies the seating position of three of the nine persons mentioned above?
a. B between C and H
b. D between F and G
c. C between A and G
d. B between E and I

Ans. b
Explanation:
9 persons : A, B, C, D, E, F, G, H and I.
i) G sits fourth to the right of B.
ii) F is fourth to the right of C and is second to the left of I.
iii) G is second to the right of C.



iv) There are only three persons between E and A.
v) I is fifth to the right of A.



vi) D is not the neighbour of I and B.

Hence, ' D between F and G' is the correct answer.

59. As of Oct 2020, the longest railway platform in India is in _____. It is around 1.3 km long.
a. Jaipur
b. Gorakhpur
c. Delhi
d. Mumbai

Ans. b
Explanation: The correct answer is Gorakhpur.
Presently Gorakhpur railway station in Uttar Pradesh has the longest platform (1366 m) in the world.

60. The song of lament 'the life has gone out of the body' is associated with Nawab _____ of the State of Awadh.
a. Wazir Ali Khan
b. Muhammad Ali Shah
c. Wajid Ali Shah
d. Saadat Ali Khan

Ans. c
Explanation: The correct answer is Wajid Ali Shah.
The song of lament 'the life has gone out of the body' is associated with NawabWajid Ali Shah of the State of Awadh

61. What is the product of LCM and HCF of 18 and 42?
a. 736
b. 746
c. 756
d. 766
Ans. c
Explanation:
Given:
Numbers = 18 and 42
Concept used:
LCM × HCF = The Product of two numbers
Calculation:
The product of LCM and HCF of 18 and 42 = 18 × 42 = 756
∴ The product of LCM and HCF of 18 and 42 is 756.

62. The sulphide ores are converted into oxides by heating strongly in the presence of excess air. This process is known as:
a. burning

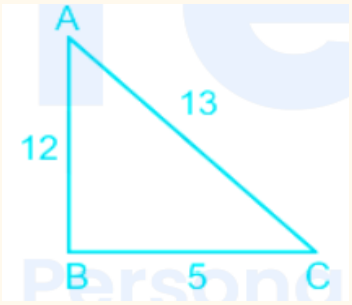
b. heating
c. roasting
d. Blazing

Ans. c
Explanation: The correct answer is roasting.
In this roasting process, the ores are generally converted into Metal oxides. It is the process in which ore is converted into its oxide by heating it strongly in excess of air.

63. In a triangle, right angled at B, AB = 12 cm and BC = 5 cm. What will be the value of i) sin A cos A ii) sin C cos C respectively?

a. $\frac{26}{169}, \frac{25}{169}$
b. $\frac{60}{169}, \frac{60}{169}$
c. $\frac{25}{169}, \frac{60}{169}$
d. $\frac{60}{169}, \frac{25}{169}$

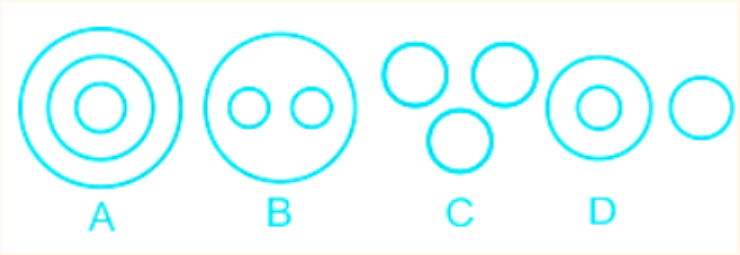
Ans. b
Explanation:
Given:
In a triangle, right angled at B, AB = 12 cm and BC = 5 cm.
Concept used:
Pythagoras Theorem
Sin θ = $\frac{Height}{Hypotenuse}$
Cos θ = $\frac{Base}{Hypotenuse}$
Calculation:



Thus, AC = $\sqrt{12^2 + 5^2}$ = 13 cm
Sin A = $\frac{5}{13}$
Cos A = $\frac{12}{13}$
Hence, Sin A Cos A = $\frac{60}{169}$
Sin C = $\frac{12}{13}$
Cos C = $\frac{5}{13}$
Hence, Sin C Cos C = $\frac{60}{169}$

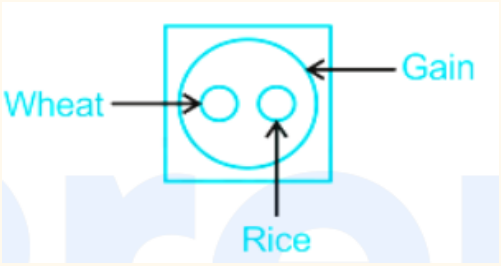
∴ Option 2 is the answer

64. Select the Venn diagram that best represents the relationship between the following classes. Wheat, Rice, Grain



a. D
b. A
c. B
d. C

Ans. c
Explanation:
The relationship between Wheat, Rice and Grain is as follows:
All wheat are grain.
All Rice are grain.



Hence, the answer figure is B

65. Which of the following Indian state has highest production from Viticulture?
a. Uttar Pradesh
b. Jammu and Kashmir
c. Bihar
d. Maharashtra

Ans. d
Explanation: The correct answer is Maharashtra.
In India, Maharashtra state has the highest production of Viticulture

66. Netaji Subhash Chandra Bose International Airport is situated in:
a. Siliguri
b. Hyderabad
c. Kolkata
d. Bhubaneswar

Ans. c
Explanation: The correct answer is Kolkata. Netaji Subhash Chandra Bose International Airport is located in Kolkata. Netaji Subhas Chandra Bose airport is one of the oldest airports in India

67. Which of the following scientist have no contribution in the Nuclear field in India?
a. Homi J Bhabha
b. Sekhar Basu
c. Raja Ramanna
d. C N R Rao

Ans. d
Explanation: The correct answer is C N R Rao.
C N R Rao have no contribution in the Nuclear field in India.

68. If the length and the breadth of a rectangle are in the ratio of 7 : 4 and its area is 12348 cm 2 , what will be the length of the rectangle?
a. 147 cm
b. 105 cm
c. 84 cm
d. 120 cm

Ans. a
Explanation:
Given:
The length and the breadth of a rectangle are in the ratio of 7 : 4 and its area is 12348 cm 2 ,
Concept used: Area of a rectangle = Length × Breadth
Calculation: Let the common ratio be Q Hence, length = 7Q and breadth = 4Q According to the question,
7Q × 4Q = 12348
⇒ Q 2 = 441
⇒ Q = 21
⇒ 7Q = 147
∴ The length of the rectangle is 147cm.

69. Lander of Chandrayaan-2 was named after the Scientist:
a. K Kasturirangan
b. A P J Abdul Kalam
c. K Sivan
d. Vikram Sarabhai

Ans. d
Explanation: The correct answer is Vikram Sarabhai.

The Lander was named Vikram after Dr Vikram A Sarabhai who is known as the Father of the Indian Space Programme.

70. Where and when was the first metro train introduced in India?
a. Bombay on 26 January 1950
b. Delhi on 15 Aug 1947
c. Bangalore on 2 Oct 1945
d. Kolkata on 24 Oct 1984

Ans. d
Explanation: The correct answer is Kolkata on 24 Oct 1984.
The Kolkata Metro is a rapid transit system serving the city of Kolkata in West Bengal, India. The Kolkata Metro is the first planned and operational rapid transit system in India. Its construction started in the 1970 s. The train ran on 24th October 1984.

71. Which of the following cities is known as Scotland of the East?
a. Aizawl
b. Imphal
c. Silchar
d. Shillong

Ans. : d
Explanation: The correct answer is Shillong.
Shillong is known as " Scotland of the east".

72. Which of the following dance forms does NOT belong to Rajasthan?
a. Ghoomar
b. Kalbelia
c. Gangaur
d. Lavani

Ans. d
Explanation: The correct answer is Lavani.
Ghoomar is a traditional folk dance of Rajasthan.

73. Dhanurveda is the upveda of the Yajurveda. It deals with:
a. art of warfare
b. Architecture
c. medicine
d. art and music
Ans. a
Explanation: The correct answer is art of warfare.
Dhanurveda is related to Archery

74. If radius of a sphere is 21 cm, what will be its volume?
a. 38808 cm 3
b. 3500 cm 3
c. 37050 cm 3
d. 3800 cm 3

Ans. a
Explanation:
Given: R adius of a sphere is 21 cm.
Concept used: Area of a Sphere = $\frac{4\pi}{3} \times Radius^3$
Calculation: Volume of the sphere = $\frac{4\pi}{3} \times 21^3$ = 38808 cm 3
∴ Its volume is 38808 cm 3 .

75. Which of the following is NOT generally the properties of non-metals?
a. Dull and lackluster
b. Light substances
c. Conductors
d. Brittle

Ans. c
Explanation: The correct answer is Conductors.
Physical Properties of Metals and Non-metals

76. The value of 80.6 ÷ 4030 = ?
a. 2
b. 0.02
c. 20
d. 0.2

Ans. : b
Explanation:
Calculation: 80.6 ÷ 4030
⇒ 0.02
∴ The required value is 0.02.

77. A shopkeeper sells a chair for Rs. 639 and incurs a loss of 10%. What is the cost price (in Rs.) of the chair?
a. 700
b. 600
c. 615
d. 710
Ans. d

Explanation:
Given:
A shopkeeper sells a chair for Rs. 639 and incurs a loss of 10%.
Concept used: Selling Price = Cost Price (1 - Loss%)
Calculation:
Cost price of the chair = 639 ÷ (1 - 10/100) = Rs. 710
∴ The cost price of the chair is Rs. 710.

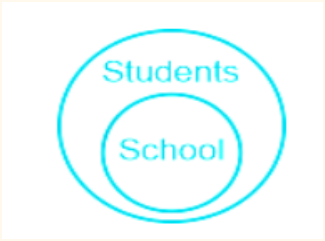
78. Seats for Mathematics, Physics and Chemistry in a school are in the ratio of 7 : 8 : 9. There is a proposal to increase the seats by 30%, 40% and 50% respectively. What will be the ratio of increased seats?
a. 112 : 91 : 135
b. 91 : 112 : 135
c. 135 : 112 : 91
d. 35 : 37 : 91

Ans. b
Explanation:
Seats for Mathematics, Physics and Chemistry in a school are in the ratio of 7 : 8 : 9
There is a proposal to increase the seats by 30%, 40% and 50% respectively.
Concept used:
Incremented value = Initial value (1 + Increased%)
Calculation:
Let the common ratio be Q.
Hence, the seats of Mathematics, Physics and Chemistry are 7Q, 8Q and 9Q respectively.
After the increment,
Seats of Mathematics = 7Q × 1.3 = 9.1Q
Seats of Physics = 8Q × 1.4 = 11.2Q
Seats of Chemistry = 9Q × 1.5 = 13.5Q
Hence, the new ratio = 9.1 : 11.2 : 13.5 = 91 : 112 : 135
∴ The ratio of the increased seats will be 91 : 112 : 135.Given:

79. Read the given statement carefully and decide which of the given conclusions logically follows from the statement.
Statement: Every school has students.
a. Conclusion 1: Students are only in school.
b. Conclusion 3: No school is without students.
c. Conclusion 4: Some schools do not have teachers.
d. Conclusion 2: Schools are meant for students only.

Ans. b
Explanation:

Statement: Every school has students.
The least possible Venn diagram is as follows:



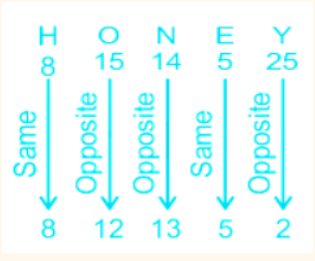
This implies that no school is without students.
Conclusion 1: Students are only in school.→ False (as it is possible but not definite)
Conclusion 3: No school is without students. → True
Conclusion 4: Some schools do not have teachers. → False (as no information is given about teachers)
Conclusion 2: Schools are meant for students only. → False (as it is possible but not definite) Hence, 'No school is without students' is the correct answer.

80. The first Indian woman judge of the Supreme Court of India was:
a. R Bhanumathi
b. Fatima Beevi
c. Indira Banerjee
d. Indu Malhotra

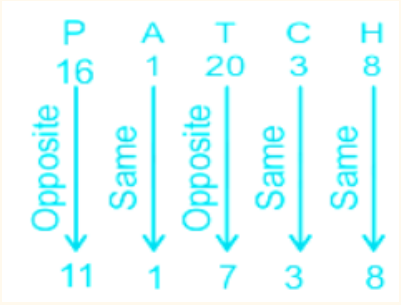
Ans. b
Explanation: The correct answer is Fatima Beevi.
M. Fathima Beevi is the first female judge of the Supreme Court of India. She was appointed to Supreme Court as a Judge on 6 October 1989 where she retired on 29 April 1992.

81. In certain code language, HONEY is coded as 8-12-13-5-2. How will PATCH be coded in that language?
a. 11-1-20-3-8
b. 16-1-7-3-8
c. 16-1-20-3-18
d. 11-1-7-3-8

Ans.d
Explanation:
The logic followed here is:
Step 1: The first half of the general alphabet series is coded as per alphabetical order.
Step 2: The second half i.e.(N to Z) of the general alphabet series is coded in reverse alphabetical order from 13 to 1. HONEY → 8 -12 - 13 - 5 - 2



Similarly, PATCH = ?



Hence, The code for "PATCH" will be "11 - 1 - 7 - 3 - 8".

82. Select the option in which the numbers are related in the same way as are the numbers in the given set. 4, 20, 28
a. 12, 60, 84
b. 6, 24, 48
c. 2, 18, 24
d. 8, 32, 64

Ans. a
Explanation:
The logic followed here is: 4 × 5 = 20;
4 × 7 = 28;
Similarly,
12 × 5 = 60;
12 × 7 = 84;
Hence, '12, 60, 84' is the correct answer.

83. A and B have together Rs. 2,300. If of A's amount is equal to of B's amount, what amount (in Rs.) does B have?
a. 1,150
b. 1,300
c. 1,000
d. 1,200

Ans. b
Explanation:
Given:
A and B have together Rs. 2,300.
$\frac{2}{5}$ of A's amount is equal to$\frac{8}{26}$ of B's amount
Calculation: Let A has Rs. Q.
Hence, B has Rs. (2300 - Q).
According to the question, $\frac{2}{5}\times$ Q =$\frac{8}{26}$ × (2300 - Q)
⇒ 13Q = 23000 - 10Q
⇒ Q = 1000
⇒ (2300 - Q) = 1300 ∴ B has Rs. 1300.

84. Ram bought a cycle for Rs. 1,900 and sold it for Rs. 1,862. What was the percentage loss?

a. 4%

b. 6%

c. 2%

d. 8%

Ans.c

Explanation:

Given: Ram bought a cycle for Rs. 1,900 and sold it for Rs. 1,862.

Concept used:

Loss = Cost Price - Selling Price

Loss% = $\frac{loss}{cost\ price} \times 100\%$

Calculation:

Loss incurred = 1900 - 1862 = Rs. 38

Loss% = $\frac{38}{1900} \times 100\%$ = 2%

∴The percentage loss is 2%.

85. Who is the highest Law Officer of the Government of India?

a. Major General of the Gendarmerie

b. Attorney General for India

c. Advocate General of the State

d. Comptroller and Auditor General of India

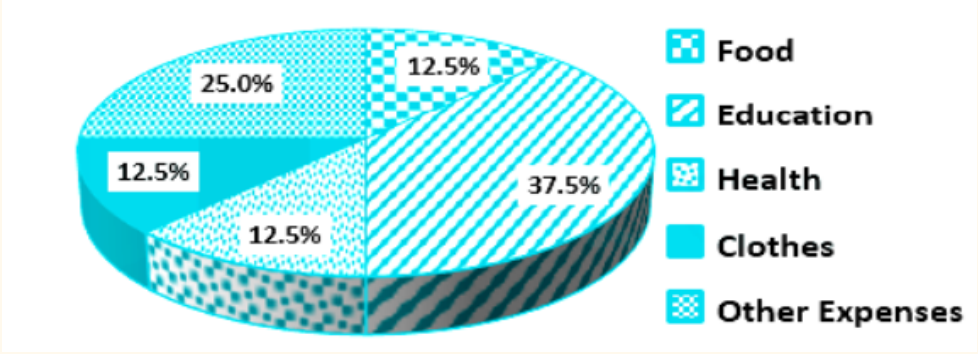
Ans. b

Explanation:

The correct answer is Attorney General for India.

The Attorney General (AG) of India is a part of the Union Executive. AG is the highest law officer in the country.

86. The following pie diagram shows the total expenditure (in percentage) incurred by 'X' in one month. Answer the given question based on the pie diagram.

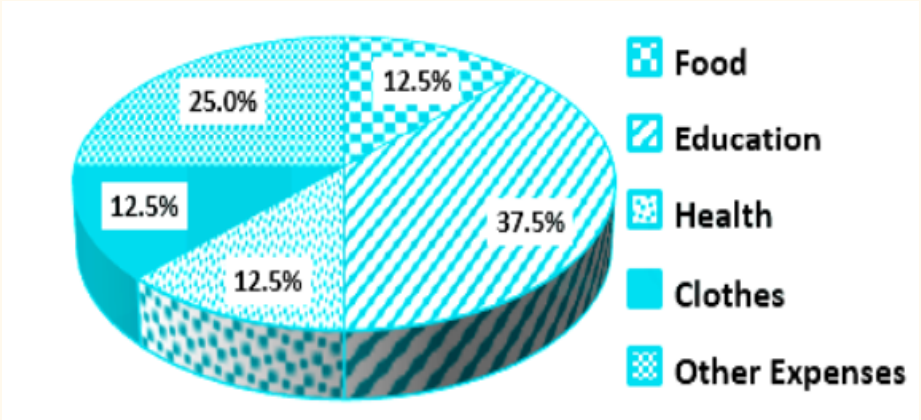


If X does not incur 'Other Expenses' and all other expenses remain the same, what would be the approximate percentage share of education expenses in X's total expenditure?

a. 37%
b. 50%
c. 33%
d. 28%

Ans. b Explanation:
Calculation:
Share of the education expenses = 37.5%
Share of the other expenses = 25%
The approximate percentage share of education expenses in X's total expenditure = $\frac{37.5}{(100-25)} \times 100\% = 50\%$
∴ The approximate percentage share of education expenses in X's total expenditure would be 50%.

87. The following pie diagram shows the total expenditure (in percentage) incurred by 'X' in one month. Answer the given question based on the pie diagram.



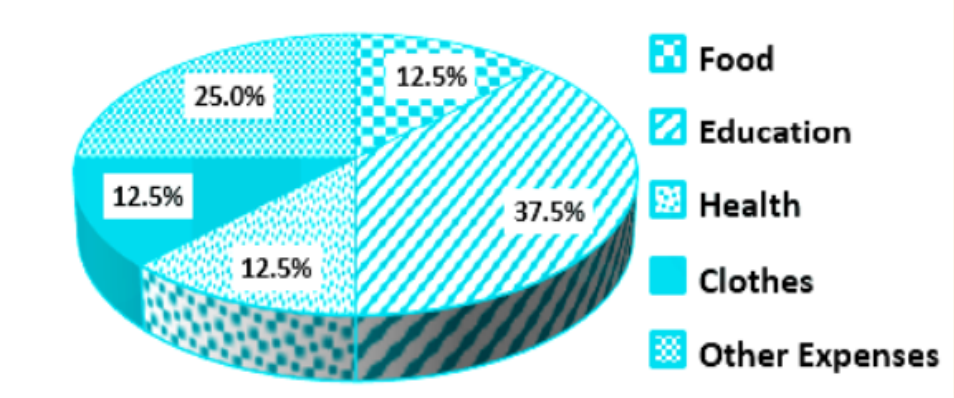
If X decides to save money and reduce expenditure uniformly by 20% on all heads, what would be the CHANGE in the percentage share of Education in the total expenditure incurred by X?

a. 9.38%
b. 7.5%
c. 20%
d. 0%

Ans. d
Explanation:
Calculation:
The percentage share of Education in the total expenditure incurred by X = $\frac{37.5-37.7\times80\%}{100-100\times80\%}$ = 37.5%

The CHANGE in the percentage share of Education in the total expenditure incurred by XT = 37.5 - 37.5 = 0%
Since the reduction is being made uniformly across all the sections, the resultant shares in terms of percentage will not change.
∴ The CHANGE in the percentage share of Education in the total expenditure incurred by XT would be 0%.

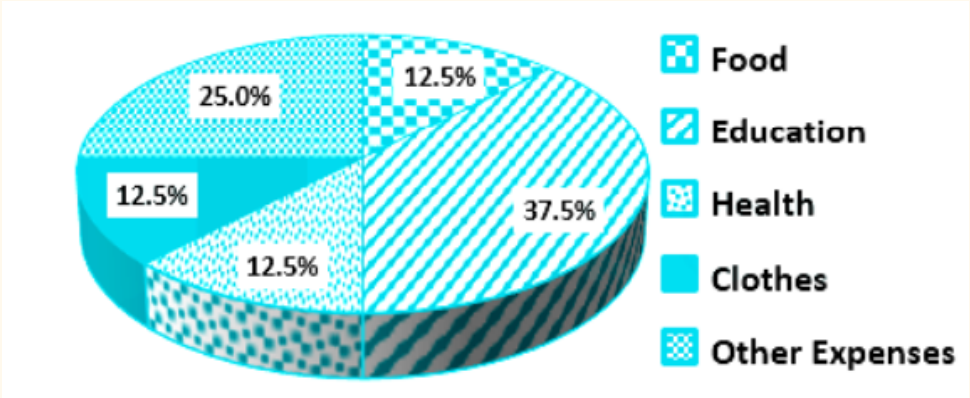
88. The following pie diagram shows the total expenditure (in percentage) incurred by 'X' in one month. Answer the given question based on the pie diagram



The expenditure incurred on education is as much as that incurred on:
a. Health and Food
b. Food and Other expenses
c. Food and Clothes
d. Clothes and Health

Ans. b
Explanation:
Calculation:
Share of Food and Other expenses = 12.5 + 25 = 37.5%
Share of education expenses = 37.5%
∴ The expenditure incurred on education is as much as that incurred on Food and Other expenses.

89. The following pie diagram shows the total expenditure (in percentage) incurred by 'X' in one month. Answer the given question based on the pie diagram.



The highest percentage of total expenditure is incurred on:
a. Food and Other Expenses
b. Clothes and Food
c. Health and Clothes
d. Food and Health

Ans. a
Explanation:
Calculation:
Share of Food and Other Expenses = 12.5 + 25 = 37.5%
Share of Clothes and Food = 12.5 + 12.5 = 25%
Share of Health and Clothes = 12.5 + 12.5 = 25%
Share of Food and Health = 12.5 + 12.5 = 25%
∴ The highest percentage of total expenditure is incurred on Food and Other Expenses.

90. How many such digits are there in the following sequence, each of which is immediately preceded as well as immediately followed by a letter?
A B 7 C D 9 Z Y * P 2 M © K S 3 ↑ 5 N T 9
a. Three
b. One
c. Two
d. Four

Ans. a
Explanation:
Given:
Left : A B 7 C D 9 Z Y * P 2 M © K S 3 ↑ 5 N T 9 : Right
Condition to be checked:
i) Digits which is immediately preceded as well as immediately followed by a letter:
Letter → Digit → Letter
Left : AB 7 CD 9 ZY *P 2 M© K S 3 ↑ 5 N T 9 : Right
Thus, there are three such digits, each of which is immediately preceded as well as immediately followed by a letter. Hence, the correct answer is "Three".

91. 'Supply' is related to 'Demand' in the same way as 'Production' is related to_____'.
a. Income
b. Inventory
c. Factory
d. Consumption

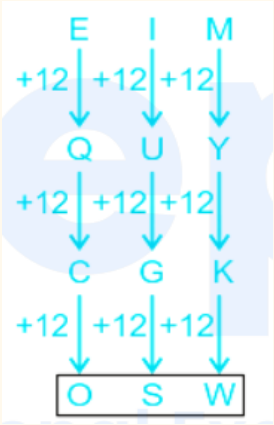
Ans. d
Explanation:
The logic followed here is:
An increase in demand can be met through an increase in supply.
Similarly, an increase in consumption can be met through an increase in production.
Hence, the correct answer is Consumption.

92. Four activities have been listed, out of which three are alike in some manner and one is different. Select the odd one.
a. Exercise
b. Jog
c. Walk
d. Run

Ans. a
Explanation:
The logic followed here is: Jog, Walk, and Run is a type of exercise done with the help of legs.
Whereas, 'Exercise' is a common term used for all types of activities done keep oneself fit.
Hence, Exercise is the odd one.

93. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.
EIM, QUY, CGK, ?
a. OSW
b. RVZ
c. DHL
d. FJN

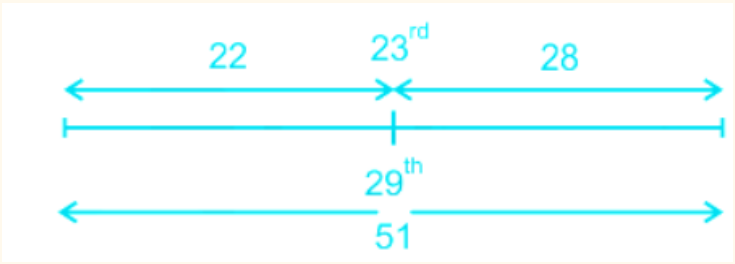
Ans.a
Explanation:
The logic followed here is:



Hence, the next term in the series is OSW

94. Students of a particular class are standing in a line. If a student's serial number is twenty-three from the start of the line in that class of fifty-one, then what is her serial number from the last student in the line?
a. Twenty-seven
b. Twenty-nine
c. Twenty-three
d. Twenty-five

Ans. b
Explanation:
The logic followed here is:
If a student's serial number is twenty-three from the start of the line in that class of fifty-one, then



The number of students after the student = 51 - 23 = 28
Here, her serial number from the last student in the line is 28 + 1 = 29th.
Hence, "Twenty-nine"is the correct answer.

95. Among the four words given, three are alike in some manner and one is different. Select the odd one.
a. Companion
b. Partner
c. Rival
d. Colleague

Ans. c
Explanation:

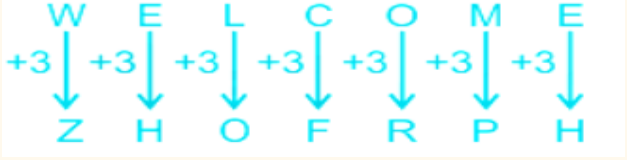
The logic followed here are:
Companion, Partner and Colleague are synonym for a mate or friend. Whereas Rival is antonym of friend. Hence, Rival i s the odd one

96. Six students B, D, F, U, V and X are compared on the basis of their marks. X scored more marks than only two students. B scored marks more than F but less than U. If F scored more marks than X, then who scored the highest marks?
a. V
b. B
c. U
d. D

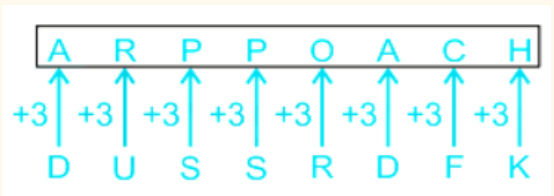
Ans. c
Explanation:
Six Students : B, D, F, U, V and X.
i) X scored more marks than only two students. __ > __ > __ > X > __ > __.
ii) B scored marks more than F but less than U.
U > B > F; __ > __ > __ > X > __ > __.
iii) If F scored more marks than X. U > B > F > X > __ > __
Here, U scored the highest marks. Hence, Uis the correct answer.

97. In a certain code language, WELCOME is coded as ZHOFRPH. Which of the given options would be coded as DUSSRDFK in that language?
a. ARPROACH
b. APPROACH
c. ARRPOACH
d. ARPPOACH

Ans. : d
Explanation:
The logic followed here is:
The code for WELCOME is :



Similarly, DUSSRDFK is the code of :
? = DUSSRDFK



Hence, "ARPPOACH" will be coded as DUSSRDFK.

98. Select the letter from among the given options that can replace the question mark (?) in the following series. Z, V, R, ?, J, F

a. M

b. P

c. K

d. N

Ans. d

Explanation: The logic followed here is:

Hence, 'N' will replace the question mark

99. In a mid-term exam of class 11, 42% students failed in Mathematics, 54% students failed in Physics and 48% students failed in Chemistry. Only 10% students failed in all the three subjects. 20% students failed in both Physics and Chemistry, 15% students failed in both Chemistry and Mathematics, and 18% students failed in both Physics and Mathematics. What is the percentage of those students who failed in two subjects only?

a. 53%

b. 43%

c. 23%

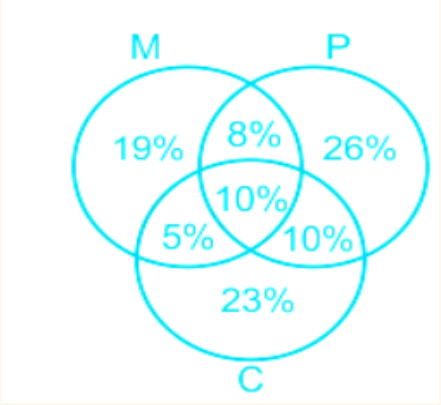
d. 33%

Ans. c

Explanation:

Given: In a mid-term exam of class 11, 42% of students failed in Mathematics, 54% of students failed in Physics and 48% of students failed in Chemistry. Only 10% of students failed in all three subjects. 20% of students failed in both Physics and Chemistry, 15% of students failed in both Chemistry and Mathematics, and 18% of students failed in both Physics and Mathematics.

Concept used: Venn Diagram



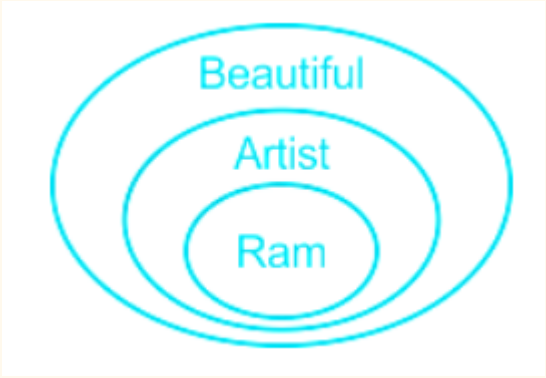
Here, Mathematics, Physics, and Chemistry are denoted by M, P, and C respectively.

According to the question, M = 42%

P = 54%
C = 48%
M + P + C = 10%
M + C = 15%
P + M = 18%
P + C = 20%
Hence, Only (M + C) = 15 - 10 = 5%
Only (P + M) = 18 - 10 = 8%
Only (P + C) = 20 - 10 = 10%
Thus, the percentage of those students who failed in two subjects only = 5 + 8 + 10 = 23%
∴ T he percentage of those students who failed in two subjects only is 23%.

100. Read the given statements carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follows from the statements.
Statements: (i) Ram is an artist. (ii) Artists are beautiful.
a. Conclusion 2: Ram is beautiful.
b. Conclusion 3: Ram is not beautiful.
c. Conclusion 1: All beautiful persons are artists.
d. Conclusion 4: Beautiful persons are not artists.

Ans. : a
Explanation:
The least possible Venn diagram is as follows:



Conclusion 2: Ram is beautiful.→ True(as Ram is an Artist and Artists are beautiful.)
Conclusion 3: Ram is not beautiful. → False (as Ram is an Artist and Artists are beautiful.)
Conclusion 1: All beautiful persons are artists. → False (as its is possible but not definite)
Conclusion 4: Beautiful persons are not artists. → False (as Ram is an Artist and Artists are beautiful.) Hence, 'Ram is beautiful' is the correct answer.