Bihar Jeevika Block IT Executive Memory Based Paper Held On 20 November 2025

Q.1 DRDO successfully conducted consecutive user-evaluation test flights from Dr. A.P.J. Abdul Kalam Island (Odisha) in July 2025. These tests were conducted for which missile?

A. Agni-V
B. BrahMos
C. Pralay
D. Nirbhay

Answer: C

Sol: The correct answer is (c) Pralay

Explanation:

• DRDO conducted back-to-back successful test flights of the Pralay missile from Dr. A.P.J. Abdul Kalam Island on July 28 and 29, 2025.

• The tests validated both the minimum and maximum range capabilities of the quasi-ballistic missile system.

• The missile precisely hit the designated targets with high accuracy, meeting all mission objectives.

• All subsystems performed as expected, verified through tracking sensors and ship-mounted instruments.

• These tests were part of User Evaluation Trials conducted with the Indian Armed Forces.

Information Booster:

• Pralay is a solid-fuel, surface-to-surface quasi-ballistic missile developed by DRDO.

• It can carry a variety of warheads and engage diverse target profiles at high precision.

Additional Knowledge:

Agni-V (Option a)

• Long-range nuclear-capable ballistic missile; not tested in this July 2025 event.

BrahMos (Option b)

• Supersonic cruise missile; unrelated to this specific trial.

Nirbhay (Option d)

• Long-range subsonic cruise missile; not connected to these tests.

Q.2 What is the motto of the United Nations Organisation (UNO)?

A. Peace for All
B. It's Your World
C. One World, One Future
D. Unity for Humanity

Answer: B

Sol: The correct answer is (b) It's Your World

Explanation:

• The official motto/slogan of the United Nations is "It's Your World."

• It highlights the UN's vision of collective responsibility and global cooperation.

• The motto reflects the idea that the UN belongs to all nations and people and works for peace, security, and development.

• It is used in official UN communication to promote inclusiveness and global participation.

Information Booster:

• UNO was founded on 24 October 1945 after World War II.

• Headquarters: New York City, USA.

Additional Knowledge:

Option (a): Peace for All

• Not an official UN motto, though peace is its core objective.

Option (c): One World, One Future

• Popular phrase but not adopted officially by the UN.

Option (d): Unity for Humanity

• Not associated with UNO's official branding or documents.

Q.3 The first Paralympic Games took place in _____.

A. Paris
B. Rome
C. London
D. Rio De Janeiro

Answer: B

Sol: The correct answer is **(B) Rome**.
Explanation:
The **first Paralympic Games** were held in **Rome** in **1960**. These games followed the **1952 Stoke Mandeville Games** and marked the beginning of the **Paralympic movement**, which provides athletes with physical disabilities the opportunity to compete at an international level.

Information Booster:

• The **1960 Rome Paralympics** were the first to be officially recognized by the **International Olympic Committee (IOC)**.

• **Rome 1960** saw participation from **23 countries** and included athletes with various disabilities, making it a landmark event in the history of the Paralympic Games.

• The games were held immediately following the **Summer Olympics** in Rome, with the venue and facilities used for both events.

Q.4 In August 2025, which electric vehicle was launched by Prime Minister Narendra Modi during the inauguration of Maruti Suzuki's lithium-ion battery facility in Hansalpur, Ahmedabad?

A. e-Alto K10
B. e-VITARA
C. e-Swift
D. e-Baleno

Answer: B

Sol: · Prime Minister Narendra Modi inaugurated two projects at Maruti Suzuki's Hansalpur plant in Ahmedabad, Gujarat.
· He flagged off production of Maruti Suzuki's first global electric vehicle, the e-Vitara, and launched a lithium-ion battery manufacturing facility for hybrid and electric vehicle batteries.
· The SUV will be sold in India and exported to over 100 countries, including the UK, where it is already on sale at £29,999 (around ₹35 lakh).
· The e-Vitara will have two battery options, 49 kWh and 61 kWh, with claimed ranges of 346 km and 428 km, respectively, in single-motor, 2WD models.
· The UK also offers a dual-motor 4WD version with the 61 kWh battery, providing up to 412 km of range.

Q.5 In which city was the 2025 World Para Archery Championships held?

A. Tokyo, Japan
B. Seoul, South Korea
C. Gwangju, South Korea
D. Beijing, China

Answer: C

Sol:
The correct answer is **(c) Gwangju, South Korea**
Explanation:
· The 2025 World Para Archery Championships took place in **Gwangju**, South Korea, where Sheetal Devi created history by winning gold.
Information Booster:
· India's **Toman Kumar** also won gold in men's compound.
· India's **Shyam Sunder Swami** missed out on bronze.
· Event reinforced India's strength in para-archery.

Q.6 Where is the Headquarters of the world trade organization (WTO) ?

A. Geneva
B. London
C. Osaka
D. New York

Answer: A

Sol: The correct answer is (a) Geneva.
Explanation:
. The World Trade Organization (WTO) has its headquarters in Geneva, Switzerland.
. The WTO is an intergovernmental organization that deals with the global rules of trade between nations.
. It was established on January 1, 1995, replacing the General Agreement on Tariffs and Trade (GATT).
. The WTO aims to ensure that trade flows as smoothly, predictably, and freely as possible.
Information Booster:
. Geneva is known as a hub for many international organizations, including the European headquarters of the United Nations, the World Health Organization (WHO), and the Red Cross.
. The WTO headquarters building is called the Centre William Rappard (CWR).
. The WTO has 164 member countries (including the European Union) and 23 observer governments.
Additional Knowledge:
(b) London (Option b)
. London is the capital of England and the United Kingdom. While it hosts several international bodies, it is not the location of the WTO headquarters.
(c) Osaka (Option c)
. Osaka is a major city in Japan, known for its commerce and culture, but it is not the headquarters of the WTO.
(d) New York (Option d)
. New York City is a major global city and home to the headquarters of the United Nations, but it is not the location of the WTO headquarters.

Q.7 Where did DRDO conduct the flight test of the Stratospheric Airship Platform (SAP)?

A. Pokhran, Rajasthan
B. Sheopur, Madhya Pradesh

C. Balasore, Odisha

D. Sriharikota, Andhra Pradesh

Answer: B

Sol: The correct answer is (b) Sheopur, Madhya Pradesh.

- DRDO successfully conducted the **maiden flight trial** of the **Stratospheric Airship Platform (SAP)** at **Sheopur, Madhya Pradesh** on **3 May 2025**.

- The airship reached an altitude of around **17 km** during the 62-minute flight test.

Information Booster:

- Developed by DRDO's **Aerial Delivery Research and Development Establishment (ADRDE), Agra**.

- Systems tested included **envelope pressure control** and **emergency deflation**.

- Data collected will help in creating **simulation models** for future missions.

Additional Knowledge:

- SAP is a **lighter-than-air high-altitude platform** with prolonged endurance.

- It is designed for **Intelligence, Surveillance & Reconnaissance (ISR)**, **earth observation**, and communication support.

- India has now joined a **select group of nations** with indigenous stratospheric airship technology.

Q.8 Which number will replace the question mark (?) in the following series?
3, 7, 18, 40, 75, 127, 198, 292, 415, 569, ?

A. 706

B. 860

C. 806

D. 760

Answer: D

Sol: Given: 3, 7, 18, 40, 75, 127, 198, 292, 415, 569, ?

So, the missing term is **760**.

Thus, correct option is (d).

Q.9 Which letter cluster will replace the question mark (?) to complete the given series?
APZD, CRBF, ETDH, ?, IXHL

A. GVJF

B. GHIJ

C. GFVJ

D. GVFJ

Answer: D

Sol: Given:

APZD, CRBF, ETDH, ?, IXHL

Logic: Each letter +2 pattern is followed in all four positions from one term to the next.

1st letters:

A +2 = C, C +2 = E, E +2 = G, G +2 = I

2nd letters:

P +2 = R, R +2 = T, T +2 = V, V +2 = X

3rd letters:
Z +2 = B, B +2 = D, D +2 = F, F +2 = H
4th letters:
D +2 = F, F +2 = H, H +2 = J, J +2 = L
Missing term = **GVFJ**
Thus, correct option is (d).

Q.10   A is the son of B. B is the son of C. D is the wife of C. E is the daughter of C. How is A related to E?

A. Son
B. Brother
C. Brother's son
D. Sister's son

Answer: C

Sol: Given:

A is the son of B.
B is the son of C.
D is the wife of C.
E is the daughter of C.

Symbol in Diagram	Meaning
- / O	Female
+ / □	Male
=	Married Couple
—	Siblings
|	Difference Of Generation

From the given information family diagram will be
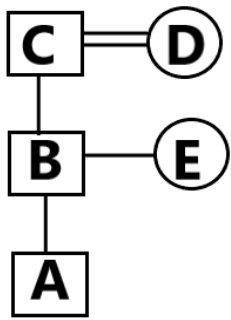
A is **Brother's son** of E.

Thus, correct option is (c).

Q.11 A, B, C, D, E and F have different heights. C is shorter than exactly 1 person. D is shorter than A but taller than F. E is shorter than F, and C is shorter than B. How many people are taller than D?

A. 3
B. 1
C. 2
D. 4

Answer: A

Sol: Given:

A, B, C, D, E and F have different heights.
C is shorter than exactly 1 person.
D is shorter than A but taller than F.
E is shorter than F, and C is shorter than B.
From the given information arrangement will be.
B > C > A > D > F > E
3 people are taller than D.
Thus, correct option is (a).

Q.12 Raghav starts from Point A and drives 8 km towards South. He then takes a left turn, drives 6 km, turns left and drives 11 km. He then takes a left turn and drives 12 km. He takes a final left turn, drives 3 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only, unless specified)

A. 4 km to the east
B. 5 km to the east
C. 6 km to the east
D. 3 km to the east

Answer: C

Sol: **Given:** Raghav starts from Point A and drives 8 km towards South.
He then takes a left turn, drives 6 km, turns left and drives 11 km.
He then takes a left turn and drives 12 km.
He takes a final left turn, drives 3 km and stops at Point P.
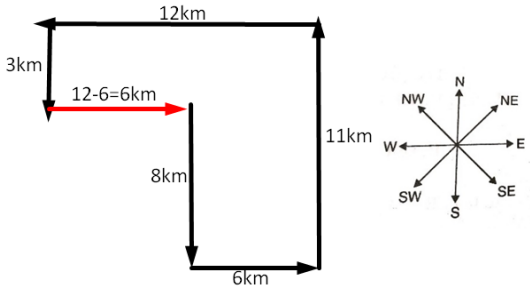
Raghav should drive **6 km to the east** in order to reach Point A again.
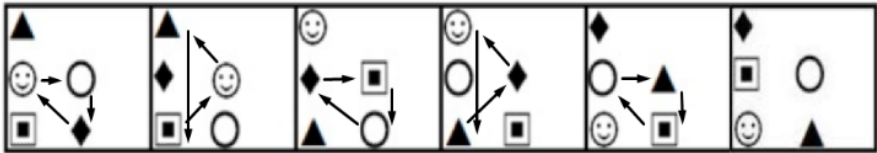Thus, the correct option is (c).

Q.13 Which figure will replace the question mark (?) in the following figure series?
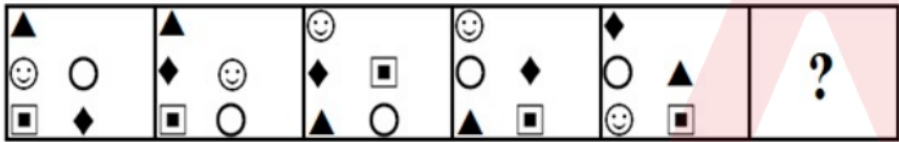
Answer: C

Sol: **Logic**: 1. The movement of first and third are similar.
2. The movement of second and fourth are similar as shown below.

Thus, correct option is (c).

Q.14 Three of the following four figures are alike in a certain way and one is different. Select the odd one.

A.

B.

C.

D.

Answer: D

Sol: Logic: In option A, B and C arrow and triangle is on the same side of the line.
While option D both are on opposite side of the line.

Thus, correct option is (d).

Q.15 Three of the following four figures are alike in a certain way and one is different. Select the odd one.

A.

B.

C.

D.

Answer: B

Sol: Logic: Option A, C and D contains the mirror image of the figure.
While option B is not contains the mirror image of the figure.

Thus, correct option is (b).

Q.16 Three of the following four figures are alike in a certain way and one is different. Select the odd one.
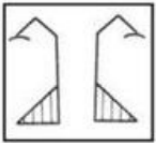
A.

B.

C.

D.
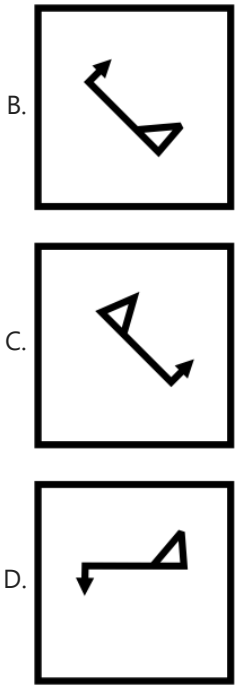
Answer: D

Sol: **Let's explain all the options:**
In options **A**, **B**, and **C**:
The arrow is **pointing upward** or **to the right**.
It is always inside a small square or pointing outward at an angle.
But in **option D**:
The arrow is **pointing downward**, completely opposite.
Orientation is different compared to the others.
So, **D** is the odd one out.
Thus, the correct option is **(d).**

Q.17 A pie-chart shows the expenditure pattern of a person out of his total income ₹28,000. If he saves ₹4,900, then the value of x° (saving sector angle) is:

A. 136°
B. 126°
C. 63°
D. 45°

Answer: C

Sol: **Given:**
Total income = 28,000
Saving = 4,900
Formula used:
Sector angle = (Value / Total) × 360°
x = (Saving / Total income) × 360°
Solution:
x = 4900 / 28000 × 360
x = 0.175 × 360
x = 63°
Correct answer is (C)

Q.18 Study the given graph and answer the question that follows.

Marks of Devi in Different Subjects
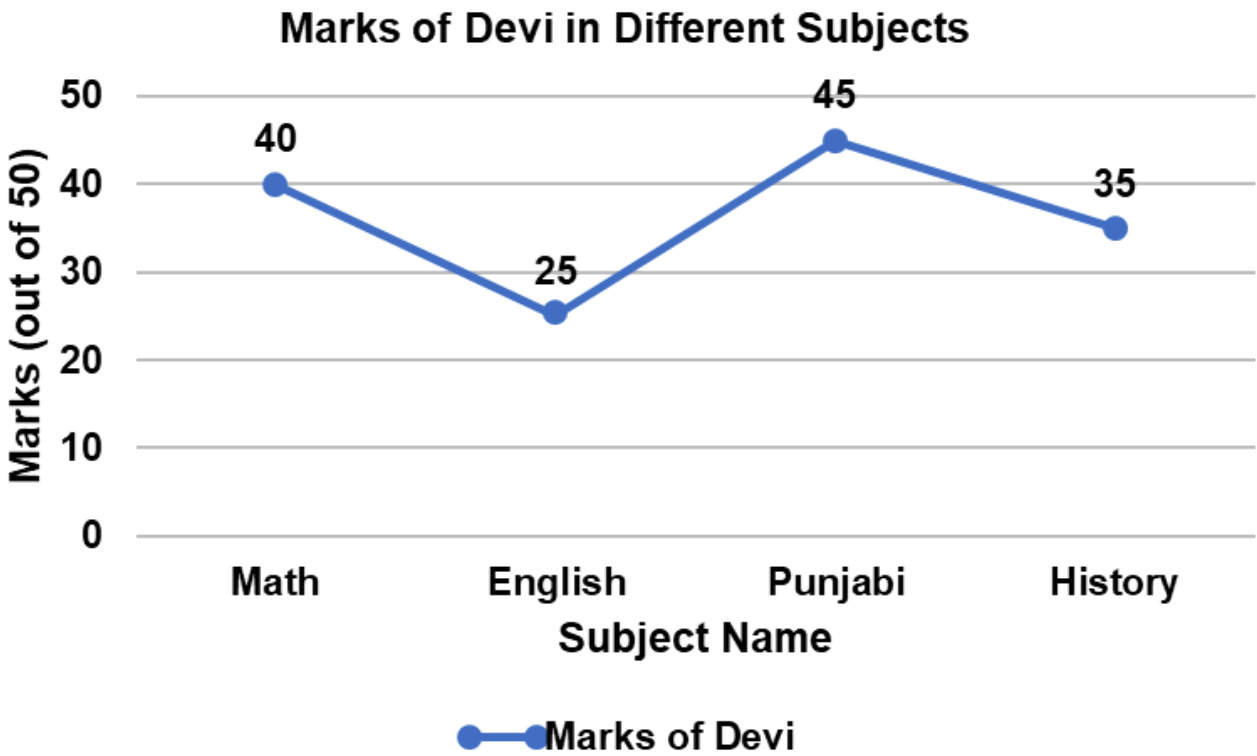
The graph above depicts the marks of Devi in different subjects. What is her percentage of marks in Punjabi?

A. 95%
B. 80%
C. 85%
D. 90%

Answer: D

Sol: Solution:
Maximum Number = 50

Obtains marks in Punjabi by Devi = 45

Percentage = $\dfrac{45}{50} \times 100 = 90\%$

Q.19 Number of books issued by a library for five months has been represented in the following bar graph.
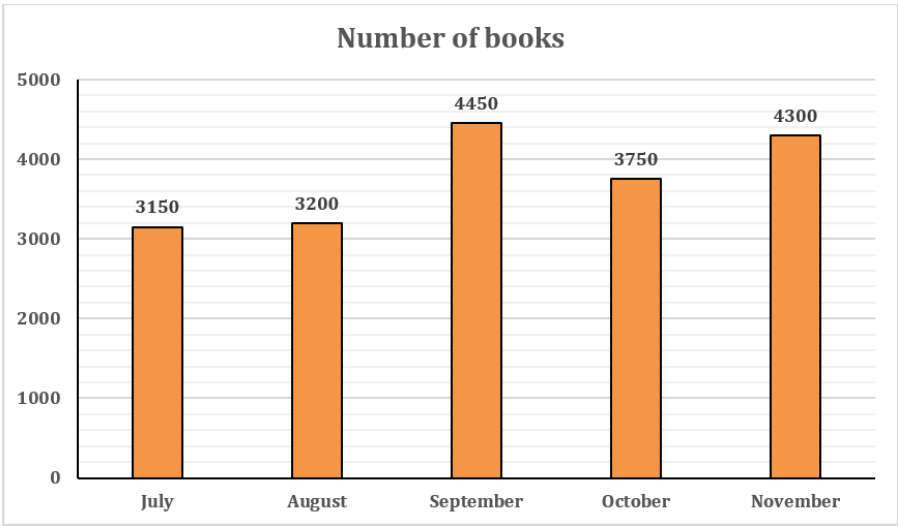
Number of books

In which month were the number of books issued the minimum?

A. August
B. November
C. July
D. October

Answer: C

Sol: Solution:
From the data:
July: 3150

August: 3200

September: 4450

October: 3750

November: 4300

∴ The number of books issued was minimum in July.

Q.20 An item marked for Rs. 39,250 is sold at Rs. 32,499 after allowing two successive discounts of x% and 10%. Find the value of x.

A. 9
B. 10
C. 12
D. 8

Answer: D

Sol: Given:

Marked Price (MP) = ₹39,250

Selling Price (SP) = ₹32,499

Two successive discounts: x% and 10%

Formula Used:

Successive discount formula

$$SP = MP \times \left(1 - \frac{D_1}{100}\right) \times \left(1 - \frac{D_2}{100}\right)$$

Solution:

By Formula;

$$32,499 = 39,250 \times \left(1 - \frac{x}{100}\right) \times \left(1 - \frac{10}{100}\right)$$

$$32,499 = 39,250 \times \left(1 - \frac{x}{100}\right) \times \frac{9}{10}$$

$$32,499 = 35,325 \times \left(1 - \frac{x}{100}\right)$$

$$1 - \frac{x}{100} = \frac{32,499}{35,325}$$

$$1 - \frac{x}{100} = \frac{23}{25}$$

$$-\frac{x}{100} = \frac{23}{25} - 1$$

$$-\frac{x}{100} = -\frac{2}{25}$$

$$x = \frac{2}{25} \times 100 = 8\%$$

Q.21 If 20% of first number is equal to four-fifths of second number, what is the ratio of first number to the second number?

A. 1 : 6
B. 4 : 1
C. 6 : 2
D. 7 : 4

Answer: B

Sol: Given:

20% of first number = $\frac{4}{5}$ of second number

Find ratio: First Number : Second Number

Solution:

20% of A = $\frac{4}{5}$ of B

$\frac{1}{5}A = \frac{4}{5}B$

A = 4B

So,

A : B = 4 : 1

Q.22 A person invested a sum of ₹50,000 partly at 15% p.a. and remaining at 18% p.a. at simple interest. At the end of 2 years, the total interest received was ₹16,800. The ratio of the sum at 15% p.a. to the sum at 18% p.a. is:

A. 1 : 4
B. 2 : 3
C. 4 : 1
D. 3 : 2

Answer: B

Sol: Given:

Total amount = ₹50,000
Part invested at 15% = x
Part invested at 18% = (50,000 - x)
Total SI for 2 years = ₹16,800

Formula Used:
SI = $\frac{PRT}{100}$
Solution:

Interest from amount at 15%:

$I_1 = \frac{x \times 15 \times 2}{100} = 0.30x$

Interest from amount at 18%:

$I_2 = \frac{(50000 - x) \times 18 \times 2}{100} = 0.36(50000 - x)$

Total interest:

0.30x + 0.36(50000 - x) = 16800

0.30x + 18000 - 0.36x = 16800

-0.06x = -1200

x = 20000

So at 15% = ₹20,000
At 18% = ₹30,000

Ratio (15% : 18%) = 20000 : 30000 = 2 : 3

Q.23 The amount (in ₹) payable after 1 year on a principal of ₹10,000 at 6% per annum compounded half-yearly is:

A. 10,605
B. 10,600
C. 10,609
D. 10,906

Answer: C

Sol: Given:
Principal P = ₹10,000
Rate R = 6% per annum
Compounded half-yearly → rate per half-year
$= \dfrac{6\%}{2}$ = 3%
Number of half-years = 2

Formula Used:
$A = P\left(1 + \dfrac{R}{100}\right)^{n}$

Where, R = Rate,

n = Number of half-years

Solution:

$A = 10000(1 + 0.03)^{2}$

$= 10000 \times 1.03^{2}$

$= 10000 \times 1.0609$

$= 10609$

∴ Amount payable after 1 year = ₹10,609.

Q.24 An item is marked for Rs. 18,000. A shopkeeper gives two successive discounts of 10% and 5%. What is its selling price?

A. Rs. 14,390
B. Rs. 17,390
C. Rs. 18,390
D. Rs. 15,390

Answer: D

Sol: Given:
Marked Price (MP) = Rs. 18,000

Successive discounts = 10% and 5%

Formula Used:

$SP = MP \times \left(1 - \dfrac{a}{100}\right) \times \left(1 - \dfrac{b}{100}\right)$

Solution:

$SP = 18000 \times \left(1 - \dfrac{10}{100}\right) \times \left(1 - \dfrac{5}{100}\right)$

= 18000 × 0.90 × 0.95

= 18000 × 0.855

= Rs. 15,390

Alternate Solution:

Successive discount formula:

Effective discount = a + b - $\dfrac{ab}{100}$

= 10 + 5 - $\dfrac{10 \times 5}{100}$

= 15 - 0.5 = 14.5%

Selling Price = 18000 × (1 - 0.145) = 18000 × 0.855 = Rs. 15,390

Q.25 A company earns a profit (in Rs.) that is distributed among the company's three partners in the ratio of 13 : 3 : 9. If the difference between the smallest and the largest shares is Rs. 36,846, the total profit (in Rs.) of the company is:

A. 92,051
B. 92,110
C. 92,167
D. 92,115

Answer: D

Sol: **Given:**
Profit is divided among three partners in the ratio 13 : 3 : 9.

Difference between largest and smallest shares = ₹36,846.

Solution:

Let the common factor be x. Shares are 13x, 3x, 9x.

Difference (largest − smallest) = 13x - 3x = 10x.

Total profit = (13 + 3 + 9)x = 25x

10x = 36,846

x = $\dfrac{36,846}{10} = 3,684.6$

Total profit $= 25x = 25 \times 3,684.6 = ₹92,115$

Q.26 A train travels at a certain average speed for a distance of 63 km. Thereafter it travels a distance of 72 km with an average speed of 6 km/hour more than the original speed. Total time taken to complete the journey is 3 hours. What is the original average speed of the train ?

A. 36 km/hour
B. 42 km/hour
C. 48 km/hour
D. 54 km/hour

Answer: B

Sol: **Given:**

First distance = 63 km

Second distance = 72 km

Speed for second part: (v + 6)km/h, where v is the original speed

Total time taken: t = 3 hours

Need to find: Original average speed v

Formula Used:

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

Solution:

According to the given condition;

$$\frac{63}{v} + \frac{72}{v+6} = 3$$

$$63(v+6) + 72v = 3v(v+6)$$

$$63v + 378 + 72v = 3v^2 + 18v$$

$$135v + 378 = 3v^2 + 18v$$

$$3v^2 + 18v - 135v - 378 = 0$$

$$3v^2 - 117v - 378 = 0$$

$$v^2 - 39v - 126 = 0$$

(x - 42)(x + 3) = 0

x = 42 or x = -3

Since speed must be a positive value;

Therefore, the original average speed of the train = 42 km/h

Q.27 A 60 m long train travels at a uniform speed of 72 km/hour. It passes non-stop along the 600 m platform of a wayside station. What is the elapsed time for the train to entirely clear the platform ?

A. 30 seconds
B. 31 seconds
C. 32 seconds
D. 33 seconds

Answer: D

Sol: **Given:**

Length of train: L_{train} = 60 m

Speed of train: v = 72 km/h

Length of platform: L_{platform} = 600 m

Need to find: Time elapsed to entirely clear the platform

Formula Used:

Time = $\dfrac{\text{Distance}}{\text{Speed}}$

Solution:

Speed into m/s:

v = 72 km/h = $72 \times \dfrac{5}{18}$ = 20 m/s

For the train to entirely clear the platform, it must travel from the moment its front enters until its rear end exits.

Total distance = 60 + 600 = 660 m

Time = $\dfrac{660}{20}$ = 33 seconds

Therefore, the elapsed time for the train to entirely clear the platform = 33 seconds

---

Q.28 A sum of ₹16,380 is divided among A, B, C, and D such that the ratio of the shares of A and B is 1 : 3, that of B and C is 2 : 5, and that of C and D is 2 : 3. The share (in ₹) of C is:

A. 5,400
B. 8,100
C. 6,300
D. 4,500

Answer: A

Sol: Given:
Total amount = ₹16,380
A : B = 1 : 3
B : C = 2 : 5
C : D = 2 : 3

Solution:

A : B = 1 : 3

B : C = 2 : 5 → Make B equal in both ratios.

Current B values: 3 and 2

LCM = 6

A : B becomes (1×2 : 3×2 = 2 : 6)

B : C becomes (2×3 : 5×3 = 6 : 15)

Now combine → A : B : C = 2 : 6 : 15

C : D = 2 : 3

Current C in combined ratio = 15

Make C = 15

Ratio C : D = 2×7.5 : 3×7.5 = 15 : 22.5

Final ratio A : B : C : D =
2 : 6 : 15 : 22.5

Total parts = 2 + 6 + 15 + 22.5 = 45.5

Value of 1 part = 16380 ÷ 45.5 = 360

Share of C = 15 × 360 = 5400

∴ The share of C = ₹5,400

Q.29 Choose the options that are similar to the address format.
I. 225, Rose Street, Los Angeles, CA 90001
II. Rose Street, Loss Angeles, CA 90001, 225
III. Los Angale, CA 90001, Rose Street, 225
IV. 225, Loss Angeles, CA 90001, Rose Street

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

Answer: D

Sol: Given:
I. 225, Rose Street, Los Angeles, CA 90001
II. Rose Street, Loss Angeles, CA 90001, 225
III. Los Angale, CA 90001, Rose Street, 225
IV. 225, Loss Angeles, CA 90001, Rose Street

Logic:
The correct address format follows: house number → street name → city → state → postal code.
I has the correct format but contains the correct spelling of "Los Angeles."
II and IV are similar because although the city is misspelled as "Loss Angeles," they both maintain the correct address structure (even with the swap of house number and street name).
III has an incorrect sequence, so it's not considered a match.

Facts & Explanation:
II. "Rose Street, Loss Angeles, CA 90001, 225" - The address is in a valid format, despite the misspelling of the city, as it follows the sequence: street → city → state → postal code → house number.
IV. "225, Loss Angeles, CA 90001, Rose Street" - This follows the sequence correctly as well: house number → city → state → postal code → street name (with a misspelling of "Los Angeles").
Final Answer: (D) Only II and IV
Final Correct Option: (D)

Q.30 Choose the options that are similar to the address format.
I. 98, Maple Avenue, New York, NY 10001
II. Maple Avenue, New York, NY 10001, 98
III. 89, New York, NY 10001, Maple Avenue
IV. New York, YN 10001, Maple Avenue, 98

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

Answer: A

Sol: Given:
I. 98, Maple Avenue, New York, NY 10001
II. Maple Avenue, New York, NY 10001, 98
III. 89, New York, NY 10001, Maple Avenue
IV. New York, NY 10001, Maple Avenue, 98
Logic:
The correct address format typically follows: house number → street name → city → state → postal code.
In options I and II, the house number, street name, city, state, and postal code are in the correct order or easily recognizable despite minor rearrangement.
Facts & Explanation (Operation-wise):
I. "98, Maple Avenue, New York, NY 10001" - Correct format: house number → street → city → state → postal code.

II. "Maple Avenue, New York, NY 10001, 98" - While the house number is placed last, the address components are in a recognizable sequence.
Final Answer: (A) Only I and II
Final Correct Option: (A)

Q.31 What is the full form of "CD"?

A. Circular Disk
B. Compact Disk
C. Continuous Data
D. Core Device

Answer: B

Sol: Correct Answer: **(b) Compact Disk**
Explanation:

The full form of "CD" is **Compact Disk**, which is a digital optical disc storage format. CD was originally developed to store and play music but later became widely used for storing computer data, including software and files.

Information Booster:

- **Compact Disks (CDs)** are widely used for storing music, videos, software, and other data.
- The standard storage capacity of a **CD** is typically **700 MB** for data or about **80 minutes** of audio.
- The CD format was first introduced in the early 1980s.
- There are different types of CDs, such as **CD-ROM** (Read-Only Memory) and **CD-RW** (Rewritable).

Q.32 Which type of network mostly we have in our office where a printer is connected with 2 or more number of computer systems ?

A. PAN
B. LAN
C. MAN
D. WAN

Answer: B

Sol: The network commonly used in offices where multiple computers are connected to a shared printer is a **LAN (Local Area Network)**. LAN allows devices within a **limited geographical area**, such as a single office, building, or campus, to share resources like printers, files, and internet connections efficiently.
Important Key Points:

1. **LAN** connects computers, printers, and other devices in a **localized area** (like an office or home).
2. It enables **resource sharing**, such as files, applications, and peripherals (e.g., printers).
3. LANs are usually **high-speed and cost-effective**, using Ethernet or Wi-Fi.
4. Devices in a LAN can communicate directly without internet access.
5. LANs are managed using switches, routers, and sometimes servers.

Knowledge Booster:

· **PAN (Personal Area Network)** connects devices within a very short range (e.g., Bluetooth between phone and laptop).

· **MAN (Metropolitan Area Network)** spans across a city or town.

· **WAN (Wide Area Network)** connects networks across **countries or continents** (e.g., the Internet).

Q.33 Which of the following is a valid domain name?

A. .com
B. .gov
C. .net

D. All of the above

Answer: D

Sol: All the options listed — **.com**, **.gov**, and **.net** — are valid and commonly used **Top-Level Domains (TLDs)** in the **Domain Name System (DNS)** of the Internet.

- **.com**: Short for **"commercial"**, used by businesses and commercial entities.
- **.gov**: Reserved for **government organizations**, mainly in the **United States**.
- **.net**: Originally meant for **network-related** entities but now used more broadly.

Each of these TLDs is recognized globally and used in **web addresses** (e.g., www.example.com, www.whitehouse.gov, www.provider.net).

Important Key Points:

1. **TLDs** are the **last segment** of a domain name (after the last dot).
2. The **Domain Name System (DNS)** maps domain names to **IP addresses**.
3. **ICANN (Internet Corporation for Assigned Names and Numbers)** manages and authorizes domain names and their extensions.

Knowledge Booster:

- Other examples of valid TLDs:
    - **.org** – for non-profit organizations
    - **.edu** – for educational institutions
    - **.in** – country-code TLD for India
    - **.io**, **.ai** – tech and startup communities
- There are two types of TLDs:
    - **Generic TLDs (gTLDs)** – like .com, .net, .org
    - **Country-code TLDs (ccTLDs)** – like .us, .uk, .in

Q.34 Which of the following is an Open Source Operating System?

A. UNIX
B. Windows
C. iOS
D. Linux

Answer: D

Sol: **Linux** is an open-source operating system, which means its source code is freely available to the public. Anyone can view, modify, and distribute it. This openness promotes collaboration and innovation, making Linux a popular choice for developers, servers, and advanced users.
Important Key Points:
1. Open Source Definition: Open-source software allows users to access and modify its source code without any licensing fee.
2. Linux as Open Source: Linux is based on the Unix architecture and is maintained by a community of developers around the world.
3. Common Linux Distributions: Ubuntu, Fedora, Debian, and CentOS are popular versions of Linux used in various systems.
Knowledge Booster:
• **UNIX:** Though influential in OS development, most versions of UNIX are not open source and are commercially licensed.
• **Windows:** A proprietary operating system developed by Microsoft; its source code is not publicly available.
• **iOS:** Developed by Apple, iOS is also a proprietary and closed-source operating system.

Q.35 A _____ is a contagious program or code that attaches itself to another piece of software, and then reproduce itself when that software is run.

A. Trojan
B. Virus
C. adware
D. spyware

Answer: B

Sol: A **virus** is a **contagious program or code** that attaches itself to another piece of software or a file. It reproduces itself and spreads to other programs or files when the infected software is executed. Viruses can cause various levels of harm, such as corrupting data, slowing down systems, or compromising security.

Important Key Points:

1. A virus relies on **host software** to spread and requires user action to execute the infected file.
2. It can disrupt system operations, damage files, and compromise data integrity.
3. Antivirus software is essential to detect and remove viruses effectively.

Knowledge Booster:

- Trojan: A malicious program disguised as legitimate software, but it does not replicate itself.
- Adware: Software designed to display unwanted advertisements, not self-replicating.
- Spyware: Software that secretly gathers user information, typically for malicious purposes, without self-replication.

Q.36 Which of the following, in general, cannot compute?

A. Calculator
B. Computer
C. Printer
D. Mobile phone

Answer: C

Sol: The correct answer is (C) Printer

Explanation:
- A **printer's primary function** is to **convert digital information into physical documents** or images on paper.
- While modern printers have embedded processors and memory, these are primarily for **managing the printing process** itself, such as queuing jobs, storing fonts, and handling settings.
- Printers are not designed for general-purpose computation or complex data processing in the way a calculator, computer, or mobile phone can.

Information Booster:
- Printers are **output devices** in a computing system, meaning they display or produce the results of processed data.
- Although some printers, particularly office copiers with hard drives, can store print job data, this storage is not for general-purpose computing.
- **3D printers** are a specialized type that creates physical objects from digital files, layer by layer.

Additional Knowledge:
Calculator (Option A)
- A calculator is designed to **perform mathematical operations**, ranging from basic arithmetic to complex scientific calculations
- It processes numerical input to provide results quickly and accurately.
- Modern calculators often incorporate microchips and programming to execute calculations.

Computer (Option B)
- A computer is a **general-purpose computing device** that can perform a wide range of tasks, including input, processing, storage, output, and control.
- It can store, retrieve, and process large amounts of data and execute complex instructions based on predefined programs.
- Computers are used in various fields like education, business, healthcare, entertainment, and science.

Mobile phone (Option D)
- Mobile phones, especially smartphones, are advanced computing devices with a central processing unit (CPU), memory, and an operating system.
- They can perform various computational tasks, including running applications, browsing the internet, processing multimedia files, and handling communication protocols.
- Smartphones have become an integral part of mobile computing, allowing users to interact with computing devices while in motion.

Q.37 Which of the following software is used to create and edit a document?

A. MS Excel
B. MS PowerPoint
C. MS Word
D. MS Access

Answer: C

Sol: **MS Word** is a word processing software developed by Microsoft, primarily used for creating, editing, formatting, and printing documents. It is widely used in offices, schools, and homes for tasks like writing reports, creating resumes, and drafting letters.
Important Key Points:

1. **MS Word** is specifically designed for creating text-based documents with various formatting options.

2. It allows users to add images, tables, and charts, making it a versatile tool for document creation.

Knowledge Booster:

· **MS Excel** is used for creating spreadsheets and performing data analysis, not for document creation.

· **MS PowerPoint** is used for creating presentations, not for text-based documents.

· **MS Access** is a database management system, not intended for document creation.

Q.38   What is the primary function of Alt + Tab in most modern operating systems?

A. Switches between open applications

B. Minimises the active window

C. Opens a new tab in the current application

D. Opens Task Manager directly

Answer: A

Sol: The correct answer is (a) **Switches between open applications**

Explanation:

- In most modern operating systems, including **Windows** and **macOS**, the shortcut **Alt + Tab** allows users to **switch between open applications** or windows.
- When you press **Alt + Tab**, a small overlay or task switcher appears on the screen, showing a thumbnail preview of all open applications.
- By holding **Alt** and pressing **Tab**, you can cycle through the open applications and switch to the one you want to focus on.

Information Booster:

- **Alt + Tab** is a quick and convenient way to navigate between multiple programs without using the mouse.
- On some operating systems, such as **macOS**, a similar function is performed by pressing **Cmd + Tab**.

Additional Knowledge:

(b) **Minimises the active window**: This is done by **Alt + Space** followed by **N** or by using the **Windows + D** shortcut to minimize all windows.

(c) **Opens a new tab in the current application**: This is usually done by pressing **Ctrl + T** in web browsers.

(d) **Opens Task Manager directly**: This can be done with the **Ctrl + Shift + Esc** shortcut or by pressing **Ctrl + Alt + Del** and selecting **Task Manager**.

Q.39   Which of the following is one of the standard file extensions of an image file?

A. pdf

B. doc

C. wav

D. jpg

Answer: D

Sol: **.jpg** is one of the most common file extensions for image files, specifically for photos and web graphics. It stands for JPEG (Joint Photographic Experts Group), a format known for compressing images without significant loss of quality. **Important Key Points:**

1. **jpg:** A popular format for storing compressed images.

2. **pdf:** Used for documents, not images.

3. **doc:** A file format for word processing documents, not for images.

4. **wav:** A file format for audio, not images. **Knowledge Booster:**

· **JPEG Format:** Reduces the file size of images, which is beneficial for storage and transmission.

· **Other Image Formats:** Common image formats include **.png** (Portable Network Graphics) and **.gif** (Graphics Interchange Format).

Q.40   Which type of logic is performed by an ALU?

A. Arithmetic

B. Memory Management

C. Data Transfer

D. Networking

Answer: A

Sol: An **Arithmetic Logic Unit (ALU)** performs **arithmetic operations** such as addition, subtraction, multiplication, and division, as well as logical operations like AND, OR, and NOT. It is a fundamental component of a CPU.

Important Key Points:

1. The ALU handles all the mathematical and logical processing tasks in a computer system.

2. It works in conjunction with the control unit to execute instructions.

3. Logical operations allow comparison and decision-making in programs.

Knowledge Booster:

· **Memory Management:** Handled by the Memory Management Unit (MMU), not the ALU.

· **Data Transfer:** Managed by buses and I/O devices, not the ALU.

· **Networking:** Managed by network interfaces, unrelated to the ALU.