## SBI PO Prelims 2022

## 1. Read the following passage carefully and answer the questions given below them.

There is widespread international concern that Russia's war will provoke a global food crisis similar to, or worse than, that faced in 2007 and 2008. The war comes at a time when the global food system was already struggling to feed its growing population in a sustainable way, under the pressure caused by climate change and the Covid-19 pandemic. Russia and Ukraine are key agricultural players, together exporting nearly $12 \%$ of food calories traded globally. They are major providers of basic agro-commodities, including wheat, maize and sunflower oil, and Russia is the world's top exporter of fertilisers. The global supply chain will get impacted until Russia and Ukraine retreat and will end the war.

The war's impact on global food supply centred on three factors. First is a significant reduction in exports and production of essential commodities from both countries, caused by the war and not the economic sanctions imposed on Russia, which, intentionally, did not target the agricultural sector. Overall, the European Commission estimates that 'up to 25 million tonnes of wheat would need to be substituted to meet worldwide food needs in the current and the next season. Second factor is a global spike in prices of food supplies and inputs needed for agri-food production, which were already at record levels before the war. The war has further pushed the prices up. Third factor is the international response to the above, which could either amplify the effects of the crisis (mainly by uncoordinated export bans) or mitigate them (applying lessons learnt from the 2007-2008 food crisis). A number of countries, other than Russia and Ukraine, have already imposed or announced their intention to impose some control over exports of essential agricultural commodities, including Egypt, Argentina, Indonesia, Serbia, Turkey and, in the EU, Hungary. We should keep this in our mind that the long duration of war will make the global situation irrecoverable.

## A. What can be said about the impact of Russia and Ukraine's war on the global food system?

A Only Russia and Ukraine are experiencing a shortage of food supply.

## B

The war is affecting not only the global food system but polluting groundwater also.

C The war is further worsening an already battered global food system.

D
Global food supply is unaffected by the war but has some impacts of Covid-19.

## E None of these

## Solution

The correct choice can be inferred from the first paragraph which mentions, "There is widespread international concern that Russia's war will provoke a global food crisis similar to, or worse than, that faced in 2007 and 2008. The war comes at a time when the global food system was already struggling to feed its growing population in a sustainable way, under the pressure caused by climate change and the Covid-19 pandemic."

## B. What can be inferred about Russia and Ukraine's contribution on the global food trade?

## A

A major part of basic agro-commodities supply comes from both countries.

## B

Russia and Ukraine both export approximately $12 \%$ of food calories traded globally.

C
Ukraine alone meets more than half of the global demand for wheat, maize, and rice.

D All of these

E Only (a) and (b)

## Solution

The correct choice can be inferred from the first paragraph which mentions, "Russia and Ukraine are key agricultural players, together exporting nearly $12 \%$ of food calories traded globally. They are major providers of basic agro-commodities, including wheat, maize and sunflower oil, and Russia is the world's top exporter of fertilisers."

## C. According to European Commission what action should be taken to meet global food demand for the current and the next year?

A Wheat-oriented farming should be the priority from now onwards.

B To persuade Russia not to halt the supply of wheat and rice.

C Up to 25 million tonnes of wheat would need to be substituted.

D Mitigating the various tax rates to facilitate the global supply chain.

## E None of these

## Solution

The correct choice can be inferred from the second paragraph which mentions, "Overall, the European Commission estimates that 'up to 25 million tonnes of wheat would need to be substituted to meet worldwide food needs in the current and the next season."

## D. Which of the following statements mentions the first factor that affects the global food supply?

A Damage of basic agro-commodities in Ukraine due to Russia's invasion.

## B

Financial sanctions imposed on Russia by developed as well as developing counties.

C

Decline in exports and production of essential goods from Ukraine and Russia due to war.

## D

Disruption in global supply chain of agricultural inputs such as fertilizers and chemicals

E None of these

## Solution

To validate the answer refer to the second paragraph which mentions, "First is a significant reduction in exports and production of essential commodities from both countries, caused by the war and not the economic sanctions imposed on Russia, which, intentionally, did not target the agricultural sector."

## E. What is/are the possible consequence(s) of international response to the rise in price and decrease in food supply from Russia?

## A

There will be a huge difference in the prices of the same commodities in different countries.

## B

The effects of food crises would be aggravated mainly because of uncoordinated export bans.

## C

The number of cases of starvation and malnutrition will rise sharply throughout the world.

## D

Experience in tackling food crises would help in mitigating the effects of current food crisis.

## E Both (b) and (d)

## Solution

To validate the answer refer to the second paragraph which mentions, "Third factor is the international response to the above, which could either amplify the effects of the crisis (mainly by uncoordinated export bans) or mitigate them (applying lessons learnt from the 2007-2008 food crisis)."
F. Which of the following sentences is FALSE as per the information given in the passage?
(i) Many countries intend to impose control over exports of essential agricultural commodities
(ii) Food prices and agricultural input prices have declined due to the Russia-Ukraine war.
(iii) The world has already experienced a global food crisis in 20072008.
A Only (i)

B Both (ii) \& (iii)

## D Both (i) \& (ii)

E Only (iii)

## Solution

Statement (ii) is false as per the information given in the passage. For statement (i), refer to the second paragraph which mentions," A number of countries, other than Russia and Ukraine, have already imposed or announced their intention to impose some control over exports of essential agricultural commodities, including Egypt, Argentina, Indonesia, Serbia, Turkey and, in the EU, Hungary."

For statement (ii), refer to the second paragraph which mentions," Second factor is a global spike in prices of food supplies and inputs needed for agri-food production, which were already at record levels before the war. The war has further pushed the prices up."

For statement (iii), refer to the first paragraph which mentions," There is widespread international concern that Russia's war will provoke a global food crisis similar to, or worse than, that faced in 2007 and 2008."
G. Which of the following statements has/have the correct usage of the word 'keep' used in the passage?
(i) Always keep hard to fulfill your dreams.
(ii)Doctors recommended medicines that keep aches and pains at bay.
(iii) I promised him to keep his personal matter a secret.

A Both (ii) \& (iii)

B Only (i)

C Only (ii)

D Both (i) \& (ii)

E Only (iii)

## Solution

'Keep' in the statement (i) is incorrect and should be replaced with 'work'.
H. Which of the following words is an antonym of 'retreat' given in the passage?

A engage

B bolster

C arduous

D withdraw

E None of these

## Solution

'Engage' is an antonym of 'retreat'. engage: participate or become involved in. bolster: support or strengthen. arduous: involving or requiring strenuous effort; difficult and tiring. withdraw: remove or take away (something) from a particular place or position.
I. Which of the following words is a synonym of 'pushed' given in the passage?

A jerk

B ambit

C propel

D collapse

E None of these

## Solution

'Propel' is a synonym of 'pushed' jerk: a quick, sharp, sudden movement. ambit: the scope, extent, or bounds of something. propel: drive or push something forwards. collapse: (of a structure) suddenly fall down or give way.

## 2. Read the following passage carefully and answer the questions given below them.

In the following question, sentences are given with a part in Italic. The given phrase in bold may or may not contains an error. The options following can replace the incorrect phrase. The correct phrase that is to be replaced will be your answer. If the sentence is correct then select 'No improvement required' as your answer.
A. Water overuse is a huge issue that a lot of peoples are dealing with.

A a lot of people is

B a lot of people have

C a lot of people are

D a lot of people had

E No improvement required

## Solution

Among the given options, only phrase (c) is the most appropriate option to replace the highlighted one. 'a lot of' implies plural subject thus, plural verb is needed. Further, options using helping verbs of perfect tenses are grammatically incorrect to comply with the structure of the given sentence.
B. Teams made up of a number of instructors working together are crucial in fostering creativity.

A Teams make up of

B Team made up in

C Teams made up by

D Team making up of

E No improvement required

## Solution

The highlighted phrase in the given sentence does not contain any errors.
Thus, no improvement is required.
C. He was promoted to the rank of major in recognising of his valour during the battle.

A with recognising of his

B in recognition of his

C in recognising to its

D on recognition to his

E No improvement required

## Solution

Among the given options, only phrase (b) is the most appropriate option to replace the highlighted one. When 'in' is used as a preposition, it must be followed by a noun, thus, 'recognition' is the correct form. 'Of' is used to suggest the belonging to somebody; relating to somebody
D. Every individual have rights which must never be taken away.

A individuals has rights which

B individual had rights that

C individual has rights which

D individuals have rights that

E No improvement required

## Solution

Among the given options, only phrase (b) is the most appropriate option to replace the highlighted one. 'Every' is a singular pronoun and thus must be followed by a singular noun and verb.
3. Read the following passage carefully and answer the questions given below them.

Read each sentence to find out whether there is any grammatical or idiomatic error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is 'No error', the answer is 'e'. (Ignore errors of punctuation, if any)
A. India continues to face (A)/ several inherent challenges (B)/ to the realm of sustainable (C)/ consumption and production (D).

A A

B B

C C

D D

E No error

## Solution

The error lies in part (C). Here, "to" should be replaced with "in" to make the given statement correct. 'In' is used as a function word to indicate inclusion, location, or position within limits.
B. Poorest citizens of a (A)/ country frequently bear (B)/ the burden of the costs (C)/ associated with development. (D)


B B

C C

D D

E No error

## Solution

The error lies in part (A). Here, the article "the" should be used before the superlative degree "poorest" to make the given statement correct.
C. Migration and environmental (A)/ changes are deeply interconnected (B)/ processes, intimately linked (C)/ to development pathways. (D)
A A

B $\quad \mathrm{B}$

C C

D D

E No error

## Solution

There is no error in the given sentence.
D. Women remaining in vulnerable (A)/ environments facing social and (B)/ economic challenges are having an (C)/ impact on its empowerment. (D)

A A

B B

C C

D D

E No error

## Solution

The error lies in part (D). Here, "its" should be replaced with "their" to make the given statement correct.
E. As a result of societal and (A)/ economic obstacles, women (B)/ continue to been marginalized and (C)/ live in hazardous conditions. (D)

A A

B B

C C

D D

E No error

## Solution

The error lies in part (C). Here, "been" should be replaced with "be" to make the given statement grammatically correct.


## 4. Read the following passage carefully and answer the questions given below them.

In each of the following questions, a sentence has been divided into four phrases. These phrases may or may not have been placed in their correct positions. Identify the correct rearrangement of the phrases to make the sentence grammatically correct and contextually meaningful and mark that option as your answer.
A. India operates the widest spectrum of (A)/ social security schemes which cater (B)/ people than any other country (C)/ to the largest number of (D)
A DABC

B ABDC

C CADB

D ACBD

E No rearrangement required

## Solution

The correct rearrangement of the given phrases would be ABDC. The sentence thus formed would be "India operates the widest spectrum of social security schemes which cater to the largest number of people than any other country."

## B. on the health security front, (A)/ there is the Ayushman Bharat Scheme (B)/ over a million beneficiaries (C)/ of the central government with (D)

A BDAC

B ACBD

C ABDC

D DABC

E No rearrangement required

## Solution

The correct rearrangement of the given phrases would be ABDC. The sentence thus formed would be "On the health security front, there is the Ayushman Bharat Scheme of the central government with over a million beneficiaries."

## 5. Read the following information carefully and answer the questions given below them.

In each of the questions given below, four words have been highlighted. These four words may or may not have been placed in their correct positions. The sentence is then followed by options with the correct combination of words that should replace each other in order to make the sentence grammatically and contextually correct. Find the correct combination of the words that should replace each other. If the sentence is correct as it is, then select option (e) as your choice.

## A. The BRICS provides an appropriate shape (A) model suitable for the 21st century where a dominated (B) group of states narrow (C) by one power will not governance (D) the agenda.

## A B-C

B A-B

## C A-D \& B-C

D $\quad \mathrm{A}-\mathrm{C} \& \mathrm{~B}-\mathrm{D}$

E No replacement required

## Solution

The correct replacement of the highlighted words would be A-D \& B-C.
B. A lead (A) to exchange experiences on societal benefits (B) and growth as complementary goals would forum (C) to fresh thinking on employment (D) and the environment.

A B-C

B $\quad \mathrm{A}-\mathrm{B} \& \mathrm{C}-\mathrm{D}$

C A-C

D $\quad \mathrm{A}-\mathrm{C} \& \mathrm{~B}-\mathrm{D}$

E No replacement required

## Solution

The correct replacement of the highlighted words would be A-C. Forum means a meeting or medium where ideas and views on a particular issue can be exchanged.
C. Harnessing the potential (A) of the digital revolution requires redefining (B) digital access that goes beyond physical connectivity (C) to share specific opportunities (D) available.

A B-C

B $\quad \mathrm{A}-\mathrm{B}$

C $\quad \mathrm{A}-\mathrm{B} \& \mathrm{C}-\mathrm{D}$

D A-C \& B-D

E No replacement required

## Solution

All of the highlighted words have been placed in their correct positions.
Thus, no replacement is required. Potential means having or showing the capacity to develop into something in the future.
D. The Senate passed a bill that investment (A) the largest represents (B) ever made in the United States to advance rebate (C) energy and provide middle-class people with a tax sustainable (D).

A B-C

C A-B

D $\quad \mathrm{A}-\mathrm{C} \& \mathrm{~B}-\mathrm{D}$

E No replacement required

## Solution

The correct replacement of the highlighted words would be A-B \& C-D.
Rebate means a partial refund to someone who has paid too much for tax, rent, or a utility.

Sustainable means able to be maintained at a certain rate or level.

# 6. : In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, a few options are given. Find out the appropriate word which fits the blank appropriately. 

As the pandemic made its mark in 2022, the planet _(A)_ a series of growing environmental challenges. At the UN, the struggles of farmers and the global food system, the __(B)_ loss of biodiversity, and the ever-heating planet dominated the agenda, culminating at November's COP26 climate conference. This challenge is especially __(C)__ in India, where more than 700 million people depend on forests and agriculture for their sustenance. More than $85 \%$ of them are small and marginal landholders, leaving them especially _(D)_ as the climate changes the world around them. Fortunately, pioneers across India are deploying a set of techniques, known as landscape restoration, that can $\qquad$ (E)__ damaged ecosystems and $\qquad$ (F) $\qquad$ biodiversity.

## A. Find out the appropriate word which fits blank (A)

A endured

B evaded

C relished

D adored

E deified

## Solution

Among the given options, "endured" is the most appropriate word that best fits the context of the sentence.
(a) endured- to suffer (something painful or difficult) patiently.
(b) evaded- to avoid giving a direct answer to (a question).
(c) relished- to enjoy greatly.
(d) adored- to love and respect (someone) deeply.
(e) deified- to worship or regard as a god.
B. Find out the appropriate word which fits blank (B)


A propitious

B felicitous

C congruous

D precipitous

E auspicious

## Solution

Among the given options, "precipitous" is the most appropriate word that best fits the context of the sentence.
(a) propitious- giving or indicating a good chance of success; favorable.
(b) felicitous- well chosen or suited to the circumstances.
(c) congruous- in agreement or harmony.
(d) precipitous- dangerously high or steep.
(e) auspicious- conducive to success; favorable.
C. Find out the appropriate word which fits blank (C)

A affable

B genial

C stark

D embark

E ornate

## Solution

Among the given options, "stark" is the most appropriate word that best fits the context of the sentence.
(a) affable- friendly, good-natured, or easy to talk to.
(b) genial- friendly and cheerful.
(c) stark- unpleasantly or sharply clear.
(d) embark- begin (a course of action).
(e) ornate- elaborately or highly decorated.
D. Find out the appropriate word which fits blank (D)

A fortified

B exposed

C shielded

D annexed

E braced

## Solution

Among the given options, "exposed" is the most appropriate word that best fits the context of the sentence.
(a) fortified- (of a place) provided with defensive works as a protection against attack.
(b) exposed- in a vulnerable position or situation.
(c) shielded- protect from danger, risk, or unpleasant experiences.
(d) annexed- add as an extra or subordinate part, especially to a document.
(e) braced- to prepare (oneself) for something difficult or unpleasant.

A undermine

## B recuperate

C perforate

D vanquish

E interlude

## Solution

Among the given options, "recuperate" is the most appropriate word that best fits the context of the sentence.
(a) undermine- erode the base or foundation of (a rock formation).
(b) recuperate- recover or regain (something lost or taken).
(c) perforate- to make a hole or holes through by boring, punching, piercing, or the like.
(d) vanquish- defeat thoroughly.
(e) interlude- an intervening period of time; an interval.

## F. Find out the appropriate word which fits blank (F)

A improve

B rectify

C resolve

D disapprove

E engage

## Solution

Among the given options, "improve" is the most appropriate word that best fits the context of the sentence.
(a)improve- make or become better
(b)rectify- put right; correct
(c)resolve- settle or find a solution to
(d)disapprove- refuse to agree to
(e)engage- participate or become involved in.

## 7. Study the following information carefully and answer given questions:

The Line graph shows total number of quantities of items $(\mathrm{P}+\mathrm{Q})$ dispatched and number of quantities of item ' Q ' dispatched out of total items of $\mathrm{P} \& \mathrm{Q}$ dispatched from four (A, B C \& D) different warehouses in the month of march. Read the following line chart carefully and answer the questions given below.


## A. Find the ratio of total number of item $P$ dispatched from $D$ and $A$ together to that of B and C together.

( $\mathbf{1 7}: 21$
( 29:16

C 11:24

D $35: 18$

## Solution

Req. ratio $=(640-320)+(480-220):(560-380)+(320-180)$
$=580: 320=29: 16$
B. Find the total number of item $Q$ dispatched from $A$ is what percent of average number of item $P$ dispatched from $B$ and $D$ ?

A $\mathbf{8 8 \%}$

B $55 \%$

C $29 \%$

D $75 \%$

E $120 \%$

## Solution

Average number of item $P$ dispatched from $B$ and $D=\frac{(560-380)+(640-320)}{2}$
$=\frac{180+320}{2}=250$

Req. $\%=\frac{220}{250} \times 100=88 \%$
C. The total number of item $Q$ dispatched from $C$ in February is $\mathbf{2 0 \%}$ less than total number of item $P$ dispatched from $A$ in March. If ratio of total number of item $P$ dispatched from $C$ in March to February 5:4 respectively, then find the total number of item $P \& Q$ together dispatched from C in February.

A 345

B 360

C 310

D 335

E 320

## Solution

Total number of item Q dispatched from C in February $=$
$(480-220) \times \frac{80}{100}=208$
Total number of item P dispatched from C in February $=$ $\frac{320-180}{5} \times 4=112$
Total number of item P\&Q together dispatched from C in February $=208$ $+112=320$
D. . If total number of item $P$ dispatched from $E$ is $\mathbf{4 0 \%}$ more than that of item $Q$ from $D$, then find the total number item $Q$ dispatched from $B$ is how much more/less than that of item $P$ from $E$.

A 69

B 62

C 66

D 68

$$
\text { E } 72
$$

## Solution

Total number of item $P$ dispatched from $E=320 \times \frac{140}{100}=448$
Total number item Q dispatched from $\mathrm{B}=380$
Req. difference $=448-380=68$
E. Find the total number of item $Q$ dispatched from $B$ is how much percent (approx.) more/less than total number of item $P$ dispatched from C.

A $177 \%$

## B $\mathbf{1 7 1 \%}$

C $189 \%$

D $190 \%$

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E 165%
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## Solution

Total number of item P dispatched from $\mathrm{C}=320-180=140$
Req. $\%=\frac{380-140}{140} \times 100$
$=\frac{240}{140} \times 100=171.4=171 \%$
8. Study the following information carefully and answer given questions:

What approximate value should come in the place of question (?) mark.
A. $\mathbf{1 2 0 . 0 3} \div \frac{5}{8}$ of $\mathbf{2 4 . 0 8} \times \mathbf{3 . 9 5}=$ ?

A 36

B 28

C $\quad 32$

D 42

E 22

## Solution

$120 \div 15 \times 4 \approx ?$
$? \approx 8 \times 4$
$? \approx 32$
B. ? \% of $\mathbf{7 5 0 . 0 3}+(14.99)^{2}=(8.03)^{2}+\mathbf{3 5 6 . 0 1}$

B 16

C $\quad 22$

D 26

E 32

Solution
Sol. $\frac{?}{100} \times 750+(15)^{2} \approx(8)^{2}+356$
$\frac{?}{100} \times 750+225 \approx 64+356$
$\frac{?}{100} \times 750 \approx 195$
$? \approx \frac{195 \times 100}{750}$
? $\approx 26$
C. $\boldsymbol{?}+\mathbf{1 2 5 . 0 3} \%$ of $\mathbf{2 3 9 . 9 9}-(5.99)^{3}=(11.93)^{2}$

A 60

C 80

## D $\quad 20$

E 100

## Solution

Sol. ? + $125 \%$ of $240-(6)^{3} \approx(12)^{2}$
$?+\frac{125}{100} \times 240-216 \approx 144$
? $\approx 144-84$
? $\approx 60$
D. $\frac{840.03}{?}+(7.99)^{3}=90.03 \%$ of $599.99+\sqrt{7.99}$

A 31

B 28

C $\quad 37$

D $\quad 24$

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E 20
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## Solution

Sol. $\frac{840}{?}+8^{3} \approx 90 \%$ of $600+\sqrt[3]{8}$
$\frac{840}{?} \approx \frac{90}{100} \times 600+2-512$
$\frac{840}{?} \approx 542-512$
$? \approx \frac{840}{30}$
$? \approx 28$
E. $(189.97 \times 48.03) \div(1368.02 \div 440.98)+86.99 \%$ of $500.01=?^{3}$

A $\quad 10$

B 7

C $\quad 18$

D 15

E 24

## Solution

$(190 \times 48) \div(1368 \div 441)+87 \%$ of $500=?^{3}$
$190 \times 48 \times \frac{441}{1368}+435 \approx(?)^{3}$
$2940+435 \approx(?)^{3}$
? $\approx 15$
9. Study the following information carefully and answer given questions:

In each of these questions, two equations (I) and (II) are given. Solve the equations and mark the correct option.
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $\mathrm{x} \leq \mathrm{y}$
(e) If $x=y$ or no relation can be established between $x$ and $y$
A. $I: 2 x^{2}+10 x+12=0$
$I I: y^{2}+10 y+25=0$

A $\mathbf{a}$

B b

C c

D d

E e

## Solution

Sol. I. $2 x^{2}+10 x+12=0$
$2 \mathrm{x}^{2}+6 \mathrm{x}+4 \mathrm{x}+12=0$
$(2 x+4)(x+3)=0$
$x=-3,-2$
II. $y^{2}+10 y+25=0$
$\mathrm{y}^{2}+5 \mathrm{y}+5 \mathrm{y}+25=0$
$(y+5)(y+5)=0$
$y=-5,-5$
$\therefore \mathrm{x}>\mathrm{y}$
B. I. $x^{2}-8 x+15=0$
$I I .2 y^{2}-5 y-3=0$

A a

B b

C c

D d

E e

Sol. I. $x^{2}-8 x+15=0$
$x^{2}-5 x-3 x+15=0$
$x(x-5)-3(x-5)=0$
$\therefore \mathrm{x}=3$ or 5
II. $2 \mathrm{y}^{2}-5 \mathrm{y}-3=0$
$2 y^{2}-6 y+y-3=0$
$2 y(y-3)+1(y-3)=0$
$y=3$ or $-\frac{1}{2}$
$\therefore \mathrm{x} \geq \mathrm{y}$
C. $I .6 x^{2}+x-15=0$
II. $4 y^{2}-24 y+35=0$

A a

B b

C c

D d

E e

Sol. I. $6 x^{2}+x-15=0$
$6 x^{2}-9 x+10 x-15=0$
$3 \mathrm{x}(2 \mathrm{x}-3)+5(2 \mathrm{x}-3)=0$
$\therefore x=\frac{3}{2}$ or $-\frac{5}{3}$
II. $4 y^{2}-24 y+35=0$
$4 y^{2}-14 y-10 y+35=0$
$2 \mathrm{y}(2 \mathrm{y}-7)-5(2 \mathrm{y}-7)=0$
$\therefore y=\frac{7}{2}$ or $\frac{5}{2}$
$\therefore \mathrm{y}>\mathrm{x}$
D. $I .5 x^{2}+11 x+2=0$
II. $4 y^{2}+13 y+3=0$

A a

B b

C c

D d

E e

## Solution

I. $5 x^{2}+11 x+2=0$
$5 x^{2}+10 x+x+2=0$
$5 x(x+2)+1(x+2)=0$
$x=-2$ or $-\frac{1}{5}$
II. $4 y^{2}+13 y+3=0$
$4 y^{2}+12 y+y+3=0$
$4 y(y+3)+1(y+3)=0$
$\therefore y=-3$ or $\frac{-1}{4}$
$\therefore$ no relation
E. I. $x^{2}+21 x+108=0$
II. $y^{2}+14 y+45=0$

A a

B b

C c

D d

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E e
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Sol. I. $x^{2}+21 x+108=0$
$x^{2}+12 x+9 x+108=0$
$x(x+12)+9(x+12)=0$
$(x+9)(x+12)=0$
$x=-9,-12$
II. $y^{2}+14 y+45=0$
$y^{2}+9 y+5 y+45=0$
$y(y+9)+5(y+9)=0$
$(y+5)(y+9)=0$
$y=-5,-9$
So, $\mathrm{x} \leq \mathrm{y}$
10.

## Study the following information carefully and answer given questions:

Table given below shows total number of people (Adult + Children) visited four different parks in a week. The table also shows total number of males and ratio of male to female in adult people. Read the data carefully and answer the questions.

| Parks | Total people <br> (Adult +children) | Total number <br> of males | The ratio of total number of <br> males to that of females in <br> adult people |
| :--- | :--- | :--- | :--- |
| A | 2200 | 80 P | --- |
| B | 1440 | 40 P | --- |
| C | 1200 | 45 P | $9: 4$ |
| D | 480 | 15 P | $5: 3$ |

Note: (i) Adult = Male + female
(ii) Total number of adult males visited all four parks in the week $=2700$

## A. If total females visited park $A$ are $\mathbf{2 5 5}$ more than that of total children visited park $\mathbf{C}$, then find total children visited park $A$.

A $\mathbf{5 2 0}$

B 480

C $\quad 720$

## D 420

E 620

## Solution

Given, $80 \mathrm{P}+40 \mathrm{P}+45 \mathrm{P}+15 \mathrm{P}=2700$
$180 \mathrm{P}=2700$
$\mathrm{P}=15$
Total male visited park A in a week $=80 \times 15=1200$
Total male visited park B in a week $=40 \times 15=600$
Total male visited park C in a week $=45 \times 14=675$
Total male visited park D in a week $=15 \times 15=225$
Total female visited park C in a week $=675 \times \frac{4}{9}=300$
Total female visited park D in a week $=225 \times \frac{3}{5}=135$
Total children visited park C in a week $=1200-(675+300)=225$
Total children visited park D in a week $=480-(225+135)=120$

Total female visited park A in the week $=225+255=480$
Total children visited park A $=2200-(1200+480)=520$
B. Total female visited park B are $\frac{400}{3} \%$ more than total children visited park $D$, then find total children visited park $B$ are what percent more than total female visited park $\mathbf{C}$.

B $84.66 \%$

C $88.66 \%$

D $82.66 \%$

$$
\text { E } 90.66 \%
$$

## Solution

Given, $80 \mathrm{P}+40 \mathrm{P}+45 \mathrm{P}+15 \mathrm{P}=2700$
$180 \mathrm{P}=2700$

$$
P=15
$$

Total male visited park A in a week $=80 \times 15=1200$
Total male visited park B in a week $=40 \times 15=600$
Total male visited park C in a week $=45 \times 14=675$
Total male visited park D in a week $=15 \times 15=225$
Total female visited park C in a week $=675 \times \frac{4}{9}=300$
Total female visited park D in a week $=225 \times \frac{3}{5}=135$
Total children visited park $C$ in a week $=1200-(675+300)=225$
Total children visited park D in a week $=480-(225+135)=120$

Total female visited park $\mathrm{B}=120 \times \frac{7}{3}=280$
Total children visited park $B=1440-(600+280)=560$
Required percent $=\frac{560-300}{300} \times 100=86.66 \%$
C. Find the ratio of total female visited park $D$ to total children visited park $C$ and $D$ together in a week.

A $9: 22$

B $9: 23$

C $9: 25$

D $3: 7$

E $9: 31$

## Solution

Given, $80 \mathrm{P}+40 \mathrm{P}+45 \mathrm{P}+15 \mathrm{P}=2700$
$180 \mathrm{P}=2700$
$\mathrm{P}=15$
Total male visited park A in a week $=80 \times 15=1200$
Total male visited park B in a week $=40 \times 15=600$
Total male visited park C in a week $=45 \times 14=675$
Total male visited park D in a week $=15 \times 15=225$
Total female visited park C in a week $=675 \times \frac{4}{9}=300$

Total female visited park D in a week $=225 \times \frac{3}{5}=135$
Total children visited park C in a week $=1200-(675+300)=225$
Total children visited park D in a week $=480-(225+135)=120$
Required ratio $=135:(225+120)=9: 23$
D. Find the difference between total male visited parks C \& D together and total female visited in same parks.

A 525

B 435

C 565

D 465

```
E 555
```


## Solution

Given, $80 \mathrm{P}+40 \mathrm{P}+45 \mathrm{P}+15 \mathrm{P}=2700$
$180 \mathrm{P}=2700$
$\mathrm{P}=15$
Total male visited park A in a week $=80 \times 15=1200$
Total male visited park B in a week $=40 \times 15=600$
Total male visited park C in a week $=45 \times 14=675$

Total male visited park D in a week $=15 \times 15=225$
Total female visited park C in a week $=675 \times \frac{4}{9}=300$
Total female visited park D in a week $=225 \times \frac{3}{5}=135$
Total children visited park C in a week $=1200-(675+300)=225$
Total children visited park D in a week $=480-(225+135)=120$

Total male visited parks C \& D $=675+225=900$
Total female visited parks C \& D $=300+135=435$
Required difference $=900-435=465$
E. If total female visited park $A$ are $\mathbf{4 0 \%}$ more than that of park $C$ and total female visited park B are $\mathbf{1 1 5}$ more than total male visited park $D$, then find average number of children visited in park $A$ and $B$.

A 560

B 440

C 480

D 520

E 540

Given, $80 \mathrm{P}+40 \mathrm{P}+45 \mathrm{P}+15 \mathrm{P}=2700$
$180 \mathrm{P}=2700$
$\mathrm{P}=15$
Total male visited park A in a week $=80 \times 15=1200$
Total male visited park B in a week $=40 \times 15=600$
Total male visited park C in a week $=45 \times 14=675$
Total male visited park D in a week $=15 \times 15=225$
Total female visited park C in a week $=675 \times \frac{4}{9}=300$
Total female visited park D in a week $=225 \times \frac{3}{5}=135$
Total children visited park C in a week $=1200-(675+300)=225$
Total children visited park D in a week $=480-(225+135)=120$
Total female visited park A in the week $=300 \times \frac{140}{100}=420$
Total children visited park A $=2200-(1200+420)=580$
Total female visited park B $=225+115=340$
Total children visited park B $=1440-(600+340)=500$
Required average $=\frac{580+500}{2}$
$=540$
11.

## Read the following information carefully and answer the questions given below.

In society A, some people like three different types of music i.e. jazz, rock \& folk. People who like only jazz and only rock are in the ratio of $4: 3$ respectively and people who like all the three types of music is 15 . People who like only folk is 50 and people who like jazz is 140 . People who like both jazz \& folk is 20 and people who like both rock \& folk is $50 \%$ more than the people who like both jazz \& folk. People who like both jazz \& rock is average of people who like both jazz \& folk and like both rock \& folk.
A. Find the total number of people who like rock music is what percent of total number of people like only folk music?

A $\mathbf{2 6 0 \%}$

B $210 \%$

C $180 \%$

D $280 \%$

E $150 \%$

## Solution

People who like only jazz and only rock be 4x \& 3x respectively.
People who like only folk=50
People who like all the three types of music $=15$
People who like both jazz \& folk = 20
People who like both rock \& folk $=20 \times \frac{150}{100}=30$
People who like both jazz \& rock $=\frac{20+30}{2}=25$
ATQ,
$4 x+15+20+25=140$
$4 x=80$
$x=20$
People who like only jazz and only rock is 80 \& 60 respectively.
Req. $\%=\frac{25+15+30+60}{50} \times 100=260 \%$
B. Find the total number of people who like at most one type of music.

A $\quad 90$

B 175

C 100

D 125

## Solution

People who like only jazz and only rock be $4 \mathrm{x} \& 3 \mathrm{x}$ respectively.
People who like only folk=50
People who like all the three types of music $=15$
People who like both jazz \& folk $=20$
People who like both rock \& folk $=20 \times \frac{150}{100}=30$
People who like both jazz \& rock $=\frac{20+30}{2}=25$
ATQ,
$4 x+15+20+25=140$
$4 x=80$
$x=20$
People who like only jazz and only rock is 80 \& 60 respectively.
Total number of people who like at most one music $=80+60+50=190$
C. Find the total number of people who like only jazz music is how much more/less than the total number of people who like at least two types of music.
A
20

B $\quad 18$

C 12

D $\quad 10$

```
E
5
```


## Solution

People who like only jazz and only rock be $4 x \& 3 x$ respectively.
People who like only folk=50
People who like all the three types of music $=15$
People who like both jazz \& folk $=20$
People who like both rock \& folk $=20 \times \frac{150}{100}=30$
People who like both jazz \& rock $=\frac{20+30}{2}=25$
ATQ,
$4 x+15+20+25=140$
$4 x=80$
$x=20$
People who like only jazz and only rock is 80 \& 60 respectively.
Total number of people who like only jazz music $=80$
Total number of people who like at least two music $20+30+15+25=90$
Req. difference $=90-80=10$
D. Find the respective ratio of total number of people who like both jazz \& folk music to that of both rock \& jazz music.
( $4: 7$

B $\mathbf{4 : 5}$

C $\quad 2: 5$

## D $\quad$ 6:5

## E None of these

## Solution

People who like only jazz and only rock be $4 \mathrm{x} \& 3 \mathrm{x}$ respectively.
People who like only folk=50
People who like all the three types of music $=15$
People who like both jazz \& folk $=20$
People who like both rock \& folk $=20 \times \frac{150}{100}=30$
People who like both jazz \& rock $=\frac{20+30}{2}=25$
ATQ,
$4 x+15+20+25=140$
$4 x=80$
$x=20$
People who like only jazz and only rock is 80 \& 60 respectively.
Req. ratio $=20: 25=4: 5$
12. A spend $10 \%$ of his monthly income on rent, $\mathbf{2 0 \%}$ of the remaining on food and $\mathbf{5 0 \%}$ of the remaining on travelling. If the difference between the amount he spends on travelling and that on rent is Rs. 13000 , then find the monthly income (in Rs.) of $A$ ?

A Rs. 40000

B Rs. 50000

C Rs. 30000

D Rs. 20000
(E Rs. 55000

## Solution

Let monthly income of $A=100 \mathrm{x}$
So, total amount spends on Rent $=100 x \times \frac{10}{100}=10 x$
Total amount spends on travel $=(100 x-10 x) \times \frac{80}{100} \times \frac{50}{100}=36 x$
ATQ $-36 x-10 x=13000$
$\mathrm{x}=500$
So, monthly income of A= Rs. 50000
13. A container contains 90 liters of milk and 18 liters of water. If $X$ liter of mixture is taken out and 6 liter of water is added the new ratio of milk to water became $5: 2$, then find the value of $X$ ?

A 36

B 24

C 72

D 90

E $\quad 18$

## Solution

## Sol. Ratio of milk to water initially $=90: 18=5: 1$

 ATQ$$
\frac{90-\frac{5}{6} \times X}{18-\frac{1}{6} \times X+6}=\frac{5}{2}
$$

$X=72$ liter
14. A started a business with an investment of Rs.1200. After some months, B join the business with an investment of Rs. 3600 and after two more months $C$ joins the business with Rs.2800. If the annual profit share of $A$ and $B$ is equal, then find for how many months $C$ invested his money?

## A 5 months

B 4 months

## C 8 months

## D 2 months

## E 1 months

## Solution

## Sol. Let B joined after X months

$1200 \times 12:(12-X) \times 3600: 2800 \times(12-X-2)$
$1200 \times 12:(12-X) \times 3600: 2800 \times(10-X)$
$12 \times 1200=(12-X) \times 3600$
$4=(12-X)$
$X=8$
Required answer $=10-\mathrm{X}=2$ months

15. A man invested some amount at $R \%$ per annum on simple interest for eight years in scheme $X$. He also invested same amount at ( $R+4$ ) $\%$ per annum on simple interest for same period of time in scheme $Y$. If interest received from scheme $Y$ is Rs. 1152 more than that from scheme $X$, then find the amount (in Rs.).

A 3000

B 2400

C 4000

D $\mathbf{3 6 0 0}$

E 4200

Solution
Sol. Let the sum invested in each scheme be Rs. P.
ATQ
$\frac{P \times(R+4) \times 8}{100}-\frac{P \times R \times 8}{100}=1152$
$\frac{(P \times 4 \times 8)}{100}=1152$
$P=3600$ Rs.

16. Train ' $A$ ' can cross a pole and 200 meters long platform in $\mathbf{1 6}$ seconds \& $\mathbf{2 4}$ seconds respectively. Find time taken by train ' $A$ ' to cross another train' $B$ ', which length is 480 meters and running at the speed of $108 \mathrm{~km} / \mathrm{hr}$ in opposite direction.
A 25 seconds

B 24 seconds

C 18 seconds

D 20 seconds

E $\quad 16$ seconds

Solution

Let the length and speed of train - A be x meters and $\mathrm{y} \mathrm{m} / \mathrm{sec}$ respectively.
ATQ,
$\frac{l}{16}=y$
$l=16 y$----- (i)
Now,
$\frac{l+200}{24}=y \ldots$ (ii)
from (i) and (ii) we get -
$y=25 \& l=400$
Speed of train - B = $108 \times \frac{5}{18}=30 \mathrm{~m} / \mathrm{sec}$
Required time $=\frac{400+480}{25+30}=16$ seconds
17. The average of present age of $A, B$ and $C$ is 29 years. If age of $A$ is two years less than that of $B$ and age of $B$ is eight years less than $C$, then find the present age of $A$.

A 27 years

B 21 years

C 22 years

## D 25 years

## E 24 years

## Solution

Let present age of $\mathrm{A}, \mathrm{B}$ and C are $\mathrm{a}, \mathrm{b}$ and c years respectively.
$a+b+c=29 \times 3=87$ years
$b-2=a \ldots \ldots$ (ii)
$b+8=c \ldots .$. (iii)
ATQ. $b-2+b+8+b=87$
$3 b=81$
$b=27$
Present age of $\mathrm{A}=25$ years
18. $X$ number of men can do a work in $(X-28)$ days, while $(X+12)$ number of men can do the same work in $(X-32)$ days. Find $\frac{3}{4} X$ women together can do the same work in how many days.

A $\frac{77}{3}$ days

B $\frac{92}{3}$ days

C $\frac{91}{3}$ days

D $\frac{80}{3}$ day $\mathbf{s}$

E None of these

Solution
Sol. Let efficiency of a man be w units/day. ATQ -
$\mathrm{X} \times(X-28) \times w=(X+12) \times(X-32) \times w$
$\mathrm{X}=48$
Total work $=48 \times(48-28) \times w=960 w$ units
Required days $=\frac{960 \mathrm{w}}{48 \times \frac{3}{4} \times w}=26 \frac{2}{3}$ days
19. A boat covers 22.4 km in downstream in 48 minutes and the speed of the stream is $\mathbf{4 0 \%}$ of the speed of the boat in still water. Find the ratio of time taken by boat to cover 54 km in upstream to the time taken by boat to cover 210 km in downstream respectively?

A $5: 3$

B $3: 5$

C $3: 4$

D $2: 3$

E 1:3

## Solution

Sol. Ratio of speed of boat in still water to speed of stream $=100 \%: 40 \%=5: 2$
Let the speed of boat in still water and speed of stream be $5 \mathrm{~s} \mathrm{~km} / \mathrm{hr}$ and $2 \mathrm{~s} \mathrm{~km} / \mathrm{hr}$ respectively Downstream speed of boat $=22.4 \times \frac{60}{48}=28 \mathrm{~km} / \mathrm{hr}$
ATQ -
$(5 s+2 s)=28$
$\mathrm{s}=4 \mathrm{~km} / \mathrm{hr}$
So, Upstream speed of boat $=(5 \times 4-2 \times 4)=12 \mathrm{~km} / \mathrm{hr}$
Required ratio $=\frac{\frac{54}{12}}{\frac{210}{28}}=3: 5$
20. The sum of the length of two rectangles $P$ and $Q$ is 60 cm , while their breadths are 16 cm and 12 cm respectively. If the ratio of the area of rectangles $P$ to that of $Q$ is $8: 3$, then find the difference between perimeters of these two rectangles?
(A) 48 cm

B $\quad 32 \mathrm{~cm}$

C $\quad 64 \mathrm{~cm}$

D $\quad 72 \mathrm{~cm}$

E $\quad 56 \mathrm{~cm}$

## Solution

## Sol. Let length of rectangle $\mathrm{P}=\mathrm{L} \mathrm{cm}$

Then length of rectangle $Q=(60-L) c m$
ATQ -
$\frac{L \times 16}{(60-L) \times 12}=\frac{8}{3}$
$\mathrm{L}=40 \mathrm{~cm}$
Required difference $=2(40+16)-2(20+12)=48 \mathrm{~cm}$

21. A man invested some amount, out of Rs. 47000 he invested on simple interest at 12 p.a. for two years and rest amount on compound interest also for two years at $\mathbf{1 5 \%}$ p.a. If compound interest received by is Rs. 532.5 more than simple interest, then find amount invested by man on compound interest?
(A) Rs. 23000

B Rs. 22000
(C) Rs. 21000

D Rs. 25000
(E) Rs. 24000

## Solution

Let amount invested by man on compound interest be 'Rs. $x$ '.
So, amount invested by man on simple interest $=$ Rs $(47000-x)$
Now, Equivalent rate of interest at $15 \%$ p.a. on compound interest for 2
years
$=15+15+\frac{15 \times 15}{100}=32.25 \%$
ATQ, $x \times \frac{32.25}{100}-\frac{(47000-x) \times 2 \times 12}{100}=532.5$
$32.25 \mathrm{x}+24 \mathrm{x}=1181250$

$$
x=21000 \text { Rs. }
$$

22. The ratio of cost price of a pen to that of a pencil is $3: 4$ and shopkeeper marked each of pen and pencil $20 \%$ above their respective cost prices. If shopkeeper allowed $10 \%$ discount on each of pen $\&$ pencil and earned a total of Rs. 2.8 on selling a pen $\mathcal{\&}$ a pencil, then find the cost price of a pen.

A Rs. 25

B Rs. 15

C Rs. 35

D Rs. 45
(E Rs. 55

## Solution

Sol. Let cost price of a pen \& a pencil be Rs.30x \& Rs.40x respectively.
So, marked price of a pen $=$ Rs. 36 x
And, marked price of a pencil $=$ Rs. 48 x
Now, selling price of a pen $=$ Rs. 32.4 x
And, selling price of a pencil $=$ Rs. 43.2 x
ATQ,
$(43.2 x+32.4 x)-(30 x+40 x)=2.8$
$x=0.5$
So, cost price of a pen $=$ Rs. 15

23.

## Study the following information carefully and answer the questions given below.

Eight persons sit in a parallel row such that four persons-A, B, C and D sit in a row 1 and face north and the remaining four persons- $\mathrm{P}, \mathrm{Q}, \mathrm{R}$ and S sit in a row 2 and face south. The persons sit in a row 1 face the person sits in a row 2 and vice versa. Each person belongs to different countries i.e. Japan, USA, Canada, Egypt, Cuba, Iran, Italy and China. All the information is not necessarily in the same order. The one who belongs to Iran sits second to the left of R. Only one person sits between B and A. B faces neither R nor the one who belongs to Iran. The one who belongs to Egypt sits to the immediate right of $A$ and sits at the extreme end. $S$ faces $C$ who sits second to the right of the one who faces the one who belongs to Japan. P faces the one who belongs to Cuba. D sits to the left of the one who belongs to Canada. Q and the one who belongs to Italy didn't sit in the same row. The one who belongs to china doesn't sit adjacent to S .

## A. Who among the following belongs to USA?

A P

B A

## C $\quad \mathbf{Q}$

D C

```
E R
```


## Solution

As per given information,


Q belongs to USA.
B. Which among the following statement(s) is/are true?

A No one sits to the right of S

B More than one person sits between P and R

C R faces the one who belongs to Cuba

D C sits adjacent to A

E All are true

## Solution

As per given information,


Statement, C sits adjacent to A is true.
C. Who among the following person sits between $B$ and the one who faces the one who belongs to Iran?
A D

B The one who belongs to USA

C A

D The one who belongs to Japan

## E Both D and A

## Solution

As per given information,
Row 2



D and A sit between B and the one who faces the one who belongs to Iran.
D. Four of the following five are alike in a certain way and hence form a group. Find the one who doesn't belong to the group?

A P

B $\mathbf{Q}$

C B

D S

E C

## Solution

As per given information,



Except Q all are sitting at the end of the rows.
E. A belongs to which among the following countries?

A Canada

B USA

C China

D Egypt

E None of these

## Solution

As per given information,


A belongs to Canada.
24.

## Study the following information carefully and answer the below questions:

A is the only son of Q who is the brother-in-law of $\mathrm{Y} . \mathrm{U}$ is the mother of B but she is not the spouse of $\mathrm{Q} . \mathrm{Y}$ is the unmarried brother of Z . X is the paternal aunt of B whereas V is the daughter-in-law of A . No single parent has a child and an equal number of males and females are there in the family.

## A. How is $\mathbf{X}$ related to Y ?

A Nephew

B Niece

C Son

D Daughter

E Cannot be determined

## Solution

As per given information,


X is niece of Y .
B. If $J$ is the brother of $V$, then how is $J$ related to $B$ ?

A Daughter-in-law

B Son-in-law

## C Brother-in-law

D Sister-in-law

E None of these

## Solution

As per given information,


If $J$ is brother of $B$, the $B$ is brother-in-law of $J$.
C. Who among the following person is the mother of $A$ ?
(A) $\mathbf{Z}$

B U

C X

D Y

E None of these

As per given information,


Z is the mother of A
25.

## Study the following information carefully and answer the questions given below.

Seven persons- A, B, C, D, E, F and G were born in different years - 1969, 1973, 1978, 1982, 1988, 1990 and 1995 but not necessarily in the same order. Age of each person is calculated on the base year 2022. C is two years elder than E. The age difference between F and E is a perfect cube number. The number of persons born after E is same as the number of persons born before D . The difference between the age of D and B is a prime number. A is older than G .

## A. What is the age of $A$ ?

A 49 years

B 40 years

C 53 years

D 44 years

E None of these

## Solution

From the given information,

| Years | Age | Persons |
| :---: | :---: | :---: |
| 1969 | 53 | A |
| 1973 | 49 | D |
| 1978 | 44 | B |
| 1982 | 40 | F |
| 1988 | 34 | C |
| 1990 | 32 | E |
| 1995 | 27 | G |

B. What is the sum of the ages of $D, B$ and $F$ ?

A 130 years

B 123 years

C 112 years

D 133 years

E 155 years

## Solution

From the given information,

| Years | Age | Persons |
| :---: | :---: | :---: |
| 1969 | 53 | A |
| 1973 | 49 | D |
| 1978 | 44 | B |
| 1982 | 40 | F |
| 1988 | 34 | C |
| 1990 | 32 | E |
| 1995 | 27 | G |

Sum of the ages of D, B and F $=49+44+40=133$ years.
c. Four of the following five are alike in a certain way and hence form a group. Find the one who doesn't belong to the group?

A D

B $\quad \mathrm{B}$

C F

D C

E E

Solution
From the given information,

| Years | Age | Persons |
| :---: | :---: | :---: |
| 1969 | 53 | A |
| 1973 | 49 | D |
| 1978 | 44 | B |
| 1982 | 40 | F |
| 1988 | 34 | C |
| 1990 | 32 | E |
| 1995 | 27 | G |

Except D, all were born on even numbered year.
D. Which among the following statement(s) is/are true?

## I. $A$ is the oldest among all

II. C was born in 1988
III. No one born after E

A Only I

B Only III

C Both II and III

## D Both I and II

E All I, II and III

## Solution

From the given information,

| Years | Age | Persons |
| :---: | :---: | :---: |
| 1969 | 53 | A |
| 1973 | 49 | D |
| 1978 | 44 | B |
| 1982 | 40 | F |
| 1988 | 34 | C |
| 1990 | 32 | E |
| 1995 | 27 | G |

A is the oldest element and C was born in 1988. So, statements I and II are correct.
E. What is the difference between the age of $A$ and $G$ ?

A 16 years

B 26 years

C 28 years

D 30 years

E 36 years

## Solution

From the given information,

| Years | Age | Persons |
| :---: | :---: | :---: |
| 1969 | 53 | A |
| 1973 | 49 | D |
| 1978 | 44 | B |
| 1982 | 40 | F |
| 1988 | 34 | C |
| 1990 | 32 | E |
| 1995 | 27 | G |

Difference between the age of A and $\mathrm{G}=53-27=26$ years.
26. Find the odd one out.

A RUW

B PSU

C JLN

D MPR

E FIK

## Solution

The pattern of the group of letters is,


JLN do not follow this pattern.
27.

## Study the following information carefully and answer the questions given below.

In each of the following questions assuming the given statements to be true, find which of the three conclusions I and II given below is/are definitely true and give your answer accordingly.
a)Only I is true
b)Only II is true
c)Both I and II are true
d)Only I and either II or III are true
e)Either II or III is true

## A. Statement:

$\mathrm{A}<\mathbf{G}<\mathbf{R}>\mathrm{J} \leq \mathrm{Q}=\mathbf{Z} \leq \mathbf{O} ; \mathbf{P}>\mathbf{T}=\mathbf{I} \leq \mathrm{J} \geq \mathbf{M}$
Conclusion:
I. $\mathrm{O} \geq \mathrm{I}$
II. $M \geq T$
III. $\mathbf{P}>\mathbf{M}$

A $\quad \mathbf{a}$

B b

C c

D d

> E e

## Solution

As per the given statements,
$\mathrm{O} \geq \mathrm{J}$ and $\mathrm{J} \geq \mathrm{I}$, so conclusion $\mathrm{O} \geq \mathrm{I}$ follows.
B. Statement: $B \geq D=C \leq A \geq Y ; N \geq E>M=C>L \leq P$

Conclusion:
I. $\mathbf{N} \geq \mathbf{Y}$
II. $\mathrm{B} \geq \mathrm{M}$
III. $\mathbf{P}<\mathbf{N}$

A a

B b

C c

D d
E
e

From statements, $B \geq D=C$ and $M=C$, so conclusion $B \geq M$ follows.
C. Statement: $\mathbf{U}=\mathbf{B}<\mathbf{I} ; \mathbf{X}>\mathbf{M} \geq \mathbf{U}=\mathbf{P}<\mathbf{E} ; \mathbf{O}=\mathbf{P} \leq \mathrm{D}<\mathbf{H}>\mathbf{Z}$

Conclusion:
I. $\mathbf{X}>0$
II. $\mathrm{E}>$ I
III. $\mathrm{H}<\mathrm{O}$

A a

B b

C c

D d

E e

## Solution

From statements, $\mathrm{X}>\mathrm{M} \geq \mathrm{U}=\mathrm{P}$ and $\mathrm{O}=\mathrm{Pm}$ so conclusion $\mathrm{X}>\mathrm{O}$ follows.
28. How many such pair of letters are there in the word 'REVOLUTION', each of which has as many letters between them in the word as they have in English alphabet (both in forward and backward direction)?

A None

B One

C Two

D More than three

E Three

## Solution


29.

## Study the following information carefully and answer the questions given below.

Five persons A, B,C, D and E (but not necessarily in the same order) have different designations i.e., General Manager (GM), Deputy General Manager (DGM), Assistant Manager (AM), Section Officer (SO), and Clerk in a company. The order of seniority is the same as given above i.e., GM is the senior-most designation and Clerk is the junior-most designation. Each person has different number of pens - 19, 23, 35, 39 and 51 but not necessarily in the same order. The one who has prime number of pens is not the senior most person but two designations senior to D . C is junior to D . The one who has 39 pens is just senior to E . The difference between the pens of E and C is 4 . D has 12 pens more than C . B is junior to the one who has 39 pens.

## A. Who among the following has maximum number of pens?

A
B

B A

C D

D Either A or D

E None of these

## Solution

From given information,

| Designation | Persons | Pens |
| :---: | :---: | :---: |
| GM | A | 39 |
| DGM | E | 19 |
| AM | B | 51 |
| SO | D | 35 |
| Clerk | C | 23 |
| B has maximum number of pens. |  |  |

B. What is the designation of $A$ ?

A DGM

B Clerk

C $\mathbf{G M}$

D AM

E SO

## Solution

From given information,

| Designation | Persons | Pens |
| :---: | :---: | :---: |
| GM | A | 39 |
| DGM | E | 19 |
| AM | B | 51 |
| SO | D | 35 |
| Clerk | C | 23 |

A is General Manager (GM).
C. What is the sum of the number of pens does $E, C$ and $B$ has?

A 83

B $\quad 73$

C 68

D 93

E 59

## Solution

From given information,

| Designation | Persons | Pens |
| :---: | :---: | :---: |
| GM | A | 39 |
| DGM | E | 19 |
| AM | B | 51 |
| SO | D | 35 |
| Clerk | C | 23 |

Sum of the number of pens does $E, C$ and $B=19+23+51=93$
D. Four of the following five are alike in a certain way and hence form a group. Find the one which doesn't belong to the group?

A A-39

B $\mathrm{E}-19$

C B-51

D D-35

E C-39

## Solution

From given information,

| Designation | Persons | Pens |
| :---: | :---: | :---: |
| GM | A | 39 |
| DGM | E | 19 |
| AM | B | 51 |
| SO | D | 35 |
| Clerk | C | 23 |

$\mathrm{C}-39$ is wrong combination all other are correct.
E. Which among the following statement(s) is/are true?

## I. E has minimum number of pens

II.C is designated as $\mathbf{S O}$
III. $D$ is senior to $A$

## A Only I

B Only III

C Both II and III

D Both I and II

E All I, II and III

## Solution

From given information,

| Designation | Persons | Pens |
| :---: | :---: | :---: |
| GM | A | 39 |
| DGM | E | 19 |
| AM | B | 51 |
| SO | D | 35 |
| Clerk | C | 23 |

$E$ has minimum number of pens.
30. If it is possible to make only one meaningful word from the 2 nd , 4th, 5th and 6th lettersof the word "DISCOVER" using each letter only once, then what is the last letter of the word. If no such meaningful word can be formed the answer is " $X$ " and if more than one such meaningful word can be formed, the answer will be " $Z$ "?

A I

B C

C V

D X

E Z

## Solution

DISCOVER
ICOV - no meaningful word formed.
31.

## Study the following information carefully and answer the questions given below.

In a certain code language;
"stay calm be ready" is coded as " mn jk lm rs" "ready for stay quiet" is coded as " rp jk ut mn" "calm nature for peace" is coded as" lm ve rp st" "nature quiet for calm" is coded as " ve ut rp lm"
A. What will be the code for "be"?
A
st

B rs

C mn

D jk

E Can't be determined

## Solution

As per given information,

| Words | Code |
| :---: | :---: |
| Stay/ready | $\mathrm{mn} / \mathrm{jk}$ |
| Calm | lm |
| Be | rs |
| For | rp |
| Quiet | ut |
| Nature | ve |
| Peace | st |

B. What will be the code for "quiet peace"?

A utmn

B $\quad \mathrm{stjk}$

C stut

D vejk

E None of these

Solution
As per given information,

| Words | Code |
| :---: | :---: |
| Stay/ready | $\mathrm{mn} / \mathrm{jk}$ |
| Calm | lm |
| Be | rs |
| For | rp |
| Quiet | ut |
| Nature | ve |
| Peace | st |

The code for "quiet peace" is st ut
c. Which among the following word is coded as "Im"?

A Calm

B Ready

C Stay

D Either Calm or Stay

E Either Ready or Calm

## Solution

As per given information,

| Words | Code |
| :---: | :---: |
| Stay/ready | $\mathrm{mn} / \mathrm{jk}$ |
| Calm | lm |
| Be | rs |
| For | rp |
| Quiet | ut |
| Nature | ve |
| Peace | st |

Calm is coded as "lm"
D. What will be the code for "nature"?

A rs

B st

C ve

D Either rs or st

E mn

## Solution

As per given information,

| Words | Code |
| :---: | :---: |
| Stay/ready | $\mathrm{mn} / \mathrm{jk}$ |
| Calm | lm |
| Be | rs |
| For | rp |
| Quiet | ut |
| Nature | ve |
| Peace | st |

The code for "nature" is ve
E. If the code for the words "ready to for" is coded as "rpyzjk" then what will be code for "stay to"?

A jkyz

B rpmn

C yzrp

D mnyz

## E None of these

## Solution

As per given information,

| Words | Code |
| :---: | :---: |
| Stay/ready | $\mathrm{mn} / \mathrm{jk}$ |
| Calm | lm |
| Be | rs |
| For | rp |
| Quiet | ut |
| Nature | ve |
| Peace | st |

If "ready to for" is coded as "rpyzjk", which means code for "ready" is jk and code for "to" is yz. So "stay to" will be coded as mnyz.
32. In the given word "WORKSHOP" if the letters at even position when counts from the left are changed with its just preceding letter according to alphabetical series and the letters at odd position when counts from the left are changed with its just succeeding letter according to alphabetical series position then how many letters are repeated in the word thus formed?
A
Two

B One

C None

D Three

## E Four

## Solution

Given word- WORKSHOP
After arrangement- XNSJTGPO, so no letter repeated.
33.

## Study the following information carefully and answer the questions given below.

Nine persons-K, L, M, N, O, P, Q, R and S purchase different products one after another but not necessarily in the same order. Three persons purchase products between K and M . R purchase product two persons before M . Two persons purchase product between R and O who purchase product before K . L purchase product just after K. Four persons purchase product between $L$ and $Q$. The number of persons purchases products before K is same as the number of persons purchase products after Q . P purchase product before S but after M .

## A. Who among the following purchase product at third position when counts from the top?

A $\mathbf{L}$

B O

C K

D R

## E P

## Solution

From given information,

| O |
| :---: |
| K |
| L |
| R |
| N |
| M |
| P |
| Q |
| S |

L purchases product at third position when counts from the top.
B. How many persons purchase products between O and P ?

A Four

B Five

C $\operatorname{Six}$

D Seven

E Three

## Solution

From given information,

| O |
| :---: |
| K |
| L |
| R |
| N |
| M |
| P |
| Q |
| S |

Five persons purchase products between O and P .
C. Which among the following statement(s) is/are true?
I. S purchase product before $K$
II. No one purchase product before $O$
III. More than three persons purchase products after R

A Only I

B Only III

## C Both II and III

## D Both I and II

## E All I, II and III

## Solution

From given information,

| 0 |
| :---: |
| K |
| L |
| R |
| N |
| M |
| P |
| Q |
| S |

Statments II and III are true.
D. The number of persons purchases products before $L$ is same as after $\qquad$ .

## A Q

B S

C $\quad \mathrm{M}$

D $\mathbf{P}$

```
E N
```


## Solution

From given information,

| O |
| :---: |
| K |
| L |
| R |
| N |
| M |
| P |
| Q |
| S |

The number of persons purchases products before L is same as after P .
E. Four of the following five are alike in a certain way and hence form a group. Find the one who doesn't belong to the group?

A O-L

B $\mathrm{K}-\mathrm{R}$

C L-N

D $\mathrm{M}-\mathrm{Q}$

## E Q-S

## Solution

From given information,

| O |
| :---: |
| K |
| L |
| R |
| N |
| M |
| P |
| Q |
| S |

In all pairs one person purchases product in between, but in Q-S, S purchases immediately after Q .

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