



## SSC CGL 6th March 2020 Shift-3

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# General Intelligence and Reasoning

## Instructions

For the following questions answer them individually

### Question 1

Select the letter will replace the question mark (?) in the following series.

K, Q, V, ?, C, E, F

A Y

B A

C X

D Z

Answer: D

### Explanation:

The series follows pattern as,

$$K + 6 = Q$$

$$Q + 5 = V$$

$$V + 4 = Z$$

$$Z + 3 = C$$

$$C + 2 = E$$

$$E + 1 = F$$

∴ The correct answer is option D.

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### Question 2

Select the letter-cluster that can replace the question mark (?) in the following series.

DYKM, GZIN, JAGO, MBEP, ?

A QCCQ

B PDDQ

C PCCQ

D PCDR

Answer: C

### Explanation:

$$(D + 3)(Y + 1)(K - 2)(M + 1) = GZIN$$

$$(G + 3)(Z + 1)(I - 2)(N + 1) = JAGO$$

$$(J + 3)(A + 1)(G - 2)(O + 1) = MBEP$$

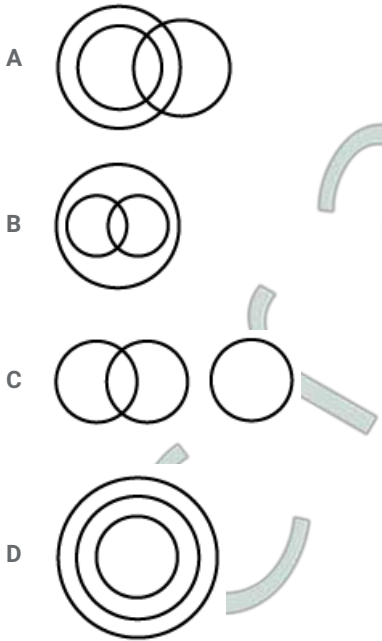
$$(M + 3)(B + 1)(E - 2)(P + 1) = PCCQ$$

∴ The correct answer is option C

### Question 3

Which of the following Venn diagrams best represents the relationship between the following classes?

Spices, Cumin Seeds, Food



Answer: D

Question 4

Arrange the following words in a logical and meaningful order.

- 1. Class
- 2. Admission
- 3. Result
- 4. Examination
- 5. Marking

- A 2,1,5,3,4
- B 2,1,4,5,3
- C 5,3,4,1,2
- D 3,4,2,1,5

Answer: B

Explanation:

First of all a student takes admission then he takes class after then he give exam then marking and in the final he gets result.

Meaningful order of the words,  
Admission, Class, Examination, Marking, Result

∴ The correct answer is option B.

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Question 5

'Size' is related to 'Medium' in the same way as 'Shape' is related to ' .....

- A Object
- B Color
- C Oval

D Corner

Answer: C

Explanation:

'Size' is related to 'Medium' in the same way as 'Shape' is related to 'Oval'.  
∴ The correct answer is option C.

#### Question 6

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow from the statements.

Statements:

1. All helmets are objects.
2. Some helmets are vehicles.

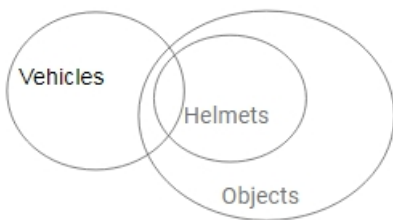
Conclusions:

- I. Some objects are helmets.
- II. Some vehicles are helmets.
- III. Some vehicles are objects.

- A Only conclusions I and III follow.  
B Only conclusions II and III follow.  
C Only conclusions I and II follow.  
D All conclusions I, II and III follow.

Answer: D

Explanation:



From the Venn diagram,  
All conclusions I, II and III follow.  
∴ The correct answer is option D.

#### Question 7

Select the number that can replace the question mark (?) in the following series.

58, 73, 99, 138, 193, ?, 368

- A 260  
B 268  
C 312  
D 329

Answer: B

Explanation:

The series follows pattern as,  
 $58 + 15 = 73$   
 $73 + (15 + 11 = 26) = 99$   
 $99 + (26 + 13 = 39) = 138$   
 $138 + (39 + 16 = 55) = 193$

$$193 + (55 + 20 = 75) = 268$$

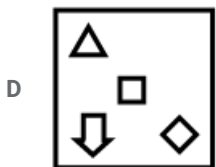
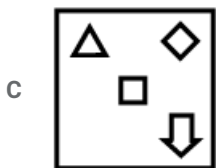
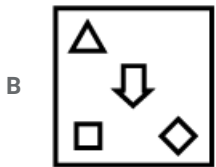
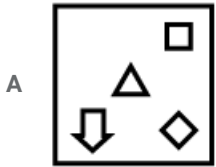
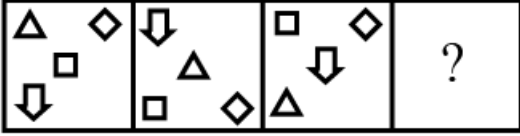
$$268 + (75 + 25 = 100) = 368$$

∴ The correct answer is option B.

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### Question 8

Select the figure that can replace the question mark (?) in the following series.



Answer: D

### Question 9

Select the correct mirror image of the given figure when a mirror is placed on the right side of the figure.





Answer: D

Question 10

Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different from the rest.

A 41263 : 18

B 85245 : 24

C 77052 : 21

D 26584 : 25

Answer: A

Explanation:

$$4 + 1 + 2 + 6 + 3 = 16$$

$$8 + 5 + 2 + 4 + 5 = 24$$

$$7 + 7 + 0 + 5 + 2 = 21$$

$$2 + 6 + 5 + 8 + 4 = 25$$

∴ The correct answer is option A.

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Question 11

Four words have been given, out of which three are alike in some manner and one is different. Select the odd word

A Computer

B Television

C Geyser

D Machine

Answer: D

**Explanation:**

Computer, television and geyser are machine so, Option D is odd.

∴ The correct answer is option D.

**Question 12**

Select the option in which the given figure X is embedded (rotation is not allowed).

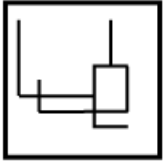
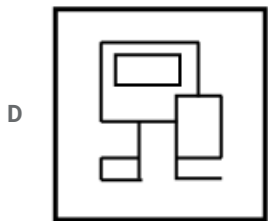
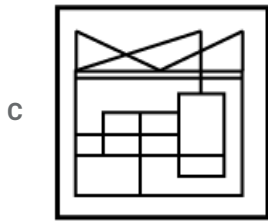
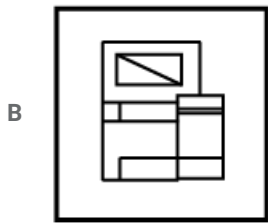
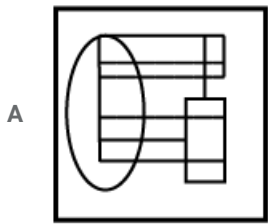


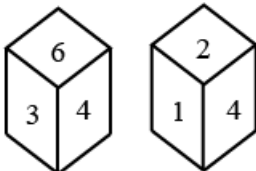
Figure X



Answer: C

**Question 13**

Two different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the one having '5'.



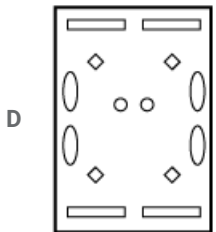
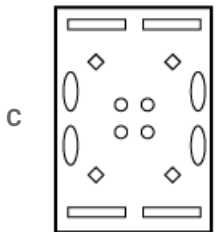
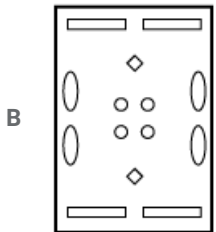
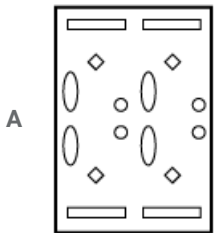
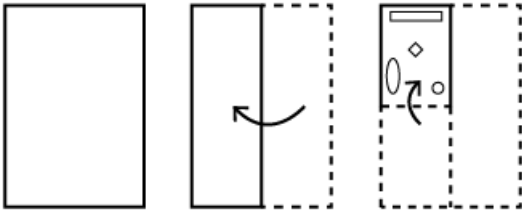
- A 3
- B 6
- C 4
- D 2

Answer: C

## SSC CGL Tier-2 Previous Papers PDF

### Question 14

The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?



Answer: C



**Question 15**

Which two numbers should be interchanged to make the given equation correct?

$$28 + 49 - 35 \div 7 \times 4 = 68$$

- A 28 and 35
- B 28 and 49
- C 49 and 35
- D 4 and 28

**Answer: A**

**Explanation:**

$$28 + 49 - 35 \div 7 \times 4 = 68$$

From option A,

On interchanging,

$$35 + 49 - 28 \div 7 \times 4 = 68$$

$$35 + 49 - 16 = 68$$

$$68 = 68$$

∴ The correct answer is option A.

**Question 16**

Select the option that is related to the third number in the same way as the second number is related to the first number.

8:576::4:?

- A 70
- B 120
- C 80
- D 90

**Answer: C**

**Explanation:**

$$(8)^2 \times (8 + 1) = 64 \times 9 = 576$$

$$(4)^2 \times (4 + 1) = 16 \times 5 = 80$$

∴ *therefore* The correct answer is option C.

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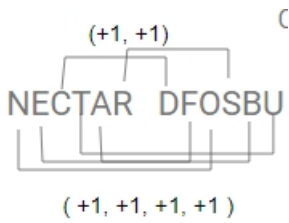
**Question 17**

In a certain code language, 'NECTAR' is written as 'DFOSBU'. How will 'CARPET' be written as in that language?

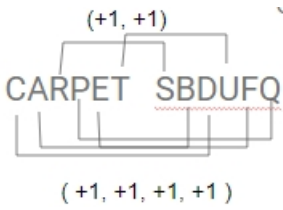
- A SBDUFQ
- B DBSQGR
- C SBDVFR
- D BDSSUG

**Answer: A**

**Explanation:**



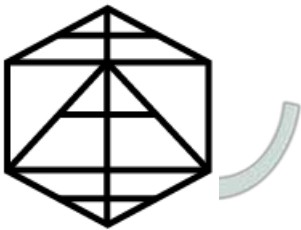
Similarly,



∴ The correct answer is option A.

#### Question 18

How many triangles are there in the given figure?



- A 23
- B 20
- C 22
- D 24

Answer: C

#### Question 19

Select the option in which the words share the same relationship as that shared by the given pair of words.

Ear : Tinnitus

- A Eye : Ophthalmologist
- B Nose : Nerve
- C Skin : Acne
- D Joints : Muscles

Answer: C

#### Explanation:

Tinnitus is affected the Ear.

Similarly,

Acne is affected the skin.

∴ The correct answer is option C.

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**Question 20**

Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.

- A KPT
- B BYD
- C CXE
- D UFW

**Answer: A**

**Explanation:**

Only option A has the difference of 4 in the letters.

So, 'KPT' is odd letter-cluster.

∴ The correct answer is option A.

**Question 21**

Among 160 players in a tournament, 57 did not participate in any of the three games, i.e. Cricket, Hockey and Badminton. A total of 37 players participated in only one game, 10 players participated in both Cricket and Hockey but not in Badminton, 9 players participated in both Hockey and Badminton but not in Cricket, and 13 players participated in both Cricket and Badminton but not in Hockey. How many students participated in all the three games

- A 30
- B 32
- C 38
- D 34

**Answer: D**

**Explanation:**

Total students participate =  $160 - 57 = 103$

Participant in 1 game = 37

Players participated in both Cricket and Hockey but not in Badminton = 10

Players participated in both Hockey and Badminton but not in Cricket = 9

Players participated in both Cricket and Badminton but not in Hockey = 13

Students participated in all the three games =  $103 - 37 - 10 - 9 - 13 = 34$

∴ The correct answer is option D.

**Question 22**

In a certain code language, 'BLINK' is coded as '78' and 'PURSE' is coded as '54'. How will 'FIRST' be coded in that language?

- A 63
- B 71
- C 64
- D 76

**Answer: A**

**Explanation:**

$BLINK = (27 - 2) + (27 - 12) + (27 - 9) + (27 - 14) + (27 - 11) = 25 + 15 + 18 + 13 + 16 = 87$

$PURSE = (27 - 16) + (27 - 21) + (27 - 18) + (27 - 19) + (27 - 5) = 11 + 6 + 9 + 8 + 22 = 56$

Similarly,

$$F I R S T = (27 - 6) + (27 - 9) + (27 - 18) + (27 - 19) + (27 - 20) = 21 + 18 + 9 + 8 + 7 = 63$$

∴ The correct answer is option A.

## General Science Notes for SSC CGL

### Question 23

Study the given pattern carefully and select the number that can replace the question mark (?) in it.

50	48	30
56	32	40
350	192	?

A 150

B 145

C 180

D 140

Answer: A

Explanation:

$$(50 \times 56) \div 8 = 2800/8 = 350$$

$$(48 \times 32) \div 8 = 1536/8 = 192$$

Similarly,

$$(30 \times 40) \div 8 = 1200/8 = 150$$

∴ The correct answer is option A.

### Question 24

Select the option in which the numbers are related in the same way as are the numbers in the given set.

(14, 18, 277)

A (20, 22, 521)

B (12, 32, 320)

C (18, 16, 485)

D (24, 20, 576)

Answer: A

Explanation:

$$(14)^2 + \binom{18}{2}^2 = 196 + 81 = 277$$

Similarly,

$$(20)^2 + \binom{22}{2}^2 = 400 + 121 = 521$$

∴ The correct answer is option A.

### Question 25

$A + B$  means 'A is the husband of B';

$A - B$  means 'A is the wife of B';

$A \times B$  means 'A is the mother of B';

$A \div B$  means 'A is the son of B'.

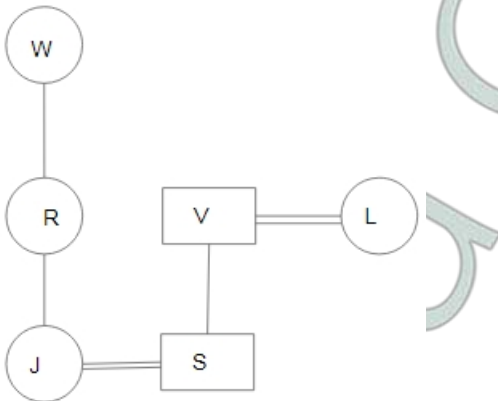
If  $W \times R \times J - S \div V + L$ , then which of the following statements is NOT correct?

- A W is the maternal grandmother of J.
- B L is the wife of V.
- C V is the father-in-law of J.
- D L is the mother-in-law of S.

**Answer: D**

**Explanation:**

In the diagram, Circle shows the female, square shows the male, vertical lines show the generation, single horizontal line shows the brother/sister and double horizontal lines show the couple.



From the diagram,  
Option D is not correct.  
∴ The correct answer is option D.

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### General Awareness

**Instructions**

For the following questions answer them individually

**Question 26**

In which of the following states did Khadi and Village Industries Commission (KVIC) open its first Silk Processing Plant?

- A Gujarat
- B Madhya Pradesh
- C Goa
- D Haryana

**Answer: A**

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**Question 27**

Who is the author of the book 'Dreams From My Father'?

- A Barack Obama
- B Charles Darwin

- C Olivia Laing
- D Navin Chawla

**Answer: A**

**Question 28**

**Who among the following is the head of the standing committee on economic statistics set up by Ministry of Statistics and Programme Implementation (MOSPI)?**

- A Krishnamurthy Subramanian
- B Manmohan Singh
- C Raghuram Rajan
- D Pronab Sen

**Answer: D**

**Question 29**

**In which year was the Hindustan Socialist Republican Association (HSRA) founded?**

- A 1928
- B 1929
- C 1930
- D 1926

**Answer: A**

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**Question 30**

**In which of the following Indian airports will the Wings India 2020, international exhibition and conference on the civil aviation sector, be held?**

- A Chennai International Airport
- B Chaudhary Charan Singh Airport
- C Begumpet Airport
- D Bagdogra Airport

**Answer: C**

**Question 31**

**Which of the following is used to remove the green colour from glass?**

- A Manganese dioxide
- B Sulphur dioxide
- C Titanium dioxide

D Silicon dioxide

Answer: A

Question 32

In which of the following years were two additional Commissioners appointed to the Election commission of India for the first time?

A 1998

B 1990

C 1989

D 1991

Answer: C

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Question 33

Who among the following was NOT a minister of Cabinet Mission Plan, 1946?

A Lord Wavell

B Sir Stafford Cripps

C Alexander

D Sir Pethick Lawrence

Answer: A

Question 34

Which player of the Indian Women's Hockey team has been nominated for the 'World Games Athlete of the Year' Award, 2019 by the International Hockey Federation (FIH)?

A Rajani Etimarpu

B Bichu Devi Kharibam

C Rani Rampal

D Reena Khokhar

Answer: C

Question 35

Which of the following has the lowest melting point?

A Zinc

B Silver

C Lead

D Tin

Answer: D

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### Question 36

Who was the Governor General of Bengal during the 3rd Anglo-Mysore war?

- A Warren Hastings
- B John Macpherson
- C 2nd Earl Cornwallis
- D John Shore

**Answer: C**

### Question 37

Which of the following players of the Indian cricket team laid the foundation of the Cricket Stadium and Training Centre at 'Heartfulness Institute's' headquarters in Hyderabad?

- A Sikhar Dhawan
- B Virat Kohli
- C Yuvraj Singh
- D Rohit Sharma

**Answer: D**

### Question 38

Which of the following Articles is related to the Ancillary powers of Supreme Court?

- A Article 138
- B Article 150
- C Article 140
- D Article 143

**Answer: C**

## SSC CHSL Previous Question papers (download pdf)

### Question 39

What was National Highway 66 (NH 66) previously known as?

- A NH8
- B NH2
- C NH5
- D NH 17



**Answer: D**

**Question 40**

**Who among the following first translated the Bhagvad Gita in to English?**

- A James Prinsep
- B Charles Wilkins
- C Sir Alexander Cunningham
- D William Jones

**Answer: B**

**Question 41**

**Which of the following countries had the highest number of new born babies on first day of 2020?**

- A USA
- B Pakistan
- C India
- D China

**Answer: C**

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**Question 42**

**In which of the following Indian states is the Lai Haraoba festival celebrated?**

- A Kerala
- B Karnataka
- C Goa
- D Manipur

**Answer: D**

**Question 43**

**Which of the following railway stations has been certified by FSSAI as the country's first 'Eat Right Station'?**

- A Jabalpur
- B Allahabad
- C Mumbai Central
- D Jaipur

**Answer: C**

**Question 44**

**Who among the following scientists invented Kevlar?**

- A Steve Wozniak
- B Marry Anderson
- C Stephanie Louise Kwolek
- D George Eastman

**Answer: C**

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**Question 45**

**According to India State of Forest Report 2019, how much of the total geographical area of the country is covered by forests and trees?**

- A 21.30%
- B 42.56%
- C 24.56%
- D 34.56%

**Answer: C**

**Question 46**

**How many types of isotopes does Scandium have?**

- A 9
- B 7
- C 10
- D 13

**Answer: D**

**Question 47**

**In which of the following temples is the Ambubasi Fair celebrated every year?**

- A Jagnanath temple
- B Kamakhya temple
- C Kashi Vishwanath temple
- D Kedarnath temple

**Answer: B**

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Question 48

Which of the following Indian movies was nominated for the 92nd Oscar Awards?

- A The Surgical Strike
- B Mission Manga
- C Gully Boy
- D War

Answer: C

Question 49

Which of the following states topped among all the states with the highest number of fire alerts according to a 2019 report by the Forest Survey of India?

- A Arunachal Pradesh
- B Madhya Pradesh
- C Odisha
- D Mizoram

Answer: D

Question 50

What is the atomic mass of Zirconium?

- A 91.22
- B 89.22
- C 88.22
- D 90.22

Answer: A

## SSC CGL Free Mock Test

### Quantitative Aptitude

#### Instructions

For the following questions answer them individually

Question 51

If  $x^2 - 4x + 4 = 0$ , then the value of  $16(x^4 - \frac{1}{x^4})$  is

- A 127
- B 255
- C  $\frac{127}{16}$
- D  $\frac{255}{16}$

Answer: B

Explanation:

$$x^2 - 4x + 4 = 0$$

$$x^2 - 2x - 2x + 4 = 0$$

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

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

$$x = 2$$

now,

$$16(x^4 - \frac{1}{x^4})$$

$$= 16(2^4 - \frac{1}{2^4})$$

$$= 16(16 - \frac{1}{16})$$

$$= 16^2 - 1 = 255$$

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Question 52

The following Table gives the details of Five commodities A, B, C, D and E with quantity required and their costs for a family in a month. Study the Table and answer the questions that follow.

Commodity	Quality required/month (in kg)	Rate/kg in ₹	
		Year 2016	Year 2019
A	15	₹60	₹80
B	20	₹50	₹60
C	12	₹35	₹40
D	40	₹75	₹85
E	8	₹64	₹72

A ₹5,400

B ₹6,856

C ₹8,122

D ₹7,248

Answer: B

Question 53

An article was sold at a gain of 16%. If it had been sold for 36 more, the gain would have been 20%. The cost price of the article is

A ₹862

B ₹900

C ₹810

D ₹720

Answer: B

Explanation:

Let the cost price of an article be  $x$ .

Gain = 16%

Selling price =  $x \times 116/100 = 1.16x$

Selling price when sold for 20% gain =  $x \times 120/100 = 1.2x$

According to question,

$$1.2x - 1.16x = 36$$

$$0.4x = 36$$

$$x = \text{Rs.}900$$

#### Question 54

In  $\triangle ABC$ , if the ratio of angles is in the proportion 3 : 5 : 4, then the difference between the biggest and the smallest angles (in degrees) is:

A  $20^\circ$

B  $25^\circ$

C  $30^\circ$

D  $35^\circ$

Answer: C

#### Explanation:

We know that sum of the all angles of the triangle is equal to the  $180^\circ$ .

Let the angles be  $3x$ ,  $5x$  and  $4x$ .

$$\text{so, } 3x + 5x + 4x = 180$$

$$x = 15$$

$$\text{Smallest angle} = 3x = 3 \times 15 = 45^\circ$$

$$\text{Biggest angle} = 5x = 5 \times 15 = 75^\circ$$

$$\text{Difference between the biggest and the smallest angles} = 75 - 45 = 30^\circ$$

## SSC CGL Previous Papers (DOWNLOAD PDF)

#### Question 55

A, B and C are three points on a circle such that the angles subtended by the chords AB and AC at the centre O are  $80^\circ$  and  $120^\circ$ , respectively. The value of  $\angle BAC$  is:

A  $70^\circ$

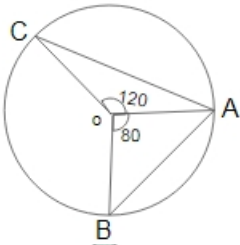
B  $85^\circ$

C  $75^\circ$

D  $80^\circ$

Answer: D

#### Explanation:



In the  $\triangle OAB$ ,

$OB = OA$  (radius) so,

$$\angle OBA = \angle BAO$$

$$\angle OBA + \angle BAO + \angle AOB = 180^\circ$$

$$\angle BAO + \angle BAO + 80^\circ = 180^\circ$$

$$2\angle BAO = 180 - 80 = 100^\circ$$

$$\angle BAO = 50^\circ$$

In the  $\triangle OAC$ ,

$OC = OA$  (radius) so,

$$\angle OAC = \angle OCA$$

$$\angle OAC + \angle OCA + \angle AOC = 180^\circ$$

$$2\angle OAC + 120^\circ = 180^\circ$$

$$2\angle OAC = 180 - 120 = 60^\circ$$

$$\angle OAC = 30^\circ$$

$$\angle BAC = \angle BAO + \angle OAC$$

$$\angle BAC = 50 + 30 = 80^\circ$$

#### Question 56

if  $0 < A, B < 45^\circ$ ,  $\cos(A + B) = \frac{24}{25}$  and  $\sin(A - B) = \frac{15}{17}$ , then  $\tan 2A$  is

A 1

B 0

C  $\frac{416}{87}$

D  $\frac{213}{4}$

Answer: C

#### Explanation:

$$\tan 2A$$

$$= \tan((A + B) + (A - B))$$

$$= \frac{\tan(A + B) + \tan(A - B)}{1 - \tan(A + B)\tan(A - B)} \quad \text{---(1)}$$

$$\text{Because } \tan(a + b) = \frac{\tan a + \tan b}{1 - \tan a \tan b}$$

$$\tan(A + B) = \frac{\sin(A + B)}{\cos(A + B)}$$

$$\tan(A + B) = \frac{\sqrt{1 - \cos^2(A + B)}}{\cos(A + B)}$$

$$\tan(A + B) = \frac{\sqrt{1 - (24/25)^2}}{(24/25)}$$

$$\tan(A + B) = \frac{\sqrt{49/25}}{(24/25)} = 7/24$$

$$\tan(A - B) = \frac{\sin(A - B)}{\cos(A - B)}$$

$$\tan(A - B) = \frac{\sin(A - B)}{\sqrt{1 - \sin^2(A - B)}}$$

$$\tan(A - B) = \frac{15/17}{\sqrt{1 - (15/17)^2}}$$

$$\tan(A - B) = \frac{15/17}{\sqrt{64/17^2}} = 15/8$$

From eq(1),

$$= \frac{\frac{7}{24} + \frac{15}{8} \left(1 - \frac{7}{24} \cdot \frac{15}{8}\right)}{1 - \frac{7}{24} \cdot \frac{15}{8}}$$

$$= \frac{416}{87}$$

#### Question 57

The value of  $4 \left[ \frac{(1 - \sec A)^2 + (1 + \sec A)^2}{1 + \sec^2 A} \right]$  is :

A 4

B 1

C 2

D 8

Answer: D

#### Explanation:

$$4 \left[ \frac{(1 - \sec A)^2 + (1 + \sec A)^2}{1 + \sec^2 A} \right]$$

$$= 4 \left[ \frac{1 + \sec^2 A - 2 \sec A + 1 + \sec^2 A + 2 \sec A}{1 + \sec^2 A} \right]$$

$$= 4 \left[ \frac{2(1 + \sec^2 A)}{1 + \sec^2 A} \right] = 8$$

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#### Question 58

If  $a^3 + \frac{1}{a^3} = 52$  then the value of  $2 \left( a + \frac{1}{a} \right)$  is :

A 8

B 2

C 6

D 4

Answer: A

#### Explanation:

$$a^3 + \frac{1}{a^3} = 52$$

$$\left( a + \frac{1}{a} \right)^3 - 3 \cdot \frac{1}{a} \left( a + \frac{1}{a} \right) = 52$$

$$\left( \because a^3 + b^3 = (a + b)^3 - 3ab(a + b) \right)$$

$$\left( a + \frac{1}{a} \right)^3 - 3 \left( a + \frac{1}{a} \right) = 52$$

From the option A) -

$$\text{Put the value of } 2 \left( a + \frac{1}{a} \right) = 8,$$

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

L.H.S.,

$$4^3 - 3 \times 4 = 52$$

= R.H.S.

$\therefore$  The value of  $2 \left( a + \frac{1}{a} \right)$  is 8.

**Question 59**

If  $b + c = ax$ ,  $c + a = by$ ,  $a + b = cz$ , then the value  $\frac{1}{9} \left[ \frac{1}{x+1} + \frac{1}{y+1} + \frac{1}{z+1} \right]$  is:

- A  $\frac{1}{9}$
- B 1
- C 0
- D  $\frac{1}{3}$

**Answer: A**

**Explanation:**

$$b + c = ax, c + a = by, a + b = cz$$

$$x = \frac{b + c}{a}$$

$$y = \frac{c + a}{b}$$

$$z = \frac{a + b}{c}$$

Now,

$$\frac{1}{9} \left[ \frac{1}{x+1} + \frac{1}{y+1} + \frac{1}{z+1} \right]$$

$$x + 1 = \frac{b + c}{a} + 1 = \frac{a + b + c}{a}$$

$$y + 1 = \frac{c + a}{b} + 1 = \frac{a + b + c}{b}$$

$$z + 1 = \frac{a + b}{c} + 1 = \frac{a + b + c}{c}$$

$$= \frac{1}{9} \left[ \frac{1}{\frac{a + b + c}{a}} + \frac{1}{\frac{a + b + c}{b}} + \frac{1}{\frac{a + b + c}{c}} \right]$$

$$= \frac{1}{9} \left[ \frac{a}{a + b + c} + \frac{b}{a + b + c} + \frac{c}{a + b + c} \right]$$

$$= \frac{1}{9} \left[ \frac{a + b + c}{a + b + c} \right] = 1/9$$

**Question 60**

The following table gives the details of Five commodities A, B, C, D and E with quantity required and their costs for a family in a month. Study the table and answer the questions that follow.

Commodity	Quality required/month (in kg)	Rate/kg in ₹	
		Year 2016	Year 2019
A	15	₹60	₹80
B	20	₹50	₹60
C	12	₹35	₹40
D	40	₹75	₹85
E	8	₹64	₹72

The percentage of increase(per kg) in the rate of commodity D from 2016 to 2019 is:

- A 5%
- B 22.17%
- C 13.33%
- D 38.24%

**Answer: C**

**Explanation:**

Rate of commodity D in 2016 = 75



Rate of commodity D in 2019 = 85

The percentage of increase(per kg) in the rate of commodity D from 2016 to 2019 =  $\frac{85 - 75}{75} \times 100 = \frac{10}{75} \times 100 = 13.33\%$

## SSC CGL Tier-2 Previous Papers PDF

### Question 61

In a triangle ABC, DE is parallel to BC; AD = a, DB = a + 4, AE = 2a + 3, EC = 7a. What is the value of 'a' if a > 0 ?

A 5

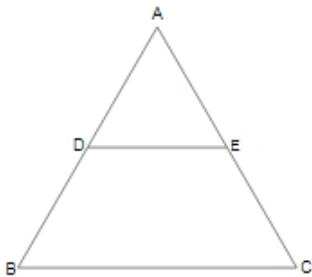
B 6

C 3

D 4

Answer: C

Explanation:



$\triangle ADE$  and  $\triangle ABC$  are similar triangle.

(because all  $\angle A$  is common and  $\angle B = \angle D$  &  $\angle C = \angle E$ )

By the properties,

$$\frac{AB}{AD} = \frac{AC}{AE}$$

$$\frac{AB}{a} = \frac{AC}{2a + 3}$$

$$\frac{AD + DB}{a} = \frac{AE + EC}{2a + 3}$$

$$\frac{a + a + 4}{a} = \frac{2a + 3 + 7a}{2a + 3}$$

$$\frac{2a + 4}{a} = \frac{9a + 3}{2a + 3}$$

$$(2a + 4)(2a + 3) = a(9a + 3)$$

$$4a^2 + 14a + 12 = 9a^2 + 3a$$

$$5a^2 - 11a - 12 = 0$$

$$5a^2 - 15a + 4a - 12 = 0$$

$$5a(a - 3) + 4(a - 3) = 0$$

$$(5a + 4)(a - 3) = 0$$

$$a = -4/5 \text{ and } a = 3$$

because  $a > 0$  so,  $a = 3$

Question 62

The following table gives the details of Five commodities A, B, C, D and E with quantity required and their costs for a family in a month. Study the table and answer the questions that follow.

Commodity	Quantity required/month (in kg)	Rate/kg in ₹	
		Year 2016	Year 2019
A	15	₹60	₹80
B	20	₹50	₹60
C	12	₹35	₹40
D	40	₹75	₹85
E	8	₹64	₹72

The amount spent extra on commodities B and C in the year 2019 as compared to that in the year 2016, is:

- A ₹260
- B ₹248
- C ₹110
- D ₹192

Answer: A

Explanation:

The amount spent on commodities B in the year 2016 = quantity  $\times$  rate =  $20 \times 50 = \text{Rs.}1000$

The amount spent on commodities C in the year 2016 =  $12 \times 35 = \text{Rs.}420$

The amount spent on commodities B and C in the year 2016 =  $1000 + 420 = \text{Rs.}1420$

The amount spent on commodities B in the year 2019 =  $20 \times 60 = \text{Rs.}1200$

The amount spent on commodities C in the year 2019 =  $12 \times 40 = \text{Rs.}480$

The amount spent on commodities B and C in the year 2019 =  $1200 + 480 = \text{Rs.}1680$

The amount spent extra on commodities B and C in the year 2019 as compared to that in the year 2016 =  $1680 - 1420 = \text{Rs.}260$

Question 63

A, B and C can individually complete a task in 20 days, 16 days and 30 days, respectively. If A and B started working on the task, and they worked for 4 days and left, then the number of days required by C to finish the remaining task is:

- A  $16\frac{1}{2}$  days
- B 13 days
- C 10 days
- D  $12\frac{1}{2}$  days

Answer: A

Explanation:

Let the total work be 240 units.

(LCM of 20, 16 and 30 is 240.)

Efficiency of A = total work/time taken to complete work =  $240/20 = 12$

Efficiency of B =  $240/16 = 15$

Efficiency of C =  $240/30 = 8$

Work done by A and B in 4 days =  $4 \times (12 + 15) = 4 \times 27 = 108$  units

Remaining work =  $240 - 108 = 132$  units

Time taken by C to complete remaining work =  $132/8 = 16 \frac{4}{8} = 16 \frac{1}{2}$

## SSC CGL Important Questions PDF

### Question 64

A train crosses a platform 180 m long in 60 sec at a speed of 72 km/h. The time taken by the train to cross an electric pole is:

- A 51 sec
- B 0.51 min
- C 5.1 sec
- D 5.1 min

**Answer:** A

#### Explanation:

Length of platform = 180 m

Time = 60 sec

Speed =  $72 \text{ km/hr} = 72 \times \frac{5}{18} = 20 \text{ m/sec}$

Total length = length of platform + length of train =  $180 + \text{length of train}$

Speed = length/time

$180 + \text{length of train} = 20 \times 60$

Length of train =  $1200 - 180 = 1020 \text{ m}$

The time taken by the train to cross an electric pole =  $1020/20 = 51 \text{ sec}$

### Question 65

The rate of simple interest on a sum of money is 5% p.a. for the first 4 years, 8% p.a. for the next 3 years and 10% p.a. for the period beyond 7 years. If the simple interest accrued by the sum over a period of 10 years is ₹1,850, then the sum is:

- A ₹2,750
- B ₹1,650
- C ₹2,500
- D ₹1,500

**Answer:** C

#### Explanation:

Simple interest =  $\frac{prt}{100}$

p = principal

r = rate of interest

t = time

Simple interest for 10 years = 1,850

Simple interest for 4 years at 5% + Simple interest for 3 years at 8% + Simple interest for 3 years at 10% = 1850

$\frac{p \times 5 \times 4}{100} + \frac{p \times 8 \times 3}{100} + \frac{p \times 10 \times 3}{100} = 1850$

$p(20 + 24 + 30) = 185000$

$p = 185000/74 = 2500$

∴ The sum is Rs.2500.

**Question 66**

The value of  $\frac{[54-(5 \div 2) \times 8]+13}{48-4 \div 3 \times 8-2}$

- A  $\frac{89}{106}$
- B  $\frac{141}{127}$
- C  $\frac{141}{106}$
- D  $\frac{89}{127}$

**Answer:** C

**Explanation:**

$$\begin{aligned} & \frac{[54-(5 \div 2) \times 8]+13}{48-4 \div 3 \times 8-2} \\ &= \frac{[54-(2.5) \times 8]+13}{48-4 \times \frac{1}{3} \times 8-2} \\ &= \frac{[54-20]+13}{48-\frac{32}{3}-2} \\ &= \frac{47}{\frac{106}{3}} \\ &= \frac{141}{106} \end{aligned}$$

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**Question 67**

The average of 60 student's results is 38. If the average of the first 22 students is 36, and that of the last 32 students is 32, then the average result of the remaining students is:

- A 81
- B 77
- C 65
- D 52

**Answer:** B

**Explanation:**

$$\begin{aligned} \text{Total sum of result of 60 students} &= \text{average} \times \text{number of students} = 38 \times 60 = 2280 \\ \text{Sum of result of first 22 students} &= 36 \times 22 = 792 \\ \text{Sum of result of last 32 students} &= 32 \times 32 = 1024 \\ \text{Sum of result of remaining students} &= 2280 - 792 - 1024 = 462 \\ \text{Number of remaining students} &= 60 - 22 - 32 = 6 \\ \text{Average result of the remaining students} &= 462/6 = 77 \end{aligned}$$

**Question 68**

The inner and outer radius of a circular track are 23 m and 29 m respectively. The cost of leveling the track at ₹ 7/m<sup>2</sup> is :

- A ₹7,215
- B ₹3,284
- C ₹6,864

D ₹5,300

Answer: C

**Explanation:**

Radius of outer circle = 29 m

Radius of inner circle = 23 m

Area of the circle =  $\pi r^2$

Area of the track = area of the outer circle - area of the inner circle

$$= \pi (29)^2 - \pi (23)^2 = \pi ((29)^2 - (23)^2)$$

$$= \pi (841 - 529) = \frac{22}{7} \times 312 = 980.57 \text{ m}^2$$

$$\text{Cost} = 7/\text{m}^2$$

$$\text{Total cost of leveling track} = 980.57 \times 7 = \text{Rs. } 6864$$

**Question 69**

What is the smallest integer that is divisible by 3, 7 and 18?

A 63

B 252

C 72

D 126

Answer: D

**Explanation:**

LCM of 3, 7 and 18 = 126

∴ 126 is the smallest integer that is divisible by 3, 7 and 18.

## General Science Notes for SSC CGL

**Question 70**

A shopkeeper fixes the price of an article in such a way that after allowing 32% discount, he wants again of 14%. If the marked price is ₹342, then the cost price of the article is:

A ₹212

B ₹204

C ₹218

D ₹196

Answer: B

**Explanation:**

Marked price = 342

$$\text{Selling price} = 342 \times \frac{100 - 32}{100} = 342 \times \frac{68}{100} = 232.56$$

Let the cost price of an article be 100%.

$$\text{Selling price} = 100\% + 14\% = 114\%$$

$$114\% = 232.56$$

$$100\% = \frac{232.56}{114} \times 100 = \text{Rs. } 204$$

Cost price of an article = Rs. 204

**Question 71**

25 litres of a mixture contains 30% of spirit and rest water. If 5 litres of water be mixed in it, the percentage of spirit in the new mixture is :

- A 45%
- B  $33\frac{1}{3}\%$
- C 25%
- D  $12\frac{1}{2}\%$

**Answer:** C

**Explanation:**

Quantity of spirit =  $25 \times \frac{30}{100} = 7.5$

Quantity of water =  $25 - 7.5 = 17.5$

After mixed up quantity of mixture =  $25 + 5 = 30$

Percentage of spirit =  $\frac{7.5}{30} \times 100 = 25\%$

**Question 72**

Two circles of radii 8 cm and 6 cm touch each other externally. The length of the direct common tangent is:

- A 13.86
- B 20
- C 10.12
- D 24

**Answer:** A

**Explanation:**

The length of the direct common tangent =  $2\sqrt{r_1 \cdot r_2}$

$r_1 = 8$  cm

$r_2 = 6$  cm

The length of the direct common tangent =  $2\sqrt{8 \times 6}$

=  $2\sqrt{48} = 2 \times 6.93 = 13.86$  cm

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### Question 73

The following table gives the details of Five commodities A, B, C, D and E with quantity required and their costs for a family in a month. Study the table and answer the questions that follow.

Commodity	Quality required/month (in kg)	Rate/kg in ₹	
		Year 2016	Year 2019
A	15	₹60	₹80
B	20	₹50	₹60
C	12	₹35	₹40
D	40	₹75	₹85
E	8	₹64	₹72

The ratio of the total amount spent on A and D commodities in the year 2019 is:

- A 1:1
- B 6:17
- C 15:17
- D 3:8

**Answer: B**

**Explanation:**

Total amount spent on A commodities in the year 2019 = quantity  $\times$  rate =  $15 \times 80$

Total amount spent on D commodities in the year 2019 =  $40 \times 85$

The ratio of the total amount spent on A and D commodities in the year 2019 =  $15 \times 80 : 40 \times 85 = 6 : 17$

### Question 74

The sum of the squares of 3 natural numbers is 1029, and they are in the proportion 1 : 2 : 4. The difference between greatest number and smallest number is:

- A 15
- B 21
- C 31
- D 18

**Answer: B**

**Explanation:**

Let the smallest number be  $x$ .

Numbers are  $x, 2x, 4x$ .

The sum of the squares of 3 natural numbers = 1029

$$x^2 + (2x)^2 + (4x)^2 = 1029$$

$$x^2 + 4x^2 + 16x^2 = 1029$$

$$x^2 = 1029/21$$

$$x^2 = 49$$

$$x = 7$$

Smallest number = 7

Greatest number =  $4x = 4 \times 7 = 28$

The difference between greatest number and smallest number =  $28 - 7 = 21$

**Question 75**

If A lies in third quadrant, and  $\tan A = 21$ , then the value of  $\frac{5 \sin A - 2 \cos A}{4 \cos A - \frac{5}{7} \sin A}$

- A  $\frac{-65}{29}$
- B  $\frac{1}{5}$
- C  $\frac{5}{29}$
- D  $\frac{13}{12}$

**Answer:** B

**Explanation:**

$$\tan A = 21$$

$$\tan A = \frac{21}{20}$$

$$\frac{5 \sin A - 2 \cos A}{4 \cos A - \frac{5}{7} \sin A}$$

$$= \frac{\cos A (5 \frac{\sin A}{\cos A} - 2)}{\cos A (4 - \frac{5}{7} \frac{\sin A}{\cos A})}$$

$$= \frac{5 \tan A - 2}{4 - \frac{5}{7} \tan A}$$

On put the value of  $\tan A$ ,

$$= \frac{5 \times \frac{21}{20} - 2}{4 - \frac{5}{7} \times \frac{21}{20}}$$

$$= \frac{\frac{13}{20}}{\frac{13}{4}} = \frac{1}{5}$$

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### English Comprehension

**Instructions**

For the following questions answer them individually

**Question 76**

Select the correct indirect narration of the given sentence.  
She said, "We visited Uttarakhand in the summer vacation."

- A She said that they had visited Uttarakhand in the summer vacation.
- B She said that they will visit to Uttarakhand in the summer vacation
- C She said that we visited Uttarakhand in the summer vacation.
- D She said that they have visited Uttarakhand in the summer vacation

**Answer:** A

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**Question 77**

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.  
A person who attracts attention with a flashy style

- A Glutton



- B Flamboyant
- C Vagabond
- D Jockey

Answer: B

**Question 78**

Select the correctly spelt word.

- A Millionare
- B Temprature
- C Catalogue
- D Agression

Answer: C

**Question 79**

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A. It provides training for the development of oral and aural skills and is a great supplement to classroom teaching.
- B. Technology is growing very fast day by day and is contributing a lot towards improving communication skills.
- C. Thus, it is the responsibility of a teacher to make the learners understand that their aim is to master the language, not the technology.
- D. However, it cannot be a substitute for the conventional method of language teaching.

- A DACB
- B BADC
- C BCDA
- D ACBD

Answer: B

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**Question 80**

Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No Improvement.

If he doesn't score forty percent in all the subjects, he would not be promoted to the next class.

- A was not being
- B No improvement
- C is not being
- D will not be

Answer: D

**Question 81**

Select the most appropriate word to fill in the blank.

The reckless young man was \_\_\_\_\_ for the debts incurred by him.

- A suspicious
- B reliable
- C liable
- D audacious

**Answer: C**

**Instructions**

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

**Comprehension:**

Environmental pollution is a global problem and (1)\_\_\_\_\_ threat to human survival. The causes of pollution are quite (2)\_\_\_\_\_, such as contamination of water, cutting of trees and forests, emission of toxic gases etc. Due to (3)\_\_\_\_\_ factors, the flora and fauna are adversely affected. An awareness to protect the environment is everybody's (4)\_\_\_\_\_ duty and we should collectively come forward for this noble campaign. Government is taking strong (5)\_\_\_\_\_ to check the menace of pollution.

**Question 82**

Select the most appropriate option for blank No.1

- A the
- B an
- C some
- D a

**Answer: D**

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**Question 83**

Select the most appropriate option for blank No.2

- A enough
- B many
- C numerous
- D plenty

**Answer: C**

**Question 84**

Select the most appropriate option for blank No.3

- A this

- B those
- C that
- D these

**Answer: D**

**Question 85**

Select the most appropriate option for blank No.4

- A moral
- B urgent
- C pious
- D dubious

**Answer: A**

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**Question 86**

Select the most appropriate option for blank No.5

- A programmes
- B measures
- C attempts
- D enticements

**Answer: B**

**Explanation:**

The most appropriate word that fits the blank contextually and grammatically is 'measures'.

**Instructions**

For the following questions answer them individually

**Question 87**

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.  
A person who preaches religion and is considered to be a messenger of God.

- A Scholar
- B Volunteer
- C Atheist
- D Prophet

**Answer: D**

**Explanation:**

A person who preaches religion and is considered to be a messenger of God is called Prophet.

**Question 88**

Select the most appropriate antonym of the given word.

**STRINGENT**

- A Lenient
- B Severe
- C Stern
- D Strict

**Answer: A**

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**Question 89**

Select the correct passive form of the given sentence.

**Why do you spend so much money?**

- A Why is so much money spent by you?
- B Why is so much money being spent by you?
- C Why was so much money spent by you?
- D Why has so much money been spent by you?

**Answer: A**

**Question 90**

Select the most appropriate meaning of the given idiom.

**Like a dying duck in a thunderstorm**

- A Dejected
- B Daring
- C Comfortable
- D Confident

**Answer: A**

**Explanation:**

Like a dying duck in a thunderstorm means 'having a dejected or hopeless expression; or, informal.'

**Question 91**

In the sentence identify the segment which contains the grammatical error.

**She behaves in a such a cordial manner that everyone admires her**

- A admires her
- B that everyone
- C She behaves in a
- D such a cordial manner

**Answer: C**

**Explanation:**

The grammatically correct sentence of the given sentence is - 'She behaves in such a cordial manner that everyone admires her.' So, the error part is option c, i.e, "She behaves in a", which must be replaced by ' she behaves in'.

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**Question 92**

Select the most appropriate synonym of the given word.

**Repercussion**

- A Recollection
- B Reaction
- C Rearrangement
- D Reminder

**Answer: B**

**Question 93**

Select the correctly spelt word.

- A Itinary
- B Sovereignty
- C Renaissance
- D Greivance

**Answer: B**

**Explanation:**

Sovereignty means supreme power or authority.

**Question 94**

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A. It was an honor as well as a relief to the family of the deceased.
- B. The district collector announced a gallantry award and financial aid for his family.
- C. A soldier died fighting in the battlefield.
- D. The money was promptly disbursed from the Prime Minister's Relief Fund.

- A BACD
- B CDDBA
- C CBDA
- D BCAD

**Answer: C**

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**Question 95**

Select the most appropriate synonym of the given word.

**Juvenile**

- A Wise
- B Childish
- C Insane
- D Mature

**Answer: B**

**Question 96**

In the sentence identify the segment which contains the grammatical error.

All employees of the National Sugar Factory differ from their boss on the medical and pension policy.

- A differ from their boss
- B All employees
- C on the medical and pension policy
- D of the National Sugar Factory

**Answer: A**

**Question 97**

Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select **No Improvement**

No soon the Chief Minister step in than the bomb exploded

- A No sooner does the Chief Minister
- B No Improvemen
- C No sooner did the Chief Minister
- D No soon had the Chief Minister

**Answer: C**

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**Question 98**

Select the most appropriate antonym of the given word.

**GROTESQUE**

- A Distorted
- B Ugly
- C Attractive
- D Monstrous

**Answer: C**

**Question 99**

Select the most appropriate meaning of the given idiom.

To paddle one's own canoe

- A Depend on oneself
- B To take rest
- C To exercise hard
- D To act in a childish way

**Answer: A**

**Question 100**

Select the most appropriate word to fill in the blank.

The unruly behaviour of the students \_\_\_\_\_ their teacher.

- A comforted
- B irritated
- C calmed
- D pleased

**Answer: B**

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