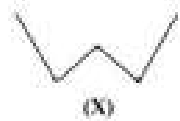


1. Select the option in which the given figure is embedded.



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

Ans. D

Sol.

On observing the options we can see that the figure given under option (B) is indeed embedded in the original figure. It has been represented below,



Hence, option (d) is correct.

2. Arrange the following words in a logical and meaningful order:

- 1) Student
 - 2) Job
 - 3) Interview
 - 4) Education
 - 5) Retirement
 - 6) Degree
- A. 1, 5, 3, 6, 4, 2
- B. 1, 4, 6, 3, 2, 5
- C. 5, 3, 2, 1, 4, 6
- D. 3, 5, 4, 6, 1, 2

Ans. B

Sol.

The correct logical order is –

- 1) Student
- 2) Job
- 3) Interview
- 4) Education
- 5) Retirement
- 6) Degree

Option (B) [1, 4, 6, 3, 2, 5] is correct response.

3. निम्नलिखित दिए गए विकल्पों में से उस शब्द युग्म का चयन कीजिए जो आपस में उसी प्रकार संबंधित है जिस प्रकार नीचे लिखे गए शब्द युग्म के दोनों शब्द आपस में संबंधित हैं।

Sadness : Excitement

A. War : Attack

B. Treaty : Friendship

C. Enrollment : Employment

D. condemnation : Respect

Ans. D

Sol.

Sadness is the opposite of Excitement.

Similarly, Condemnation is the opposite of Respect.

Hence, option D is the correct response.

4. Two mixtures contain milk and juice in the ratio of 2:1 and 4:5. If equal volumes of the two mixtures are mixed together, what would be ratio of milk to juice in the resulting mixture?

A. 7:5

B. 1:1

C. 5:3

D. 5:4

Ans. D

Sol. Let the quantity of the mixture be 9 litres each

Therefore

In Mixture 1:

Milk : juice = 2 : 1 = 6 : 3 i.e total = 9

In Mixture 2 :

Milk : juice = 4:5 i.e total = 9

After mixing both the mixtures the ratio milk : juice will be = $6+4 : 3 + 5 = 10:8 = 5:4$

Hence, option D is the correct answer.

5. Select the Venn diagram that best illustrates the relationship between the following classes.

Snakes, Reptiles, Poisonous

- A.
- B.
- C.



Ans. A

Sol.

All snakes are reptiles.

Some snakes and reptiles are poisonous.

So, the best venn diagram is-



Option (a) is right.

6. Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest.

A. 338

B. 217

C. 28

D. 65

Ans. D

Sol.

$$217 - (6 \times 6 \times 6) + 1$$

$$28 - (3 \times 3 \times 3) + 1$$

$$65 - (4 \times 4 \times 4) + 1$$

338 is not following that rule.

Hence, option A is the correct response.

7. Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.

bac_cab_cd_a_ac_ca

A. bdabc

B. dcbac

C. cadbc

D. dacbd

Ans. D

Sol.

The series will be,

bacdca/bacdca/bacdca

8. Which two signs should be interchanged in the following equation to make it correct?

$$10 + 5 \div 10 \times 8 - 10 = 16$$

A. + and ÷

B. - and +

C. ÷ and ×

D. × and +

Ans. B

Sol.

According to the question,

If we interchange the - and + sign the above equation become correct.

$$10 - 5 \div 10 \times 8 + 10 \text{ (Applying BODMAS)}$$

$$\Rightarrow 10 - 0.5 \times 8 + 10$$

$$\Rightarrow 10 - 4 + 10$$

$$\Rightarrow 20 - 4$$

$$\Rightarrow 16$$

The correct option is (b).

9. Three of the following four words are alike in a certain way and one is different. Pick the odd word out.

A. Krishna

B. Mahanadi

C. Tapti

D. Godavari

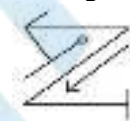
Ans. C

Sol.

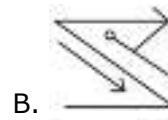
Tapti river flows towards westwards while all the three rivers flows eastwards.

Hence, option (C) is odd word.

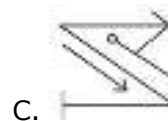
10. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.



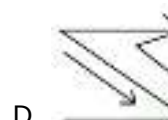
A.



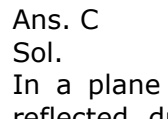
B.



C.



D.

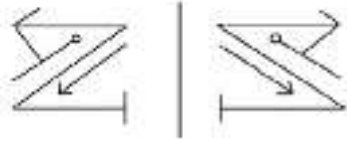


Ans. C

Sol.

In a plane mirror, a mirror image is a reflected duplication of an object that appears almost identical, but it is reversed in the direction perpendicular to the mirror surface. As an optical effect it

results from reflection of substances such as a mirror or water.



Hence, option (c) is correct.

11. The sequence of folding a piece of square paper (figure X and Y) and the manner in which the folded paper has been cut (figure Z) are shown. How will the paper appear when unfolded?



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

Ans. A
Sol.

the paper is unfolded in two steps :-
Step-1



Step - 2



Hence, option (a) is correct.

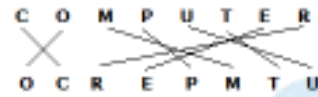
12. In a code language, COMPUTER is written as OCREPMTU. How will

DAUGHTER be written in the same language?

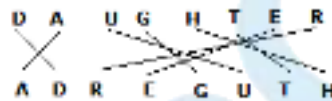
- A. READTHGU
B. ADTHREGU
C. ADREGUTH
D. ADERUGTH

Ans. C

Sol.

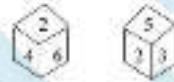


Similarly,



Hence, option (c) is correct.

13. Two different positions of the same dice are shown. Which number will be at the top if 4 is at the bottom?



- A. 3
B. 6
C. 5
D. 1

Ans. A
Sol.

Moving in the clockwise direction:

Cube 1- 2 6 4

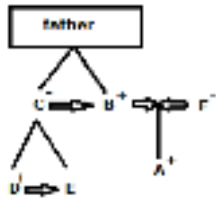
Cube 2- 2 5 3

Clearly, 4 is opposite to 3.

14. D, C का पुत्र और E का भाई है और E, F की भतीजी (niece) है। C, B की बहन है और A की आंटी है। B के पिता के दो बच्चे अर्थात् एक पुत्र और एक पुत्री है। यदि A, F का पुत्र है तो, F का C से क्या सम्बन्ध है ?

- A. चचेरा भाई
B. बुआ
C. भाभी
D. बहन

Ans. C
Sol.



F is the wife of C's brother.
Hence, F is the sister-in-law of C.
Option (c) is correct.

15. Two statements are given followed by three conclusions numbered I, II and III. Assuming the statement to be true even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statement.

Statements:

No crow is a bird.
All birds are animals.

Conclusions:

- I. Some animals are crows.
- II. Some animals are birds.
- III. No animal is a crow.
- A. Only conclusions I and III follow
- B. None of the conclusions follows
- C. Only conclusion III follows
- D. Conclusion II and either conclusion I or III follows

Ans. D

Sol.



Conclusions:

- I. Some animals are crows. – (false) it may be possible
 - II. Some animals are birds. – (true)
 - III. No animal is a crow. – (false) it may be possible
- The correct option is (d) conclusion II and either conclusion I or III follows.

16. If CAB is coded as 6 and BED is coded as 40, then how will HAD be coded as?

- A. 16
- B. 52
- C. 32
- D. 46

Ans. C

Sol.

C = 3, A = 1, B = 2

The code is given by the multiplication of these place values.

CAB = $3 \times 1 \times 2 = 6$

Similarly, BED = $2 \times 5 \times 4 = 40$

Therefore, HAD = $8 \times 1 \times 4 = 32$

Option (c) is correct response.

17. Select the set in which the number are related in the same way as are the numbers of the following set.

(5, 13, 12)

- A. (13, 17, 11)
- B. (11, 15, 9)
- C. (15, 19, 13)
- D. (6, 10, 8)

Ans. D

Sol.

The sum of all the numbers in the given number set is even

$5 + 13 + 12 = 30$

So, the given options-

$13 + 17 + 11 = 41$ (odd)

$11 + 15 + 9 = 35$ (odd)

$15 + 19 + 13 = 47$ (odd)

$6 + 10 + 8 = 24$ (even)

Clearly, only option (d) is related to the given number set.

18. Three of the following four letter-clusters are alike in a certain way and one different. Pick the odd one out.

- A. RQST
- B. FGHI
- C. MLNO
- D. CBDE

Ans. B

Sol.

Except FGHI, all other options are having first two letters in reverse order.

Hence, option (b) is different from the rest.

19. 'Cinema' is related to 'Audience' in the same way as 'Church' is related to '_____'.

- A. Congregation
- B. Meditation
- C. Concentration
- D. Prayer

Ans. A

Sol.

As 'Audience' is a group of people who come to the Cinema. Similarly, 'Congregation' is a group of people who assembled for religious worship in Church.

Hence, option D is the correct response.

20. Select the number-pair in which the two numbers are related in the same way as are the two numbers of the following number-pair.

7 : 32

A. 3:11

B. 13:98

C. 12:85

D. 16:145

Ans. B

Sol.

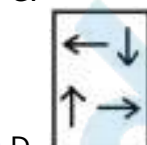
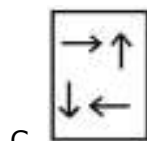
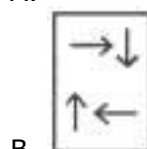
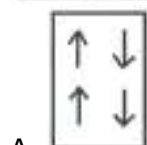
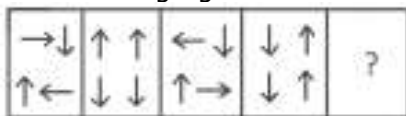
$$7 \times 4 + 4 = 32$$

Similarly,

$$13 \times 7 + 7 = 98$$

Hence, option B is the correct response.

21. Select the figure that will come next in the following figure series.



Ans. B

Sol.

In question figure, we can clearly see that the 1st & 3rd figure contain similar objects and 2nd & 4th have same objects.

We get the 3rd figure after interchanging the two horizontal arrow lines.

↓↑ Similarly, we get the 4th figure after interchanging left with its diagonal.

According to the above pattern, the next figure in the series is-



Option (b) is correct.

22. How many squares are there in the following figure?



A. 12

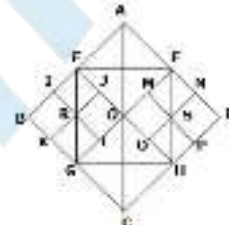
B. 18

C. 16

D. 14

Ans. D

Sol.



The following squares formed in the figure-

ABCD, EFGH, EBGQ, FDHQ, AEQF, QGCH, BIRK, EIRJ, JRLQ, RKGL, QMSO, FMSN, NDPS, SPHO

The total number of squares is - 14.

Therefore, option (d) is correct.

23. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

MNOP : LONQ :: FGHI : ?

A. GFIJ

B. EGHJ

C. DHGK

D. EHGJ

Ans. D

Sol.

M	N	O	P
-1	+1	-1	+1
L	Q	R	S

Likewise,

F	G	H	I
-1	+1	-1	+1
E	J	K	L

Thus, the correct answer is option (D)

24. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(8, 12, 24)

A. (6, 9, 18)

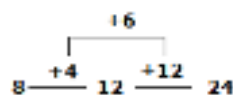
B. (12, 20, 40)

C. (6, 10, 18)

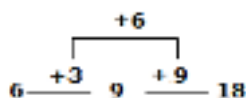
D. (9, 18, 27)

Ans. A

Sol.



Similarly,



Hence, the correct option is (a)

25. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

98, 95, 86, 82, 66, ?, 36

A. 58

B. 60

C. 61

D. 63

Ans. C

Sol.

The series will be,



Hence, option C is the correct response.

26. Which Indian received the Nobel Peace Prize after Mother Teresa?

A. K Radhakrishnan

B. Fali Nariman

C. P Sathasivam

D. Kailash Satyarthi

Ans. D

Sol.

• **Kailash Satyarthi received the Nobel Peace Prize after Mother Teresa from India. He shared the prize with Malala Yusufzai of Pakistan in 2014.**

• Satyarthi is a Children Activist and founder of Bachpan Bachao Andolan, Global March Against Child Labour and Global Campaign for Education.

27. Which of the following metals is the most reactive metal?

A. Copper

B. Calcium

C. Iron

D. Zinc

Ans. B

Sol.

• **Calcium is the most reactive element in above given elements.**

• The reactivity of elements in periodic table can be predicted by The activity series which is basically a chart of metals listed in order of declining relative reactivity.

• Calcium comes after Lithium, Potassium and Strontium in Activity series of metals.

28. International Day of Forests 2019 was observed on 21st March with the theme_____ to raise awareness on how sustainably managed forests provide a wide array of contributions.

A. Pollution-free Forests'

B. Forests and Education'

C. Forests and Environment'

D. Forests Our savior'

Ans. B

Sol.

• **International Day of Forests 2019 was observed on 21st March with the theme of Forest and Education.**

• The theme for each International Day of Forests is chosen by the Collaborative Partnership on Forests.

29. Which of the following metals is the most ductile metal?

A. Tin

- B. Gold
- C. Copper
- D. Aluminum

Ans. B

Sol.

- **Gold is the most ductile metal**, one ounce of gold can be drawn into more than 80 Km of thin gold wire.
- Ductility is the ability of a material to undergo plastic deformation before rupture.
- Ductility is often characterized by a material's ability to be stretched into a wire.

30.Right to move freely throughout the territory of India' is a fundamental right under_____ of the Constitution of India.

- A. Article 24
- B. Article 21
- C. Article 14
- D. Article 19

Ans. D

Sol.

Article 19(1) says :

- (a) to freedom of speech and expression
- (b) to assemble peaceably and without arms
- (c) to form associations or unions
- (d) to move freely throughout the territory of India
- (e) to reside and settle in any part of the territory of India
- (f) to practice any profession, or to carry on any occupation, trade or business.

31.Which of the following comes under the Quaternary sector?

- A. Information technology
- B. Mining
- C. Manufacturing
- D. Fisheries

Ans. A

Sol.

- Quaternary sector is a sector in economy which include Knowledge based economic sectors.
- **Information Technology, Media Research and development, Software solutions, Blogging, Designing etc comes under this category.**

32.The colourful art named Nandna block print, which uses graceful yet aligned arrangements of motifs on fabric, is practiced in Tarapur village of_____.

- A. Uttarakhand
- B. Madhya Pradesh
- C. Odisha
- D. Maharashtra

Ans. B

Sol.

• **Nandna block print is colourful art printing of motifs on fabric practiced in Tarapur village of Madhya Pradesh.**

- Nandna printed fabric was regularly worn by the ladies of Bhil tribe.
- It include Traditionally four motifs namely, Mirch (chilli), Champakali (magnolia bud), Amba (mango) & Jalam buta (creeper web).

33.Who was awarded the Rabindranath Tagore Literary Prize 2019 for the Novel 'Solo'?

- A. Nayanjyot Mukherjee
- B. Rana Dasgupta
- C. Amitabh Ghosh
- D. Jhumpa Lahiri

Ans. B

Sol.

• **Rana Dasgupta was awarded the Rabindranath Tagore Literary Prize 2019 for the novel 'SOLO'.**

- Dasgupta is the Literary Director of the JCB Prize for Literature.
- Tokyo Cancelled was the first of Rana Dasgupta.

34._____, which connects Sikkim with Tibet, was closed after the Chinese aggression on India in 1962 but was reopened in 2006 as the governments of the two countries decided to enhance their trade through land routes.

- A. Imis La
- B. Pensi La
- C. Lanak La
- D. Nathu La

Ans. D

Sol.

• **Nathu La Pass connects Sikkim to Tibet.**

- Nathu La pass was closed in 1962 after Chinese Aggression and reopened in 2006.
- Nathu La is one of the three open trading border posts between China and India, the others are Shipkila in Himachal Pradesh and Lipulekh at the trisection point of Uttarakhand-India, Nepal and China.

35. Who among the following was a slave of Muhammad Ghori? He became the ruler after the death of his master and founded the Slave Dynasty.

- A. Ghiyas ud din Balban
- B. Iltutmish
- C. Nasir-ud-din Mahmud
- D. Qutab-ud-din Aibak

Ans. D

Sol.

• **Qutbuddin Aibak was slave of Muhammad Ghori and became ruler of Delhi in 1206 and his dynasty was recognized as Slave Dynasty.**

- Aibak was succeeded by Aram Shah, and then by his former slave Iltutmish.
- He constructed Qutub Minar in Delhi and Adhai Din ka Jhopra in Ajmer.

36. Name the Indian Space Research Organization (ISRO) chairman and Padma Bhushan awardee who created and unleashed a historical moment when Mars Orbiter became the first Indian spacecraft to enter Martian orbit in a maiden attempt.

- A. Sundar Pichai
- B. K Radhakrishnan
- C. Fali Nariman
- D. Nandan Nilekani

Ans. B

Sol.

• **K Radhakrishnan was the chairman of Indian Space Research Organization** during 2009-2014 and played vital role in making the Mars Orbital Mission a success.

- Mars orbital mission was planned and executed between 2010-2014 and India became the first country to make it a success in its maiden attempt.
- It costed about 4.5 billion INR.

37. Which is the longest national highway in India?

- A. National Highway 48
- B. National Highway 44
- C. National Highway 53
- D. National Highway 27

Ans. B

Sol.

• **National Highway 44 is the longest highway in India.**

- It begins from Srinagar and ends at Kanyakumari passing through Delhi and 10 States.
- Central Public Works Department is maintaining National Highway 44.

38. Lok Adalat have been created under_____.

- A. Legal Services Authority Act
- B. Administration of Justice Act
- C. Arbitration and Conciliation Act
- D. Legal Conciliation Act

Ans. A

Sol.

• **Lok Adalat have been created under Legal Services Authority Act, 1987.**

- Concept of Lok Adalat is mentioned under Article 39A and its objective is to provide free legal services for the citizens.
- There are two types of Lok Adalat i.e. permanent and non permanent.

39. Which was the first Muslim dynasty that ruled India?

- A. Slave dynasty
- B. Tughlaq dynasty
- C. Lodhi dynasty
- D. Khilji dynasty

Ans. A

Sol.

• **Slave dynasty rule from 1206-90 and became the first Muslim dynasty ruled over India.**

- Though India was invaded multiple times before this i.e. Muhammad Qassim, Muhammad Gori etc. but Slave dynasty became the first dynasty to rule over India.
- Qutbuddin Aibak, Iltutmish, Razia Sultan, Balban were eminent kings of this dynasty.

40. Which of the following ministries implemented the Midday Meal scheme?

- A. Ministry of Social Justice and Empowerment
- B. Ministry of Home Affairs
- C. Ministry of Human Resource Development
- D. Ministry of Social Welfare

Ans. C

Sol.

• **Ministry of Human Resources and Development is implementing Mid day Meal Scheme.**

- This scheme was launched as a Centrally Sponsored Scheme on 15th August, 1995.
- In 2001 MDMS became a cooked Mid Day Meal Scheme under which every child in every Government and Government aided primary school was to be served a prepared Mid Day Meal with a minimum content of 300 calories of energy and 8-12 gram protein per day for a minimum of 200 days.

41. World ____ Day 2019 was observed on 22nd March with the theme 'Leaving no one behind' to focus on marginalized groups.

- A. Environment
- B. Forest
- C. Water
- D. Petroleum

Ans. C

Sol.

• **Water day is observed every year on 22nd March.**

- The theme of 2019 Water day was 'Leaving no one behind' to focus on marginalized groups.
- The sustainable development goal 6 aims to ensure availability and sustainable management of water for all by 2030.
- Every year, UN-Water sets a theme for World Water Day corresponding to a current or future challenge.

42. In February 2019, ____ won a gold medal at the Makran Cup in Chabahar, Iran.

- A. Manish Kaushik
- B. Deepak Singh

- C. Rohit Tokas
- D. Satish Kumar

Ans. B

Sol.

• **Makran Cup Boxing Championship was held in feb, 2019 at Chabahar, Iran.**

- India won one gold medal in this cup which was snatched by Deepak Singh.
- P Lalitha Prasad (52kg), Manish Kaushik (60kg), Duryodhan Singh Negi (69kg), Sanjeet (91kg) and Satish Kumar (+91kg) are five silver medal winners.

43. In February 2019, India won ____ gold medal/s and five silver medals at the Makran Cup Boxing in Chabahar, Iran.

- A. Two
- B. Three
- C. Four
- D. One

Ans. D

Sol.

• **India won one gold medal and five silver medals at Makran Cup Boxing in Iran, in feb, 19.**

- Gold medal is snatched by Deepak Singh who defeated Jaafar Naseri in Finals.

44. The Badami Chalukyas first had their capital at ____ before they moved it to Badami.

- A. Pattadakal
- B. Aihole
- C. Hubli
- D. Bijapur

Ans. B

Sol.

• **Aihole is the first capital of Badami Chalukyas before they moved to Badami which is located at 35 kms from it.**

- Aihole is an important archaeological site and recognized as UNESCO World heritage site.
- It is situated near Malaprabha river valley, in Bagalakote district of Karnataka.

45. What is deposited on iron in the process of galvanization?

- A. Copper

- B. Zinc
C. Tin
D. Aluminum

Ans. B

Sol.

• **Galvanization is a process of applying a protective Zinc layer on Iron to prevent from rusting.**

- Iron is generally dipped in hot molten zinc in this process.
- Zinc layer on Iron eradicated direct contact of Iron to atmospheric moisture thus protecting it from corrosion.

46. The popular Bagh cave paintings are found in_____.

- A. Madhya Pradesh
B. Himachal Pradesh
C. Sikkim
D. Odisha

Ans. A

Sol.

• **Bagh caves are situated in state of Madhya Pradesh, Dhar District.**

- Bagh caves are known for rock cut architecture. Mainly inspired from Buddhism.
- All of the 9 caves are viharas- the caves used for residence by Buddhist Monks.

47. Where is the Bandipur National Park located?

- A. Karnataka
B. Kerala
C. Gujarat
D. Sikkim

Ans. A

Sol.

• The bandipur National Park is **situated in Karnataka** and it is established in 1974.

- It is a tiger reserve National park.
- Bandipur is located in Gundlupet taluq of Chamaraajanagar district.

48. _____ was the first Muslim ruler whose empire covered almost the whole of India up to its extreme south.

- A. Allaudin Khilji
B. Jalal-ud-din Khilji
C. Ghiyas ud din Balban
D. Firoz shah Tughlaq

Ans. A

Sol.

• **Allaudin Khilji covered almost the whole of India up to its extreme south.**

- He fought many battles, conquered Gujarat, Ranthambhore, Chittoor, Malwa, and Deccan. During his reign of 20 years.
- He died in 1316 AD and after his death Khilji dynasty came to end.

49. Who founded and named the science of electromagnetism?

- A. Michael Faraday
B. James Clerk
C. Hanswer Christian Oersted
D. Andre Marie Ampere

Ans. D

Sol.

• **Andre Marie ampere founded the science of electromagnetism.**

- Electromagnetism is the science of charge and of the forces and fields associated with charge.
- Electricity and magnetism are two aspects of electromagnetism.

50. Which of the following destroys the ozone layer?

- A. Sulphur
B. Carbon
C. Chlorine
D. Silicon

Ans. A

Sol.

• **Chlorine is responsible for destruction of ozone layer. Bromine also does the same effect.**

- Chlorofluorocarbons, hydro chloro fluoro carbons, carbon tetra chloride etc are some other ozone depletion compounds.
- Ozone layer absorbs harmful UV radiations of sun.

51. The table shows the production of different types of cars by a company (in thousands) in 5 years.

Car Year	A	B	C	D	E
2014	52	54	48	46	64
2015	47	45	53	50	45
2016	48	47	56	54	65
2017	43	50	57	67	63
2018	38	40	54	68	70

What is the ratio of the total production of type C cars in 2015 and type D cars in 2017 taken together to the total production of type B cars in 2016 and type A cars in 2017 taken together?

- A. 12:11
B. 13:10
C. 11:9
D. 4:3

Ans. D

Sol.

Production of type C cars in 2015=53

Production of type D cars in 2017=67

Total production =53+67= 120

Production of type B cars in 2016=47

Production of type A cars in 2017=43

Total production =47+43 =90

Ratio =120 : 90

=4 : 3

52.A and B are travelling towards each other from the points P and Q respectively. After crossing each other, A

and B take $6\frac{1}{8}$ hours and 8 hours respectively to reach their destinations Q and P. If the speed of B is 16.8 km/h, then the speed (in km/h) of A is:

- A. 20.8
B. 19.8
C. 19.2
D. 20.4

Ans. C

Sol.

speed of A = $\frac{\text{time taken by B to complete the remaining distance}}{\text{time taken by A to complete the remaining distance}}$

$$\frac{\text{speed of A}}{\text{speed of B}} = \sqrt{\frac{8}{6\frac{1}{8}}} = 8/7$$

Speed of A = (8/7) x speed of B

Speed of A = 19.2 km/hr

53.If $12 \cot^2 \theta - 31 \operatorname{cosec} \theta + 32 = 0$, $0^\circ < \theta < 90^\circ$, then values of $\tan \theta$ will be:

- A. $\frac{4}{3}, \frac{3\sqrt{7}}{7}$
B. $\frac{4}{5}, \frac{5\sqrt{7}}{7}$
C. $\frac{5}{4}, \frac{4}{3}$

D. $\frac{4}{5}, \frac{4}{3}$

Ans. A

Sol.

$$12 \cot^2 \theta - 31 \operatorname{cosec} \theta + 32 = 0$$

$$12(\operatorname{cosec}^2 \theta - 1) - 31 \operatorname{cosec} \theta + 32 = 0$$

$$12 \operatorname{cosec}^2 \theta - 31 \operatorname{cosec} \theta + 20 = 0$$

$$(4 \operatorname{cosec} \theta - 5)(3 \operatorname{cosec} \theta - 4) = 0$$

$$\operatorname{Cosec} \theta = 5/4 \text{ and } 4/3$$

We see, When $\operatorname{cosec} \theta = 5/4$

$$\text{Then } \tan \theta = \frac{4}{\sqrt{5^2 - 4^2}} = 4/3$$

when $\operatorname{cosec} \theta = 4/3$,

$$\text{then } \tan \theta = \frac{3}{\sqrt{4^2 - 3^2}}$$

$$= \frac{3}{\sqrt{7}} = \frac{3\sqrt{7}}{7}$$

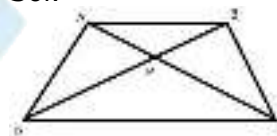
Therefore, $\tan \theta = 4/3$ and $\frac{3\sqrt{7}}{7}$

54.ABCD is a trapezium in which $AB \parallel DC$ and its diagonals intersect at P. If $AP = (3x - 1)$ cm, $PC = (5x - 3)$ cm, $BP = (2x + 1)$ cm and $PD = (6x - 5)$ cm, then the length of DB is:

- A. 14 cm
B. 12 cm
C. 10 cm
D. 16 cm

Ans. B

Sol.



Given, $AB \parallel DC$, $AP = (3x - 1)$ cm, $PC = (5x - 3)$ cm, $BP = (2x + 1)$ cm, $PD = (6x - 5)$ cm

$$\Delta APB \sim \Delta CPD$$

$$AP/PC = BP/PD$$

$$\frac{3x - 1}{5x - 3} = \frac{2x + 1}{6x - 5}$$

$$18x^2 - 21x + 5 = 10x^2 - x - 3$$

$$8x^2 - 20x + 8 = 0$$

$$2x^2 - 5x + 2 = 0$$

On solving further,
 $2x^2 - 4x - x + 2 = 0$

$$(x - 2)(2x - 1) = 0$$

Therefore $x = 2, 1/2$

But x cannot be equal to $1/2$ as on putting $x = 1/2$ we will get negative values for PD and PC , which is not possible.

Putting $x = 2$

$$BD = BP + PD = 2x+1 + 6x - 5 = 12\text{cm}$$

55. The value of $\frac{\sqrt{\sec^2 \theta + \operatorname{cosec}^2 \theta} \times \sqrt{\tan^2 \theta + \sin^2 \theta}}{\sqrt{\tan^2 \theta - \sin^2 \theta}}$ is equal to:

- A. $\operatorname{Cosec} \theta \sec^2 \theta$
- B. $\sin \theta \sec^2 \theta$
- C. $\sin \theta \cos^2 \theta$
- D. $\operatorname{Cosec} \theta \cos^2 \theta$

Ans. B

Sol.

(solved for $\sqrt{\tan^2 \theta - \sin^2 \theta}$)

$$\frac{\sqrt{\sec^2 \theta + \operatorname{cosec}^2 \theta} \times \sqrt{\tan^2 \theta + \sin^2 \theta}}{\sqrt{\tan^2 \theta - \sin^2 \theta}}$$

$$= \sec \theta \cdot \operatorname{cosec} \theta \times \sin^2 \theta \cdot \sec \theta$$

$$= \sin \theta \sec^2 \theta$$

56. The volume of a metallic cylindrical pipe is 7480 cm^3 . If its length is 1.4 m and its external radius is 9 cm , then its

thickness (given $\pi = \frac{22}{7}$) is:

- A. 1 cm
- B. 0.8 cm
- C. 0.9 cm
- D. 1.2 cm

Ans. A

Sol.

Given is $r_1 = 9 \text{ cm}$, $h = 1.4 \text{ m} = 140 \text{ cm}$

Volume of cylinder = 7480 cm^3

Volume of cylinder =

$$\frac{22}{7} [9^2 - r^2] \times 140 = 7480$$

$$= 81 - r_2^2 = 17$$

$$R_2 = \sqrt{64} = 8 \text{ cm}$$

Required thickness of cylinder = $r_1 - r_2 = 9 - 8 = 1 \text{ cm}$

57. If $x = a + \frac{1}{a}$ and $y = a - \frac{1}{a}$ then

$\frac{\sqrt{x^4 + y^4 - 2x^2y^2}}{\sqrt{x^2 - y^2}}$ is equal to:

- A. $16a^2$
- B. 8
- C. $\frac{8}{a^2}$
- D. 4

Ans. D

Sol.

$$\frac{\sqrt{x^4 + y^4 - 2x^2y^2}}{\sqrt{(x^2 - y^2)^2}}$$

$$= \frac{x^2 - y^2}{x^2 - y^2}$$

$$\left(a + \frac{1}{a}\right)^2 - \left(a - \frac{1}{a}\right)^2 = 4$$

58. G is the centroid of the triangle ABC, where AB, BC and CA are 7 cm , 24 cm and 25 cm respectively, then BG is:

A. $6\frac{1}{3} \text{ cm}$

B. $8\frac{1}{3} \text{ cm}$

C. $5\frac{1}{2} \text{ cm}$

D. $4\frac{1}{6} \text{ cm}$

Ans. B

Sol.

Triangle ABC is a right-angle triangle.

So, in ΔABC , median BP will be half of hypotenuse.

So, $BP = 25/2 = 12.5 \text{ cm}$

We know that centroid divides the median in the ratio of $2:1$

$$\text{So, } BG = \frac{2}{3} \times 12.5 = 50/6 = 8\frac{1}{3}$$

59. The table shows the production of different types of cars by a company (in thousand) in 5 years.

Car Year	A	B	C	D	E
2014	52	54	48	46	64
2015	47	45	53	50	45
2016	48	47	56	54	65
2017	43	50	57	67	63
2018	38	40	54	68	70

The total production of type B cars in all the five years is what percent more than the total production of type A, B and D cars in 2017?

- A. 49.5
- B. 4.5
- C. 57.3
- D. 32.2

Ans. D

Sol.

Total production of type B cars = $54 + 45 + 47 + 50 + 40 = 236$

Total production of type A, B and D cars in 2017 = $43+50+67=160$
 % increase $\frac{236-160}{236} = 32.2\%$

60. The table shows the production of different types of cars by a company (in thousands) in 5 years.

Car Year	A	B	C	D	E
2014	52	54	48	46	64
2015	47	45	53	50	45
2016	48	47	56	54	65
2017	43	50	57	67	63
2018	38	40	54	68	70

The average production of type D cars in 5 years is what percent less than the production of type E cars in 2018? (Correct to one decimal place)

- A. 18.6
 B. 16.8
 C. 15.9
 D. 17.4

Ans. A

Sol.

Total production of type D cars in 5 years = $46+50+54+67+68 = 285$

Average production of type D cars = $\frac{285}{5} = 57$

Production of type E cars in 2018 = 70

% Less = $\frac{(70-57)}{70} \times 100 = 18.6$ approx.

61. When x is subtracted from each of 21, 22, 60 and 64, the number so obtained in this order, are in proportion. What is the mean proportional between $(x+1)$ and $(7x+8)$?

- A. 27
 B. 18
 C. 24
 D. 21

Ans. C

Sol.

Given numbers are 21, 22, 60 and 64

Now, x is subtracted from the number

So, $(21-x) : (22-x) :: (60-x) : (64-x)$

$(22-x)(60-x) = (21-x)(64-x)$

$x = 8$

Mean proportion of $(x+1)$ & $(7x+8)$

= $\sqrt{9 \times 64} = 24$

62. The table shows the production of different types of cars by a company (in thousands) in 5 years.

Car Year	A	B	C	D	E
2014	52	54	48	46	64
2015	47	45	53	50	45
2016	48	47	56	54	65
2017	43	50	57	67	63
2018	38	40	54	68	70

If the data related to the production of cars in 2018 is represented by pie chart, then the central angle of the sector representing the production of type C cars will be:

- A. 72°
 B. 59°
 C. 93°
 D. 91°

Ans. A

Sol.

Total production of cars in 2018

= $38+40+54+68+70$

= 270

Production of type C car in 2018 = 54

Central angle = $\frac{54}{270} \times 360^\circ$

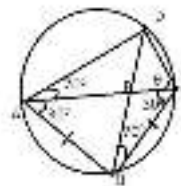
= 72°

63. ABCD is a cyclic quadrilateral whose diagonals intersect at P. If $AB=BC$, $\angle DBC=70^\circ$ and $\angle BAC=30^\circ$, then the measure of $\angle PCD$ is:

- A. 35°
 B. 50°
 C. 55°
 D. 30°

Ans. B

Sol.



Given that $AB=BC$

So, $\angle BAC = \angle BCA = 30^\circ$

And

$\angle DBC = \angle DAC = 70^\circ$ (Angle made by cord CD)

In cyclic quadrilateral opposite angles are supplementary angle

So $\angle BAD + \angle BCD = 180^\circ$

$100^\circ + \angle BCD = 180^\circ$

$\angle BCD = 80^\circ$

So, angle $\angle PCD = 80 - 30 = 50^\circ$

64. Pipes A and B can fill a tank in one hour and two hours respectively while pipe C can empty the filled tank in one hour and fifteen minutes. A and C are turned on together at 9 a.m. After 2 hours, only A is closed and B is turned on. When will the tank be emptied?

- A. 12:10 p.m.
- B. 11:30 a.m.
- C. 10:30 a.m.
- D. 12:20 p.m.

Ans. D

Sol.

Let the total work = LCM of (1, 2, 5/4)
= 10 units

Efficiency of A = $10/1 = 10$ units per hour

Efficiency of B = $10/2 = 5$ units per hour

Efficiency of C = $10 \div 5/4 = -8$ units per hour

Work done by A+C in 2 hours = $(10-8) \times 2$
= 4 units

Efficiency of B and C = -3

Therefore, time taken by B+C to empty the tank = $4/3$ hours = 80 minutes

Now the time = 11:00 + 1hr 20 minutes
= 12:20 p.m.

65. If the 8-digit number $2074x4y2$ is divisible by 88, then the value of $(4x + 3y)$ is:

- A. 49
- B. 36
- C. 42
- D. 45

Ans. D

Sol.

For a number to be divisible by 88, the number should be divisible by both 11 and 8.

A number is divisible by 8 if the number formed by the last three digits is divisible by 8.

$4y2$ should be divisible by 8.

So, $y = 3$ or $y = 7$

A number is divisible by 11 if the difference of the sum of its digits at odd places and the sum of its digits at even places, is divisible by 11.

$$(2+4+4+0) - (y+x+7+2) = 0 \text{ or } 11$$

$$\text{Now, } x+y-1 = 0 \text{ (for } y=3)$$

$$x+3-1=0$$

$x = -2$ digit cannot be negative

And, $x+y-1 = 0$ (for $y = 7$)

$x = -6$ digit cannot be negative

So, $x+y-1=11$

$x = 5$ for $y = 7$

$$4x+3y = 4 \times 5 + 3 \times 7 = 41 \text{ (not in options)}$$

$x = 9$ for $y = 3$

We have $x = 9$ and $y = 3$

$$4x+3y = 4 \times 9 + 3 \times 3 = 45$$

66. If $(8x^3 - 27y^3) \div (2x - 3y) = (Ax^2 + Bxy + Cy^2)$, then the value of $(2A+B-C)$ is:

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

Ans. C

Sol.

$$(a^3 - b^3) = (a - b)(a^2 + ab + b^2)$$

$$= (2x)^3 - (3y)^3 = (2x - 3y)[4x^2 + 9y^2 + 6xy]$$

$$= (8x^3 - 27y^3) / (2x - 3y) = (2x - 3y)[4x^2 + 9y^2 + 6xy]$$

$$= 4x^2 + 9y^2 + 6xy$$

Comparing the above equation with $Ax^2 + Bxy + Cy^2$

We have $A = 4$, $B = 6$, $C = 9$

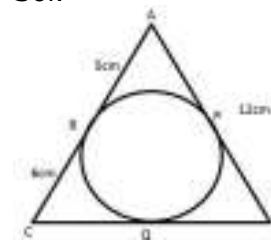
$$\text{Then } (2A+B-C) = 8+6-9 = 5$$

67. A circle is inscribed in $\triangle ABC$, touching AB at P, BC at Q and AC at R. If $AR = 5$ cm, $RC = 6$ cm and $AB = 12$ cm, then the perimeter of $\triangle ABC$ is:

- A. 40 cm
- B. 32 cm
- C. 37 cm
- D. 36 cm

Ans. D

Sol.



In the above figure,

We know that $CR = CQ$, $AR = AP$, $BP = BQ$ (tangents on a circle from an external point are equal)

Therefore

$$AR = AP = 5 \text{ cm}$$

$$CR = CQ = 6 \text{ cm}$$

$$PB = AB - AP = 12 - 5 = 7 \text{ cm}$$

BP = BQ = 7cm

Perimeter of the triangle = AR + AP + BP + BQ + CQ + CR = 36cm

68. The income of A is 50% more than that of B. If the income of A is increased by 40% and the income of B is increased by 90%, then the percentage increase in their combined income will be

- A. 64
- B. 55
- C. 60
- D. 70

Ans. C

Sol.

Let starting income of B = 100

Then, starting Income of A = 150

Income of A is increased by 40%, so new income of A = $150 \times 140/100 = 210$

Income of B is increased by 90%, so

New income of B = $100 \times 190/100 = 190$

Total starting income = $100 + 150 = 250$

Total new income = $210 + 190 = 400$

% increase = $\frac{400 - 250}{250} \times 100 = 60\%$

$$\frac{\sin \theta - \cos \theta + 1}{\sin \theta + \cos \theta - 1} = ?$$

- 69.
- A. $\sec \theta \sin \theta$
 - B. $\sec \theta \tan \theta$
 - C. $\sec \theta + \tan \theta$
 - D. $\sec \theta - \tan \theta$

Ans. C

Sol.

$$\frac{\sin \theta - \cos \theta + 1}{\sin \theta + \cos \theta - 1} \times \frac{\sin \theta - (\cos \theta - 1)}{\sin \theta - (\cos \theta - 1)} = \frac{\sin^2 \theta - (\cos \theta - 1)^2}{\sin^2 \theta + (\cos \theta - 1)^2 - 2 \sin \theta (\cos \theta - 1)}$$

On simplifying the above equation, we get

$$\begin{aligned} & \frac{2 - 2 \cos \theta + 2 \sin \theta - 2 \sin \theta \cos \theta}{2 \cos \theta (1 - \cos \theta)} \\ &= \frac{(1 - \cos \theta)(1 + \sin \theta)}{\cos \theta (1 - \cos \theta)} \\ &= \frac{1 + \sin \theta}{\cos \theta} = \sec \theta + \tan \theta \end{aligned}$$

70. If $ab + bc + ca = 8$ and $a^2 + b^2 + c^2 = 20$, then a possible value of $\frac{1}{2}(a+b+c)[(a-b)^2 + (b-c)^2 + (c-a)^2]$ is:

- A. 72
- B. 56
- C. 84
- D. 80

Ans. A

Sol.

We know,

$$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$$

$$= 20 + 2 \times 8 = 36$$

$$a + b + c = 6$$

Therefore,

$$\begin{aligned} \frac{1}{2}(a+b+c)[(a-b)^2 + (b-c)^2 + (c-a)^2] &= \frac{1}{2}(a+b+c)[2(a^2 + b^2 + c^2) - 2(ab + bc + ca)] \\ &= \frac{1}{2} \times 6 [2(20 - 8)] \\ &= 72 \end{aligned}$$

71. A shopkeeper marks his goods at 40% more than its cost price and allows a discount of 25% on the marked price. His gain or loss percent is:

- A. 5% loss
- B. 15% gain
- C. 10% loss
- D. 5% gain

Ans. D

Sol.

Let the cost price (CP) = ₹100

Now, Marked price (MP) = ₹140

At 25% discount,

Selling price (SP) = $140 \times 75/100 = ₹105$

$$\% \text{ profit} = \frac{105 - 100}{100} \times 100 = 5\%$$

72. The average of thirteen numbers is 80. The average of the first five numbers is 74.5 and that of the next five numbers is 82.5. The 11th number is 6 more than the 12th number and the 12th number is 6 less than the 13th number. What is the average of the 11th and the 13th numbers?

- A. 87
- B. 86
- C. 86.5
- D. 87.5

Ans. A

Sol.

Sum of 13 numbers = $13 \times 80 = 1040$

Sum of first five numbers = $5 \times 74.5 = 372.5$

Sum of next five number = $5 \times 82.5 = 412.5$
 Sum of first 10 number = $372.5 + 412.5 = 785$

Now, sum of last three number = $1040 - 785 = 255$

According to question,

$$x + 6 + x + x + 6 = 255$$

$$X = 81$$

$$11^{\text{th}} \text{ number} = 87$$

$$13^{\text{th}} \text{ number} = 87$$

$$\text{Average} = (87 + 87) / 2 = 87$$

73. The value of $(5 + 3 \div 5 \times 5 \div (3 \div 3 \text{ of } 6) \text{ of } (4 \times 4 \div 4 \text{ of } 4 + 4 \div 4 \times 4))$ is:

A. $8 \frac{1}{5}$

B. $7 \frac{1}{3}$

C. $9 \frac{3}{5}$

D. $6 \frac{2}{3}$

Ans. C

Sol.

$$(5 + 3 \div 5 \times 5 \div (3 \div 3 \text{ of } 6) \text{ of } (4 \times 4 \div 4 \text{ of } 4 + 4 \div 4 \times 4))$$

$$= (5 + \frac{3}{5} \times 5) \div (3 \div 3 \times 6) \text{ of } (4 \times 4 \div 16 + 4 \div 4 \times 4)$$

$$= 8 \div \left(\frac{1}{6}\right) \text{ of } \left(4 \times \frac{4}{16} + 1 \times 4\right)$$

$$= 8 \div \frac{1}{6} \text{ of } 5$$

$$= 8 \div \frac{5}{6}$$

$$= 8 \times 6 / 5 = 48 / 5 = 9 \frac{3}{5}$$

74. A sum of ₹15,000 is lent at 16% p.a. compound interest. What is the difference between the compound interest for the second year and the third year?

A. ₹544

B. ₹445.44

C. ₹454.88

D. ₹548

Ans. B

Sol.

$$\text{Amount after 1st year} = 15000(1 + 16/100) = \text{Rs. } 17400$$

$$\text{Amount after 2nd year} = 17400(1 + 16/100) = \text{Rs. } 20184$$

$$\text{Amount after 3rd years} = 20184(1 + 16/100) = 23413.44$$

$$\text{Interest for 2nd year} = \text{amount after 2 years} - \text{amount after 1 year} = 20184 - 17400 = \text{Rs. } 2784$$

$$\text{Interest for 3rd year} = \text{amount after 3 years} - \text{amount after 2 years} = 23413.44 - 20184 = 3229.44$$

$$\text{Difference in interest} = 3229.44 - 2784 = \text{Rs. } 445.44$$

75. A person sold an article at a loss of 8%, Had he sold it at a gain of 10.5%, he would have received ₹92.50 more. To gain 12%, he should have sold it for:

A. ₹ 540.50

B. ₹560

C. ₹580

D. ₹537.40

Ans. B

Sol.

Let the cost price be 100 units and is sold at 8% loss, selling price (sp) = $100 \times 92 / 100 = ₹92$

$$\text{Further 10.5\% gain, selling price} = 100 \times 110.5 / 100 = ₹110.5$$

According to the question, difference in selling prices is Rs.92.5

$$\text{So, } 110.5 - 92 = 18.5$$

$$18.5 \text{ unit} = 92.5$$

$$1 \text{ unit} = \text{Rs. } 5$$

$$\text{Therefore, cost price will be} = 100 \times 5 = 500$$

$$\text{At 12\% gain, selling price will be} = 500 \times 112 / 100 = 560$$

76. Select the wrongly spelt word.

A. contamporary

B. cooperation

C. controversial

D. conquer

Ans. A

Sol. Option A has the wrongly spelt word. The correct spelling of the word is '**contemporary**' and it means 'living or occurring at the same.'

77.

|||Common||| **Direction:** Given below are four jumbled sentences. Select the option that gives their correct order. |||End|||

- A) Around 600 million of them live in areas of high to extreme water stress.
B) India is suffering from the worst water crisis, with one billion people living in water scarcity.
C) This is even more than of China and US combined.
D) The reason is that at 24 per cent, India uses the most groundwater drawn out globally.
A. BADC
B. ACBD
C. ADCB
D. BDAC

Ans. A

Sol. The sentence B is the first sentence as it introduces the theme of the passage i.e. 'water crisis suffered by India'. The sentence A should follow the sentence B as it further gives the number of people living in areas of high to extreme water stress. The sentence D tells the reason of water crisis, hence, becomes the third sentence in the passage. The sentence C finally concludes the passage aptly. Hence, **option A** is the correct answer.

78.

|||Common||| **Direction:** Select the synonym of the given word. |||End||| TRIUMPH

- A. fight
B. victory
C. attack
D. peace

Ans. B

Sol. The meanings of the given words are:

Triumph: a great victory or achievement.
Fight: take part in a violent struggle involving the exchange of physical blows or the use of weapons.

Victory: an act of defeating an enemy or opponent in a battle, game, or other competition.

Attack: take aggressive military action against (a place or enemy forces) with weapons or armed force.

Peace: freedom from disturbance; tranquillity.

Therefore, **option B** is the correct answer.

79.

|||Common||| **Direction:** Select the correct passive form of the given sentence. |||End|||

At night, lock the outer gate.

- A. The outer gate is requested to be locked at night.
B. The outer gate be locked at night.
C. Let the outer gate be locked at night.
D. The outer gate is locked at night.

Ans. A

Sol. The following rules should be considered while changing active form to passive voice:

- The places of subject and object will be interchanged in the sentence.
- Only 3rd form of the verb or Past Participle will be used as a main verb in the Passive Voice.

Therefore, **option A** correctly provides the passive form of the given sentence.

80.

|||Common||| **Direction:** Given below are four jumbled sentences. Select the option that gives their correct order. |||End|||

- A) Mango, the so-called "king of fruits", is something of national obsession in India.
B) There was a bumper crop of mangoes in different states.
C) It resulted in prices coming down and sales going up-much to the delight of buyers and sellers alike.
D) 2017 proved to be a very good year for mango lovers.

- A. ADBC
B. CDAB
C. CADB
D. ADCB

Ans. A

Sol. The sentence A is the first sentence as it introduces the theme of the passage i.e. 'mangoes'. The sentence D should follow the sentence A as it further tells about the year which proved to be a very good year for mango lovers. The sentence B should be the third sentence as it tells

the reason for the good year for mango lovers. Finally, the sentence C concludes the passage aptly. Hence, **option A** is the correct answer.

81.

|||Common||| **Direction:** Select the most appropriate word to fill in the blank. |||End|||

The burning of the effigy of Ravana on Dussehra_____the burning of all evils.

- A. epitomizes
- B. intensifies
- C. personifies
- D. symbolizes

Ans. D

Sol. The sentence implies that the burning of the effigy of Ravana on Dussehra represents the burning of all evils.

'Symbolize' means 'be a symbol of' and it fits best in the context of the sentence. Therefore, **option D** is the correct answer.

82.

|||Common||| **Direction:** In the sentence identify the segment which contains the grammatical error. |||End|||
Every employee of the company were given a two bedroom flat as Diwali bonus.

- A. as Diwali bonus
- B. a two bedroom flat
- C. Every employee
- D. were given

Ans. D

Sol. 'Were given' is erroneous because the pronoun 'every' is always followed by a singular verb. Therefore, 'were' must be replaced with 'was' to form a grammatically correct answer.

Hence, **option D** is the correct answer.

83.

|||Common||| **Direction:** Select the antonym of the given word. |||End|||
AGONY

- A. anxiety
- B. distress
- C. comfort
- D. misery

Ans. C

Sol. The meanings of the given words are:

Agony: extreme physical or mental suffering.

Anxiety: a feeling of worry, nervousness, or unease about something with an uncertain outcome.

Distress: extreme anxiety, sorrow, or pain.

Comfort: a state of physical ease and freedom from pain or constraint.

Misery: a state or feeling of great physical or mental distress or discomfort.

Therefore, **option C** is the correct answer.

84.

|||Common||| **Direction:** Select the synonym of the given word. |||End|||
INDELIBLE

- A. illegal
- B. illegible
- C. inerasable
- D. ineffective

Ans. C

Sol. The meanings of the words are:

Indelible: (of ink or a pen) making marks that cannot be removed.

Illegal: contrary to or forbidden by law, especially criminal law.

Illegible: not clear enough to be read.

Inerasable: incapable of being erased.

Ineffective: not producing any significant or desired effect.

Therefore, **option C** is the correct answer.

85.

|||Common||| **Direction:** Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No. improvement. |||End|||
I try to solve this problem at least for two hours.

- A. am try to solve
- B. have been trying to solve
- C. tried to be solving
- D. No improvement

Ans. B

Sol. The tense of the underlined segment is incorrect. Present perfect continuous tense should be used here.

The present perfect continuous tense (also known as the present perfect progressive tense) shows that something started in the past and is continuing at the present time. The present perfect continuous is formed using the construction **has/have been + the present participle (root + -ing)**. Therefore, **option B** is the correct answer.

86.

|||Common||| **Direction:** In the sentence identify the segment which contains the grammatical error. |||End||| Cyclone Idai is regarded as one of the worst tropical cyclone on record to affect Africa and the Southern Hemisphere as a whole.

- A. cyclone Idai is regarded
- B. the worst tropical cyclone
- C. as a whole
- D. to affect Africa

Ans. B

Sol. 'The worst tropical cyclone' is erroneous. The noun following the phrase "one of the" is always a plural noun. Therefore, 'cyclone' must be replaced with '**cyclones**' to resolve disagreement with the noun phrase.

Hence, **option B** is the correct answer.

87.

|||Common||| **Direction:** Select the most appropriate word to fill in the blank. |||End|||

There is hope that better forestry management will help in the_____ of the wild life that is constantly facing threat because of increasing human activities.

- A. salvation
- B. guarding
- C. supervision
- D. conservation

Ans. D

Sol. The wildlife is facing threat; hence, it should be protected from the human activities.

'**Conservation**' meaning 'preservation, protection, or restoration of the natural environment and of wildlife' is the apt fit for the blank.

Hence, **option D** is the correct answer.

88.

|||Common||| **Direction:** Select the correct active form of the given sentence. |||End|||

The children were brought up with great care.

- A. They had brought up their children with great care.
- B. Their children brought them up with great care.
- C. They brought up their children with great care.
- D. They have been bringing up their children with great care.

Ans. C

Sol. The following rules should be considered while changing passive form to active voice:

- Identify the subject of the sentence - who is doing an action?
- Rewrite the sentence so the subject is performing the action.

Therefore, **option C** correctly provides the active form of the given sentence.

89. Select the wrongly spelt word.

- A. Explain
- B. Except
- C. Expire
- D. Expereince

Ans. D

Sol. Option D has the incorrectly spelt word. The correct spelling is '**experience**' which means 'practical contact with and observation of facts or events'.

Therefore, **option D** is the correct answer.

90.

|||Common||| **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. select the most appropriate option for each blank.

Pigeon racing has become increasingly popular in parts of China (###Q1###) the country's elite and its middle class. Sun Yan, the deputy general-secretary of Beijing Racing Pigeons Association, (###Q2###) that at least 100,000

pigeon breeders live in Beijing, and (###Q3###) 90,000 of them are registered with Racing Pigeons Associations at (###Q4###) levels, to qualify for the games held in the spring and autumn. Competitions can be lucrative for (###Q5###) owners, with some prizes amounting to tens of thousands of dollars. Liu said in recent years, pigeon racing has been surging in popularity across China.

|||End|||

Select the most appropriate option for blank No.5. A. pigeons

B. birds

C. animal

D. bird

Ans. D

Sol. The passage is about pigeons. Hence, '**bird**' is the apt fit for the blank. Therefore, **option D** is the correct answer.

91. Select the most appropriate option for blank No.4.

A. different

B. differed

C. differential

D. differ

Ans. A

Sol. The blank needs an adjective to modify the noun 'levels' which means 'distinct'. '**Different**' meaning 'not the same as another or each other; unlike in nature, form, or quality' is the apt fit for the blank.

Hence, **option A** is the correct answer.

92.

|||Common||| **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. select the most appropriate option for each blank.

Pigeon racing has become increasingly popular in parts of China (###Q1###) the country's elite and its middle class. Sun Yan, the deputy general-secretary of Beijing Racing Pigeons Association, (###Q2###) that at least 100,000 pigeon breeders live in Beijing, and (###Q3###) 90,000 of them are registered with Racing Pigeons

Associations at (###Q4###) levels, to qualify for the games held in the spring and autumn. Competitions can be lucrative for (###Q5###) owners, with some prizes amounting to tens of thousands of dollars. Liu said in recent years, pigeon racing has been surging in popularity across China.

|||End|||

Select the most appropriate option for blank No.3. A. utmost

B. almost

C. nearby

D. exact

Ans. B

Sol. We need a word which goes with 'at least' specified in the first part of the sentence. '**At most**' meaning 'not more than' is the apt fit for the blank.

Hence, **option B** is the correct answer.

93. Select the most appropriate option for blank No.2.

A. said

B. clarified

C. told

D. advised

Ans. A

Sol. The sentence implies that Sun Yan, the deputy general-secretary of Beijing Racing Pigeons Association, conveyed that at least 100,000 pigeon breeders live in Beijing.

Out of the given options, '**said**' meaning 'utter words so as to convey information, an opinion, a feeling or intention, or an instruction' is the apt word to fill in the blank. Hence, **option A** is the correct answer.

94.

Select the most appropriate option for blank No.1.

A. against

B. along

C. among

D. about

Ans. C

Sol. The blank needs a preposition which implies 'occurring in or shared by (some members of a group or community)'. '**Among**' means the same.

Therefore, **option C** is the correct answer.

95.

|||Common||| **Direction:** Select the most appropriate meaning of the given idiom. |||End|||

Pull yourself together

- A. go to sleep
- B. calm down
- C. try to understand
- D. do a good job

Ans. B

Sol. The phrase 'pull yourself together' means 'to recover control of one's emotions'.

For example: You've got to pull yourself together and find a job.

Therefore, **option B** is the correct answer.

96.

|||Common||| **Direction:** Select the word which means the same as the group of words given. |||End|||

An inscription on a tombstone written in memory of the deceased

- A. pillar
- B. epitaph
- C. slab
- D. basilica

Ans. B

Sol. The meanings of the words are:

Pillar: a tall vertical structure of stone, wood, or metal, used as a support for a building, or as an ornament or monument.

Epitaph: a phrase or form of words written in memory of a person who has died, especially as an inscription on a tombstone.

Slab: a large, thick, flat piece of stone or concrete, typically square or rectangular in shape.

Basilica: a large oblong hall or building with double colonnades and a semicircular apse, used in ancient Rome as a law court or for public assemblies.

|||Common||| **Direction:** Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement. |||End|||

Therefore, **option B** is the correct answer.

97.

|||Common||| **Direction:** Select the antonym of the given word. |||End|||

EMINENT

- A. Exalted
- B. Inconspicuous
- C. Impressive
- D. Distinguished

Ans. B

Sol. The meanings of the words are:

Eminent: (of a person) famous and respected within a particular sphere.

Exalted: (of a person or their rank or status) at a high or powerful level.

Inconspicuous: not clearly visible or attracting attention.

Impressive: evoking admiration through size, quality, or skill; grand, imposing, or awesome.

Distinguished: very successful, authoritative, and commanding great respect.

Therefore, **option B** is the correct answer.

98.

|||Common||| **Direction:** Select the most appropriate meaning of the given idiom. |||End|||

Give someone the cold shoulder

- A. Ignore someone
- B. give away a secret
- C. do something pointless
- D. pamper someone

Ans. A

Sol. If someone gives you the cold shoulder, they deliberately stop being friendly to you and ignore you.

For example: He was upset to find his previously friendly colleagues giving him the cold shoulder.

99.

If you listen to the English news, it improve your English.

- A. it is improving
- B. it will improve
- C. it improved

D. No improvement

Ans. B

Sol. The given sentence is an example of first conditional sentences. The first conditional is a structure we use when we want to talk about possibilities in the present or in the future. The first conditional has simple present after 'if' or 'when', then the simple future in the other clause. Hence, **option B** is the correct answer.

100.

|||Common||| **Direction:** Select the word which means the same as the group of words given. |||End|||

An enclosure to keep the birds in

A. Aviary

B. Apiary

C. Stable

D. Sanctuary

Ans. A

Sol. The meanings of the words are:

Aviary: a large cage, building, or enclosure for keeping birds in.

Apiary: a place where bees are kept; a collection of beehives.

Stable: a building set apart and adapted for keeping horses.

Sanctuary: a nature reserve.

Therefore, **option A** is the correct answer.