Solutions

1. Ans. D

Recently RBI Revised Prompt Corrective Action (PCA) Framework for Banks. The PCA framework does not preclude the Reserve Bank of India from taking any other action as it deems fit in addition to the corrective actions prescribed in the framework.

2. Ans. A

India's largest lender State Bank of India (SBI) recently had launched SBI Mingle, a social media banking platform for Facebook and Twitter users. It was launched by SBI Chairman Arundhati Bhattacharya, on the occasion of 61st State Bank Day (observed on 1st July).

3. Ans. B

RBI has declared in a notification has that all existing asset reconstructions companies(ARC) must have a minimum corpus of Rs. 100 crores by March 2019. Note: ARC are the companies which buy bad loans (NPA) from banks and sell them. The main purpose of ARC is to turn bad loans or NPA in to profitable assets.

4. Ans. D

The government revised the base year for **wholesale price index (WPI)** -based inflation and the **Index of Industrial Production (IIP)** to **2011-12 from 2004-05.**

IIP- The Index of Industrial Production (IIP) is an index for India which details out the growth of various sectors in an economy such as mineral mining, electricity and manufacturing. It is compiled and published monthly by the Central Statistical Organisation (CSO) six weeks after the reference month ends.

5. Ans. C

Government pegged fiscal deficit at 3.2% of GDP for 2017-18 (financial year 2018).

6. Ans. C

Insolvency and Bankruptcy Board of India (IBBI) constituted Technical Committee Under Dr. R. B. Barman to give recommendations for laying down Technical Standards for performance of core services and other services under IBBI (Information Utilities) Regulations 2017.

7. Ans. D

The International Monetary Fund (IMF) has raised its projection for economic growth of major economies, but it drastically scaled down the one for India by 0.5 percentage points to a four-year low of 6.7 per cent for 2017-18 due to demonetisation and the goods and services tax (GST).

8. Ans. D

The United Nations International Day of Vesak -2017 was hosted by Sri Lanka from 12th to 14th May 2017. Note: The theme of this edition is 'Buddhist teachings for social justice and sustainable world peace'.

9. Ans. C

Hong Kong has topped in the World Economic Freedom (WEF) Index 2016.

Note: Singapore and New Zealand at second and third position respectively.

10. Ans. C

The JLF (Joint Lender's Forum) framework was introduced in 2014 to resolve stressed assets quickly. The large composition of the committees acted as an impediment because lenders found it difficult to arrive at a consensus.

11. Ans. D

US-based think tank Global Financial Integrity (GFI) in its report titled 'Illicit Financial Flows to and from Developing Countries: 2005-2014', estimated that $770 billion worth of black money entered India during 2005-2014.

12. Ans. A

Working capital refers to that part of business capital which is used for meeting day to day expenses of the business.

It is expressed as:

Current assets – current liabilities

13. Ans. B

Systemic risk implies that the failure of the financial system affects other systems such as insurance market or forex market.

14. Ans. A

MGNREGA: 48,000 crores has been allocated. Participation of women now at 55%. Space technology to be used in a big way to ensure MGNREGA works. 5 lakh farm ponds will be taken up under MGNREGA.

15. Ans. B

Reverse Repo Rate is a tool used by RBI to Absorb Liquidity. Reverse repo rate is the rate at which Reserve Bank of India (RBI) borrows money from commercial banks.

16. Ans. E

Cheque written by drawer and dated at some point in past is called as the ante-dated cheque.

Example- if drawer writes a cheque on 1st February but he put the date 1st January. This type of cheque is called antedated cheque.

17. Ans. E

Private sector RBL Bank has launched 'Aadhaar Payment Bridge System' (APBS) for small ticket micro-finance loan disbursements. RBL is the first bank to launch the APBS on its platform and the intent is to meet the government's target on digital banking. "This was achieved by doing the first successful cashless disbursement to various beneficiaries in the rural segment across the country,"

18. Ans. D

Marginal Standing Facility (MSF) scheme was announced by Reserve Bank of India (RBI) in its Monetary Policy (2011-12). It refers to the penal rate at which banks can borrow money from the central bank over and above what is available to them through the LAF window.

19. Ans. A
It was designed, **developed** and deployed by the Institute for **Development** and Research in Banking Technology (IDRBT) in 2004, with the goal of inter-connecting the ATMs in the country and facilitating convenience banking. It is run by the National Payments Corporation of India (NPCI).
Note: With a view to inter-connect the ATMs in the country and facilitate easy banking for the common man, the Institute for Development and Research in Banking Technology (**IDRBT**), Hyderabad conceptualized, developed and **implemented the National Financial Switch**.
20. Ans. A
Jhulan Nishit Goswami, Indian women's team fast bowler, has become the highest wicket-taker in the history of women ODI cricket and broke the record of the Australia Cathryn Fitzpatrick of 180 wickets from 109 matches.
21. Ans. C
Justice (Retd) Mukul Mudgal has been elected as the chairman of 'FIFA governance committee' at the world football governing body's 67th Congress in Bahrain's capital city of Manama.
Note: Earlier, Justice Mudgal was appointed deputy chairman of the governance committee in May last year during the FIFA Congress in Mexico.
22. Ans. D
As per the RBI guidelines, the NBFCs are allowed to accept/renew public deposits for a **minimum period of 12 months and maximum period of 60 months.** They cannot accept deposits repayable on demand.
23. Ans. A
Payment Banks can accept demand deposits up to Rs 1 lakh.
In September 2013, the Reserve Bank of India constituted a committee to study 'Comprehensive financial services for small businesses and low-income households'. The objective of the committee was to propose measures for achieving financial inclusion and increased access to financial services.
The committee submitted its report to RBI in January 2014. One of the key suggestions of the committee was to introduce specialised banks or 'payments bank' to cater to the lower income groups and small businesses so that by January 1, 2016 each Indian resident can have a global bank account.
24. Ans. C
NITI Aayog has constituted an 'Expert Task Force' headed by Vice Chairman Dr. Rajiv Kumar to provide a major thrust to job creation by enhancing India's exports.
Note: The panel will give recommendations on sector-specific policy interventions in key employment sectors and measures to enhance trade in services with high employment potential.
25. Ans. D
UPI is a flagship product of NPCI that will help India to move towards a cashless economy. It involves 'virtual addresses as a single payment identifier for sending and collecting money and works on single click 2 factor authentication. It enables money to be sent using smartphones using the virtual address without entering the bank account details. Moreover, it provides an option for scheduling push and pull transactions for various purposes like sharing bills among peers.
26. Ans. A
Indian boxer Kavinder Singh Bisht (52kg) qualified for the World Championships in the 52-kilogram category after getting a walkover against Malaysia's Salam Abdul Kasim at the Asian Championships in Tashkent, Uzbekistan on May 7, 2017.
27. Ans. B
The base year for calculating key economic growth from 2004-05 changed to 2011-12.
28. Ans. C
Five associates and the Bharatiya Mahila Bank (BMB) became part of the SBI catapulting the country's largest lender to among the top 50 banks in the world
The total customer base of the bank will reach 37 crores with a branch network of around 24,000 and nearly **59,000 ATMs across the country**. The merged entity will have a deposit base of more than Rs26 lakh crore and advances level of Rs18.50 lakh crore.
29. Ans. D
Union finance minister Arun Jaitley in his budget speech this year said, "A mission will be set up with a target of **2,500 crore digital transactions for 2017-18** through UPI, USSD, Aadhar Pay, IMPS and debit cards.
30. Ans. C
inland has become the first country in Europe to pay its unemployed citizens a basic monthly income, amounting to 560 euros ($587) in a social experiment aimed at cutting government red tape, reducing poverty and boosting employment.
31. Ans. D
Government has approved Rs 681 crore as seed capital for building a total corpus of Rs over Rs 6,800 crore under the electronic development fund meant to support entrepreneurship and innovation in electronics and IT.
32. Ans. C
The Finance Minister has changed the Cost Inflation Index base year from 1981 to 2001.
33. Ans. A
The Institute for Development & Research in Banking Technology (IDRBT) is a unique institution exclusively focused on Banking Technology. Established by the Reserve Bank of India (RBI) in 1996, the Institution works at the intersection of Banking and Technology. It is located in Hyderabad, India.
34. Ans. E
Amendment to Section 6 of Negotiable Instruments Acts to include the electronic image of a truncated cheque and a cheque in electronic form.

35. Ans. B
Finance Minister Arun Jaitley announced a whopping Rs 1 lakh crore hike in the credit target for the next fiscal to **Rs 10 lakh crore** as part of the government's efforts to double farm incomes in the next five years.
36. Ans. D
An **equity derivative** is a class of derivatives whose value is at least partly derived from one or more underlying equity securities. Options and futures are by far the most common equity derivatives, however there are many other types of equity derivatives that are actively traded.
37. Ans. C
Doubling the threshold for cognizable offences, the government has decided to make tax evasion of over **Rs 5 crore** under the proposed Goods and Services Tax (GST) regime as a non-bailable offence.
38. Ans. B
As per report of Stockholm International Peace Research Institute (SIPRI) India's military expenditure in 2016 grew by 8.5 percent.
39. Ans. D
India Licensing Expo (ILE), India's first and most influential brand licensing show will take place on August 20-21 in Mumbai.
40. Ans. B
Foreign direct investment (FDI) in India grew 18 per cent during 2016 to $46 billion touch data released by the Department of Industrial Policy and Promotion (DIPP).
41. Ans. C
Option A could be a contender for the answer.
Option B cannot be substantiated from what has been said in the passage. PRIs are not really firmly entrenched (paragraph 1).
Option C sums up the idea that lack of political space has interfered in the development of PRIs.
The passage is about Panchayati Raj and without that the idea would be incomplete. Therefore, option D can be eliminated right away.
Between options A and C, option C is stronger and a better summary. Option A is more of a conclusion than a summary.
Hence, the correct answer is **option C**.
42. Ans. A
Volition is 'free will' or 'conscious choice or decision'.
Circumscribe means 'restrict'. The final paragraph of the passage talks about the volition of PRIs being further restricted by a plethora of centrally sponsored schemes (in addition to state-level decisions put on them). Because of this, local institutions have less power to plan according to their needs. This 'weakening' has been highlighted in option A.
Option D is not correct as there is no reformulation.
According to the passage, empowerment of Panchayat system has not been happening, therefore option C can be eliminated.
Option B is inappropriate as there is nothing about 'increasing demands' to match local contributions. Schemes don't work due to lack of local contribution.
Hence, the correct answer is **option** A.
43. Ans. B
According to the first paragraph the inter-state and union-state layers are free of this dilemma. Therefore options C and D do not apply here.
The dilemma is about how much autonomy should the Panchayat get. It is not about wresting power from Union (option A) or taking it away and giving it to union. The dilemma is about power given to Panchayats to manage the 'local' affairs. That has been correctly pointed out in option B.
Hence, the correct answer is **option B**.
44. Ans. C
In the first paragraph, the author states – "The flaw has many causes. But all of them are rooted in a historical anomaly, that while the dynamics of federalism and democracy have given added strength to the rights given to the States in the Constitution, they have worked against the rights of panchayats." Federalism has been ensured at the state level but not at the level of Panchayat.
Option C states this idea.
Options B and D do not deal with the Panchayats and are therefore eliminated.
Even option B does not speak about the flaw at the intra-state level and should be eliminated as well.
Hence, the correct answer is **option C**.
45. Ans. D
In the second paragraph, the author states, "Indian federalism is now more real than it used to be…" The same paragraph speaks about "spurt given to a multiparty democracy" and "with single-party dominance becoming a thing of the past at the Union level, governments can be formed at that level only by multiparty coalitions in which State-level parties are major players". All these signify that there is real distribution of power between Union and State level parties (option D).
Options A and B are too specific.
Option C is inappropriate because Panchayati Raj level has not become real as yet.
Hence, the correct answer is **option D**.
46. Ans. A
Statement (i) can be interpreted from these lines of the passage, "While risks to the global outlook are "broadly balanced" in the near term, medium term risks are titled to the downside, the IMF said."
Statement (ii) can be interpreted from the last line of the fourth paragraph, "…which also cited China's credit growth and protectionist policies as threats."
Statement (iii) cannot be concluded as it is not stated in the passage.
47. Ans. E
Statement (i) can be interpreted from these lines of the passage, "In the report, the IMF looked for average annual growth of 6.4 percent in China during 2018 through 2020".

Statement (ii) can be interpreted from these lines of the passage, "The IMF's projection for growth in China is 6.7 percent for 2017 – the same as its estimate made June 14 in an annual staff report".
Statement (iii) can be interpreted from these lines of the passage, "For 2018 the fund sees Chinese growth at 6.4 percent, an increase of 0.2 points from three months ago."
Hence, option E is the correct answer.
48. Ans. D
This can be interpreted from these lines, "This forecast underscores exactly why our plans to increase productivity and ensure we get the very best deal with the EU, are vitally important," the UK Treasury said in an emailed statement." Hence, the correct answer is option D.
49. Ans. B
Statement (i) is not stated in the passage.
Statement (ii) and (iii) can be interpreted from these lines of the passage, "IMF urged advanced countries with weak demand and low inflation to continue supporting growth through monetary and fiscal policy while cautioning central banks against raising borrowing costs too quickly."
50. Ans. D
This can be interpreted from these lines of the passage, "The dollar fell to its lowest in 14 months last week as investors discounted the ability of President Donald Trump's administration to deliver on its economic agenda after efforts by the Republican Senate to overhaul healthcare collapsed."
51. Ans. B
The first word in the blank must be a noun thus option B fits here. The second blank must have an adjective to make the sentence correct. Thus the rest of the options are incorrect.
52. Ans. A
The meanings of the words are:
Epidemic=> a widespread occurrence of an infectious disease in a community at a particular time.
Splutter=> make a series of short explosive spitting or choking sounds.
Sagacious=> having or showing keen mental discernment and good judgement
Juxtaposed=> place or deal with close together for contrasting effect
The first sentence speaks about the increase of cyber crime recently and its consequences. The next sentence says about outbreak of the disease smallpox and its effect on the population of the nation. The word 'epidemic' and 'severely' fits perfectly in both the sentences and forms a meaningful sentence.
53. Ans. B
The correct answer is option B.
The meanings of the words are:
Lurk=> hide
Germane=> relevant
Integrity=> honesty; durability
Garnish=> decorate
Profess=> claim, often falsely, that one has (a quality or feeling)
Heft=> lift or carry (something heavy)
The second blank of both the statements is joined by and which means that it has to be on the same lines as the word it is joined with.
The first sentence talks about the characteristic of wood to be maintained, hence integrity as durability fits. The second sentence talks about the characteristics of the soldiers, hence integrity as honesty fits.
54. Ans. D
The meanings of the words are:
Jocular=> giving to joking
Adept=> skillful
Huff=> fit of anger
Chasm=> a profound difference between people, viewpoints, feelings, etc.
Caucus=> a gathering of individuals who come together to work for a shared objective
Diversity=> a range of different things
The first word in the blank must be a noun. Thus option D conveys the correct meaning here.
55. Ans. B
The error in I is that the preposition 'on' must be present after the verb 'brought'. The phrase 'brought on' means 'led to the development of.'
The correct preposition to be used after the word 'challenges' is 'to' and not 'of'. The point mentioned is something positive so 'to' is the correct preposition. Had it been a problem mentioned here the preposition 'of' would have been correct.
56. Ans. A
The error in II of the sentence is that the preposition 'among' has been used. When something is spoken about more than two people or subjects the word 'among' fits. Here the word 'between' is correct as two subjects are being talked about. Thus A is the correct answer.
57. Ans. E
I: "That of" is mostly used to compare two things and only "that" is used for referring. Therefore, here "That of" is correct.
II: "Custodian" is a person who has responsibility for taking care of or protecting something. "Curator" is a keeper or custodian of a museum or other collection. Therefore, "custodian" is the apt word.
III: "Act as someone/something" means to do the job of a particular kind of person or thing. "Act upon" means "to act in accordance with or follow." It also means to have an effect on something/someone, therefore, "Act as" fits with the context of the sentence.
Part I and III require changes; therefore, option E is the apt answer.
58. Ans. B
I: "Put together" is a phrasal verb of put which means to produce or organize something using many different things. "Put forward" is a phrasal verb of put which means to offer an idea, opinion, reason etc., especially so

that people can discuss it and make a decision. If it was "argument", instead of "agreement" then "put forward" will be used.
II: Preposition "of" is used for belonging to, relating to, or connected with. It is used to indicate reference and indicate an amount or number. Preposition "for" is used to indicate the use of something, mean because of and indicate time or duration. Therefore, "of" is the apt preposition.
III: It's basically a question of using the proper tense; you can refer to past perfect. So the correct statement would be us/we who gave privileges to the new people. Now, we have to pick between pronouns "we" and "us." "We" is used when this pronoun is acting as the subject of the sentence, whereas "us" works as the direct object, indirect object and the object of the preposition. We can see that in the given statement, "we" is the subject. Therefore, "we" is the apt word.
Only part III requires changes; therefore, option B is the apt answer.

59. Ans. E

The word 'despite' in the sentence makes it clear that India and China have not been involved in any hostile action.
All the given options make sense when put in the blank field.
Option ii: preserved accord means maintained peace
Option iii: belligerent means aggressive or argumentative
Thus option E is the correct answer.

60. Ans. C

The development in the rural sectors cannot be considered burdensome, hence option ii is incorrect.
Option iii correctly states a consequence. Moreover, the structure of the sentence is such that it suggests that the filler should cover a wider context as the part following it states 'rather than merely'.
Option i doesn't convey an apt meaning.
Thus option C is the correct answer.

61. Ans. A

The primary step to remove any evil from the society is to remove the cause of it. Moreover, the sentence also states 'preventing it in the first place'.
ii and iii cannot help remove it in the first place.
Thus option A is the correct answer.

62. Ans. D

Only option A makes sense here that the weather being stormy the fishermen were in danger and they were warned the previous night. The weather was dangerous that anyone could have got drowned. The rest of the options fail to convey the correct meaning.

63. Ans. C

Only C conveys the correct meaning. Timothy was a playful dog who was with Philip since he was a child and Philip considered his dog to be special and could always protect him. The other options do not convey the correct meaning.

64. Ans. B

Only option B conveys the meaning that the situation was difficult as the girl was only seven years old with no relative to take care of her and there were financial issues as well. The other options fail to convey the correct meaning.

65. Ans. A

The topic discussed in the first statement spills over to sentence C. D reveals the other details about the topic followed by A and B accordingly.
Thus the correct answer is A.

66. Ans. B

Statement (D) which contrasts with what is stated in (1) by saying that a cloud of quaintness hung about many places in America is a continuation of (1). Statements (C), (A) and (B) respectively corroborate what is stated in (D) by sustaining it with examples.

67. Ans. C

A – A comparison has been made in the sentence hence, instead of the superlative degree, comparative degree i.e. 'more' should come.
B – 'Then' is used in the reference of time and here time is not been referred so instead of 'then' 'than' will be used.
D – 'The' is the correct determiner instead of 'a' for the following part.
E – Sanskrit is a singular language; hence instead of 'are' 'is' should be used.

68. Ans. E

A – It talks about a past consideration; hence instead of 'is', 'was' should be used.
B – 'Denied' would have been the correct verb form instead of 'deny'.
C – 'Considerable' is an adjective, while we need a past participle form of verb 'consider', i.e. 'considered'.
D – 'The' is the correct determiner instead of 'a' since a specific thing i.e. 'national game' is being talked about.

69. Ans. B

A – 'Their' is a determiner used for indicating to people, which is not the case here.
C – 'Alone' does not go with the sentence. 'Only' is a more appropriate word to be used.
D – 'Of' is an incorrect preposition; 'at' would be the correct choice of preposition.
E – 'There' as an adverb is used to point out to a specific location or position, which is not required here. It needs to be replaced with 'that'.

70. Ans. C

A – The context is of the present, hence had can't be used.
B – 'A' is an incorrect determiner to be used before 'most biodiverse regions'.
D – There is not only one biodiverse region but many; hence instead of 'region', 'regions' should be used.
E – There is no scope of option/choice in the sentence so instead of 'or' 'and' should be used.

71. Ans. D
A – 'of the fact of direct' is incorrect.
B – Instead of 'in' after face, of should be used.
C – 'Mouth' is an absolutely inappropriate word as it doesn't form any phrase or semantic meaning when used.
72. Ans. C
Passage A does talk about women empowerment and the steps taken by the Government to help women progress in all fields. Passage B is about the torture inflicted on women and how they are left behind. Passage C is also about women empowerment how women should be brought up and what should be imbibed in them. Thus C is the correct answer.
73. Ans. B
Passage A and B state what to do to face the competition and how to stay ahead of others. Only C states to what extent the competition is present in the e-commerce industry. Thus B is the correct answer.
74. Ans. C
Only passage A sticks to the theme and talks about how money cannot surpass the peace of mind. Passage B states the importance of money and passage C states the importance of inner peace.
Thus A is the correct answer.
75. Ans. E
All the passages are on the impact of AI. Passage A and B state negative impacts of AI whereas C states a positive one. Thus Option E is the correct answer.
76. Ans. A

	Upstream distance	Downstream distance	Stream speed
Sunday	15*15	15*12	2
Monday	18*15	14*12	-
Tuesday	15*15	10*12	2
Wednesday	16*15	18*12	-
Thursday	12*15	12*12	3
Friday	14*15	16*12	-
Saturday	10*15	15*12	4

$$\frac{15\times15}{b-s}=\frac{12*12}{b2+s}\Rightarrow\frac{15\times15}{b-2}=\frac{12*12}{13+3}\Rightarrow b=27kmph$$

77. Ans. D

	Upstream distance	Downstream distance	Stream speed
Sunday	15*15	15*12	2
Monday	18*15	14*12	-
Tuesday	15*15	10*12	2
Wednesday	16*15	18*12	-
Thursday	12*15	12*12	3
Friday	14*15	16*12	-
Saturday	10*15	15*12	4

$$\frac{15\times15}{10-s}-\frac{10\times12}{10+s}=\frac{18}{5}$$

Go by option verification it is easier by place S=2.5
78. Ans. D

	Upstream distance	Downstream distance	Stream speed
Sunday	15*15	15*12	2
Monday	18*15	14*12	-
Tuesday	15*15	10*12	2
Wednesday	16*15	18*12	-
Thursday	12*15	12*12	3
Friday	14*15	16*12	-
Saturday	10*15	15*12	4

Speed of boat on Friday =22kmph
Speed of boat on Tuesday=22*10/11=20 kmph

$$\frac{16\times12}{22+S}-\frac{10\times12}{2+20}=\frac{20}{11}$$

$$\Rightarrow\frac{16\times12}{22+S}=\frac{20}{11}+\frac{60}{11}=\frac{80}{11}\Rightarrow s=4.4kmph$$

79. Ans. B

	Upstream distance	Downstream distance	Stream speed
Sunday	15*15	15*12	2
Monday	18*15	14*12	-
Tuesday	15*15	10*12	2
Wednesday	16*15	18*12	-
Thursday	12*15	12*12	3
Friday	14*15	16*12	-
Saturday	10*15	15*12	4

Speed of boat on Saturday =20 kmph
Speed of boat on Sunday=

$$\frac{12\times15}{20-4}=\frac{25}{32}\times\frac{15\times12}{b+2}$$

B=10.5 kmph
Hence time taken to cover 21.25km

$$\Rightarrow t=\frac{21.25}{10.5-2}=2.5hrs$$

80. Ans. A

	Upstream distance	Downstream distance	Stream speed
Sunday	15*15	15*12	2
Monday	18*15	14*12	-
Tuesday	15*15	10*12	2
Wednesday	16*15	18*12	-
Thursday	12*15	12*12	3
Friday	14*15	16*12	-
Saturday	10*15	15*12	4

$$\frac{15\times15}{b-2}-\frac{12\times12}{13+3}=6$$

By solving you get B=17 kmph

81. Ans. A

In bag A: given yellow=g, green=g

g-y=4

$$g\times\left(1-\frac{18\frac{2}{11}}{100}\right)=y\Rightarrow g=\frac{11}{9}\times y\Rightarrow y+4=\frac{11y}{9}\Rightarrow y=18$$

G=22

Given P(Black)=5/13

Hence Total balls=13k=18+22+5k => k=5

Black balls=25

In bag B:

Given

$$yellow=\left(1+\frac{22\frac{2}{9}}{100}\right)(18)=22$$

Total balls=75

Let green=x

P(2 green balls)=4/37=X c_2/75 c_2

$$\frac{X(x-1)}{75\times74}=\frac{4}{37}\Rightarrow x(x-1)=600=25*24$$

Hence green=25

Black=75-25-18=28

In bag C: green: black=7:5

Green+ black =36

⇒Green=21, Black= 15

P(yellow)=7/13

Total balls are13k=7k+21+15 =>k=6

Yellow=42 balls

	Bag A	Bag B	Bag C
Yellow	18	22	42
Green	22	25	21
black	25	28	15

Hence 5 black balls are placed and x balls are removed from bag B= 75+5-x=80-x

Given P(black)=11/26

$$\frac{33}{80-x}=\frac{11}{26}\Rightarrow x=2$$

82. Ans. A

	Bag A	Bag B	Bag C
Yellow	18	22	42
Green	22	25	21
Black	25	28	15

P(same color)= $\frac{18}{65}\times\frac{22}{75}+\frac{22}{65}\times\frac{25}{75}+\frac{25}{65}\times\frac{28}{75}=\frac{1646}{65\times75}$

83. Ans. A

Percentage = $\frac{40-(22-21)}{40}\times100=97.5\%$

84. Ans. B

Actual number of balls= 143

Mistaken value =146

Error% = 3/146*100=2%(approximately)

85. Ans. A

Work done by C and D= 4:5 ratio => 4k,5k days

2 day work done by C, D= 9k

So for 44 days= 22*9k=198k

1/2 day work is done by C and amount of work= 2k

Total work=200k

So work done by C and D together= 200/9 days

A,B efficiency = 1/x,1/2x

As given

$$\frac{200}{9}\times\frac{1}{x}+\frac{1}{2x}\left(\frac{200}{9}\right)=1$$

X=100/3=33.33

86. Ans. B

Let E, F worked for 5x,4x

$$\frac{24}{5x}+\frac{24}{4x}+\frac{20}{\frac{100}{3}}+\frac{20}{2\times\frac{100}{3}}=1$$

$$x=108$$

Hence E and F together

work= $\frac{1}{108\times5}+\frac{1}{108\times4}=\frac{9}{108\times20}=\frac{1}{240}$

Hence 240 days together can complete

Difference= $\frac{240}{4\times108}-\frac{240}{5\times108}=\frac{1}{9}$

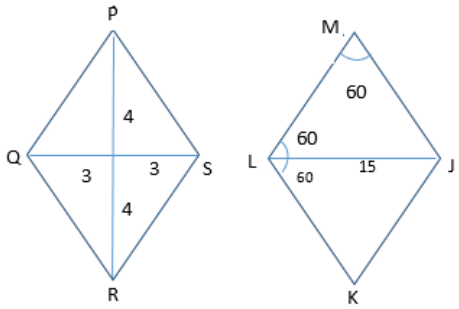
87. Ans. C

As per the given information I draw two rhombuses PQRS, JKLM

Then side of PQRS=AB=5 (right angle is formed)

Then side of MLKJ=CD=15 (MLJ is an equilateral triangle)

hence median MN= (AB+CD)/2=(15+5)/2=10



88. Ans. B

Initially Water: Milk=2.5:10=1:4

20% of (total content)=12.5/5=2.5

Then remaining content=10L in this it had water =2L, Milk=8L

X liters of water is added to reverse ratio =>

$$\frac{2+x}{8}=\frac{4}{1}\Rightarrow x=30$$

In new mixture water=32 L, Milk=8L

Y liters of milk to reverse the ratio=>

$$\frac{32}{8+y} = \frac{1}{4} \Rightarrow y = 120$$

89. Ans. D

A	20	10
B	18	12
C	12	15
D	15	18
E	10	20

No need work on any information directly given in graph
C can finish Job Y in 15 day

90. Ans. C

A	20	10
B	18	12
C	12	15
D	15	18
E	10	20

Total work done by A & C = (5/20) + (3/12) = 1/2
Let D and E worked for k days
Hence,
Work done by D and E= (k/15) + (k/10) = k/6
D and E completed the remaining work which is 1/2
Hence,
1/2=k/6
k=3
So C,D and E worked for =3+3+3 = 9 days

91. Ans. A

A	20	10
B	18	12
C	12	15
D	15	18
E	10	20

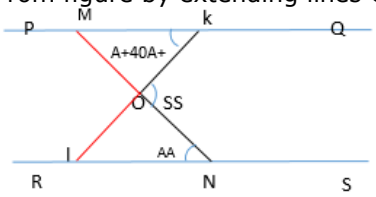
Let C worked for 5x days & D worked for 12k days.
Then,
Work done By C and D:
(5k/15) + (12k/18) = 1
⇒ (k/3) + (2k/3) = 1
⇒ k=1
Difference is = 12k - 5k =12 - 5 = 7 days

92. Ans. A

A	20	10
B	18	12
C	12	15
D	15	18
E	10	20

B can complete job Y in 12 days.
Hence, part of work done by B in a day = (1/12)
If he works at 4/9th of his efficiency then he will be able to do only (4/9)*(1/12)th = 1/27th part of the work in a day.
Hence work done in 3 days = Work done by B in 3 days + Work done by D on 3rd day = [3*(1/27)] + (1/18) = (1/9)+(1/18) = 1/6
Hence number of days needed to complete the job = 3*6 = 18 days

93. Ans. A
From figure by extending lines OK to point L on RS



Also NO to point M on PQ line hence angle A=angle KMO
Hence from triangle MOK
And A+40+A+180-S=180
S = 2A+40
In quantity 1
Given S<90
2A+40<90
A<25

94. Ans. B
Quantity 1:
Let the number be (10X+Y), interchanged number is (10Y+X)
Hence
(10Y+X) = (10X+Y)+36
9(Y-X) = 36
Y - X = 4
Y = X +4
Hence set of numbers={04,15,26,37,48,59}
Probability = **6/63**
Quantity 2:
Multiple of 8 but not 16={8,24,40,56}
Probability = **4/63**
Hence Quantity 1 > Quantity 2

95. Ans. D
Quantity I : Number of hours in which A, B and C can complete the work if A, B and C alone can finish it in 25, 20 and 15 hours respectively.
In 1 day,
A finishes 1/25th of the work.
B finishes 1/20th of the work.
C finishes 1/15th of the work.
In 1 day, they finish part of work = 1/25 + 1/20 + 1/15 = 47/300
Thus, they finish the work in 300/47 days.
Quantity II : Number of hours in which B can finish the work if A working alone finishes it in 20 hours while working together they finish it in 5 hours.
Let the number of hours in which B can finish the work be 'a'.
In 1 day,
A finishes 1/20th of the work
B finishes 1/a part of the work
In 1 day, they finish part of work = 1/5
Thus, 1/20 + 1/a = 1/5
⇒ 1/a = 3/20
⇒ a = 20/3 days
Thus, quantity II > quantity I

96. Ans. D
Quantity1-
Rakhi's marks= 115
Meenakshi's marks= 115 - 20 = 95
Puneeta's marks= 95 + 65= 160
Ankita's marks=160 - 35= 125
Simpy's marks= 125+ 67= 192
Total maximum marks= 192 + 108= 300
Required percentage marks of Simpy
$= \frac{192}{300} \times 100 = 64\%$
Quantity2-
percentage reduction in breath= 100*60/160 = 37.5
Hence, Quantity1 > Quantity2
97. Ans. E
From I:
No. of students studying in A and B are 3x and 4x respectively.
From III:
No. of students studying in B who got placement
= (4x × 80) ÷ 100 = 16x/5
From II:
No. of students studying in B who got placement = 120% of No. of students studying in A who got placement
Hence
16x/5 = 120% of y
y = 8x/3
Hence Question cannot be answered even with the information in all the three statements.
98. Ans. E
From I and II,
Length = 3x = 48 m
$\therefore x$ = 16
Breath = 2x = 32 m
Hence, Area of floor = 48 × 32
Cost of flooring = 48 × 32 × 850 = ₹ 1305600
From I and III, 2(l +b) = 160
2(3x + 2x) = 160
10x = 160
$\therefore x$ = 16
$\therefore$ Length = 3 × 16 = 48 m
Breadth = 2x = 32m
Cost of flooring = (48 × 32) × 850 = ₹ 1305600
Similarly, from II and III, we can find
l = 48 m
b = 32 m
and Total cost of flooring = ₹ 1305600
99. Ans. D
From I,
If P = 100
A = 200
SI = 200 – 100 = 100

Rate = $\frac{SI \times 100}{P \times T} = \frac{100 \times 100}{100 \times 5} = 20\%$

$\frac{400 \times 100}{2000 \times 1} = 20\%$
From II and III, Rate =
Hence, either I alone or II and III will be sufficient.
100. Ans. E
Let two digit number be = 10x + y
Reversed number = 10y + x
From I:
Difference = 27
Hence,
9x - 9y = 27
or
9y - 9x = 27
x - y = 3
or y – x = 3
From II:
x – y = 3 or
y – x = 3
From III:
y = x - 3
Hence,
x - y = 3
Hence, Even by using (I) + (II) + (III) together, we cannot obtain the number.
101. Ans. A
x(x – k) = k + 1
x^2 – kx – k – 1 = 0
$\Rightarrow x = \frac{k \pm \sqrt{k^2 - 4(-k-1)}}{2}$
$\Rightarrow x = \frac{k \pm \sqrt{(k+2)^2}}{2}$
$\Rightarrow x = \frac{k \pm (k+2)}{2}$
⇒ x = k + 1 or – 1
From statement I,
x < k
x can't be equal to k + 1
Thus, x = -1
Thus, statement I alone is sufficient
From statement II,
X = k + 1
This is one of the solution but we can't find anything from it,
Insufficient.
From statement III,
X = 3 – k
K = 3 – x
X = 3 – x + 1
⇒ x = 2 or – 1
Not sufficient.
102. Ans. E
Given, ratio of selling price of item I and II for company A is 4 : 3 and the ratio of their cost price was 8 : 9.
Company A made profit on item I.
From the table, profit% of company A = 10%.
Let the cost price of item I and item II be 8a and 9a

respectively.
Let the profit% made be p%.
Selling price of item I = 8a + 10% of 8a = 8.8a
Selling price of item II = 9a + p% of 9a = 9a (100 + p)/100

$$\Rightarrow \frac{8.8a}{\frac{9a(100+p)}{100}} = \frac{4}{3}$$

⇒2.2 = 3(100 + p)/100
⇒220 = 300 + 3p

$$\Rightarrow p = -\frac{80}{3}\% = -26\frac{2}{3}\%$$

Thus, a loss% of $-26\frac{2}{3}\%$ occurred.
None of the options match, answer is E.

103. Ans. C
Given, marked price of items are same for each company. The marked price of items are: Item I – Rs. 2500, item II – Rs. 1750, item III – Rs. 2400, item IV – Rs. 3200.
Now, for company C, a discount% of 10% is given on item III while two successive discounts of the equal % was given on item I by company D.
Selling price of item III for company C = 2400 – 10% of 2400 = Rs. 2160
Let the successive discount% be 'd'
Selling price of item I for company D after 1st discount = 2500 – d% of 2500 = 25(100 – d)
Selling price of item I for company D after 2nd discount = 25(100 – d) - d% of (2500 – 25d)
Now, Company C made profit on item III while company D suffered loss on item I.
From the table, profit% on item III for company C = 20%
Loss% on item I for company D = 200/9 %
Given, cost price paid by company C for item III was equal to the cost price paid by company D for item I
Let the cost price be 'a'.
Selling price of item III for company C = a + 20% of a
⇒1.2a = 2160
⇒a = RS. 1800
Now, 1800 – (200/9)% of 1800 = 25(100 – d) - d% of (2500 – 25d)
⇒1400 = 2500 – 25d - 25d – 25d²/100
⇒1100 = 50d + 25d²/100
⇒d² + 200d – 4400 = 0
⇒d² + 220d – 20d – 4400 = 0
⇒d(d + 220) – 20(d + 220) = 0
⇒(d – 20)(d + 220) = 0
⇒d = 20% as d can't be negative.

104. Ans. B
Given,
Company F marked item IV at 25% higher than its cost price.
Let the cost price be 'c'
Marked price = c + 25% of c = 1.25c
Given, selling price of this item is Rs. 4140.
Now, 'd' is discount% and profit% made by selling the item is (3d – 9)%.
Selling price according to marked price = 1.25c – d% of 1.25c
Selling price according to cost price = c + (3d – 9)% of c

$$\Rightarrow 1.25c - \frac{d}{100} \times 1.25c = c + \frac{3d-9}{100} \times c$$

⇒25 = 4.25d – 9
⇒34/4.25 = d
⇒d = 8%
Now, marked price – d% of marked price = selling price
⇒marked price (1 – 8/100) = 4140
⇒Marked price = Rs. 4500

105. Ans. D
Given, company E made a profit on items I and IV while they lost money on item II
From the table,
Profit% item I = 20%
Loss% item II = 25%
Profit% item IV = 16%
Given, selling price of the items sold by Company E were Rs. 2400, Rs. 2100, Rs. 1870 and Rs. 2030 in the order from I to IV.
Cost price of item I + 20% of cost price of item I = 2400
⇒Cost price of item I × 1.2 = 2400
⇒Cost price of item I = Rs. 2000
Cost price of item II – 25% of cost price of item II = 2100
⇒Cost price of item II × 0.75 = 2100
⇒cost price of item II = Rs. 2800
Cost price of item IV + 16% of cost price of item IV = 2030
⇒Cost price of item IV × 1.16 = 2030
⇒Cost price of item IV = Rs. 1750
Given, company made an overall profit of 5% on selling all the items.
Let the cost price of item III be 'a'.
Total cost price = 2000 + 2800 + a + 1750 = 6550 + a
Total selling price = 2400 + 2100 + 1870 + 2030 = 8400
Thus, 6550 + a + 5% of (6550 + a) = 8400
⇒1.05(6550 + a) = 8400
⇒6550 + a = 8000
⇒a = Rs. 1450
Profit made on item III = Rs. 1870 – Rs. 1450 = Rs. 420

106. Ans. B
Given, average selling price of item I sold by company C and company A is Rs. 3493.
Let the selling price of item I of company A be 'a'.
Thus (a + selling price for company C)/2 = 3493
⇒a + selling price for company C = 6986
Selling price for company C = 6986 – a
From the table,
Profit% made by company A = 10%
Profit% made by company C = 12%

Cost price for company A + 10% of cost price for company A = a
⇒Cost price for company A = a/1.1
Cost price for company C + 12% of cost price for company C = 6986 – a
⇒Cost price for company C = (6986 – a)/1.12
Given, cost price of the item I for company A and company C is in the ratio of 5 : 4.

$$\Rightarrow \frac{\frac{a}{1.1}}{\frac{6986-a}{1.12}} = \frac{5}{4}$$

$$\Rightarrow \frac{4a}{1.1} = \frac{5(6986-a)}{1.12}$$

⇒4.48a = 5.5 × 6986 – 5.5a
⇒9.98a = 38423
⇒a = Rs. 3850
Thus, selling price for company C = 6986 – 3850 = Rs. 3136
Thus, selling price for company C is less than the selling price for company A by= 714
% by which selling price for company C is less than the selling price for company A = 714*100/3850= 18.45
107. Ans. C
Total cash Invested by A = (2/12) * 42 = 7 lakhs
Total land invested by A = (4/12) * 93 = 31 lakhs
Total equity certificates invested by A = (1/10) * 65 = 6.5 lakhs
Total investment by A = 7 + 31 + 6.5 = Rs. 44.5 lakhs
Similarly, investment by B = 10.5 + 23.25 +32.5 = Rs. 66.25 lakhs
Similarly, investment by C = 24.5 + 38.75 + 26 = Rs. 89.25 lakhs
Total investment by A, B and C = 42 + 93 + 65 = 200 lakhs
Profit share of A = (44.5/200) * 1.5 crore = 0.33375 crores = Rs.33.375 lakhs
108. Ans. D
Investments by A = 44.5 * 2 = Rs. 89 lakhs
Investments by B = 66.25 * 2 = Rs. 132.5 lakhs
Investments by C = 89.25 * 2 = Rs. 178.5 lakhs
Time A invested for = 10 months
Time B invested for = 30 months
Time C invested for = 20 months
Total (timed) investments by A = 89 * 10 = 890
Total (timed) investments by B = 132.5 * 30 = 3975
Total (timed) investments by C = 17.5 * 20 = 3570
Share of C's profit = 3 * 3570/(890+3975+3570)

= 3 * 3570/8435 = 1.269 crores $\approx$ Rs. 1.27 crores
109. Ans. D

Let the speed of train 'A' be x km/hr
It passes the man in 30 s
T = d/s
Distance, d = length of train 'A' = 300m = .3km
Time, t = 30s = (30/3600) hr
Speed, s = relative speed = (x-4) km/hr
30/3600 = 0.3/(x-4)
x = 40km/hr
It reaches the station in 15 minutes

= 15/60 hrs =1/4 hrs

Distance travelled by train A in 1/4 hrs

= 40*(1/4) = 10km
To cover 10km man will take 10/4 hrs

= 2.5 h

110. Ans. E

From the above solution we got the speed of train A as 40km/hr
A passes B completely in 5.4 minutes

= 5.4/60 hr

Relative speed s = 40-30 = 10km/hr

Distance = length of (A+B) = 300+b

(300+b)18/10*5 = 54/10

b= 600

111. Ans. D

Explanation:

DX4	RM9	Z4
CN5		NY8
EG2	K7	BM6

Step1: Diagonally interchange second letter, if box contain only one letter then consider it as a first letter and no interchange process takes place.

DM4	RM9	Z4
CY5		NN8
EG2	K7	BX6

Step 2:

TC4	HC9	N4
VR5		SS8
YR2	C7	IE6

Step 3: If diagonally numbers are even- even or odd-odd then interchange first letter otherwise remains same.

IC4	CC9	Y4
VR5		SS8
NR2	H7	TE6

112. Ans. C

Explanation:

DX4	RM9	Z4
CN5		NY8
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Step1: Diagonally interchange second letter, if box contain only one letter then consider it as a first letter and no interchange process takes place.

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Step 3: If diagonally numbers are even- even or odd-odd then interchange first letter otherwise remains same.

IC4	CC9	Y4
VR5		SS8
NR2	H7	TE6

113. Ans. A

It is mentioned in the passage that railways now need to find 'innovative ways' to get bigger returns for their investments. This clearly implies the given fact.

114. Ans. A

The fact that railways have now fallen in need of bigger returns from their investments, implies the given fact.

115. Ans. C

E likes Yellow.

Hence, option C.

B is 3rd to the left of C who likes Blue. One person sits between B and the one who likes Black.

		B			C	
black					blue	Case 1

	B			C	
	black			blue	Case 2

E is 2nd to the right of C. The one who likes Brown is immediate left of E. One person sits between the one who likes Brown and the one who likes Pink. D likes Red and sits 2nd to the right of F.

	F	B	D		C		E	
black			red	pink	blue	brown		Case 1

F	B	D		C		E		
		red	black	blue	brown		pink	Case 2

G is not neighbor of C so In case 1, G must be sit with F but we know that consecutive alphabets cannot sit together so case 1 gets rejected. In case 2, G must be at the right end. A doesn't like Brown the A must like Black and H likes Brown. The one who likes Silver is immediate left of the one who likes White so F likes Silver, B likes White and E likes Yellow.

Here is the final arrangement:

F	B	D	A	C	H	E	G	
Silver	white	red	black	blue	brown	yellow	pink	Case 2

116. Ans. B

C likes Blue and G is 3rd to the right of C.

Hence, option B.

		B			C	
black					blue	Case 1

	B			C	
			black	blue	Case 2

E is 2nd to the right of C. The one who likes Brown is immediate left of E. One person sits between the one who likes Brown and the one who likes Pink. D likes Red and sits 2nd to the right of F.

	F	B	D		C		E	
black			red	pink	blue	brown		Case 1

F	B	D		C		E		
		red	black	blue	brown		pink	Case 2

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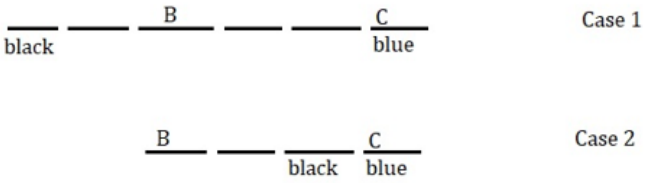
Here is the final arrangement:

F	B	D	A	C	H	E	G	
Silver	white	red	black	blue	brown	yellow	pink	Case 2

117. Ans. A
No one lives between them.
Hence, option A.



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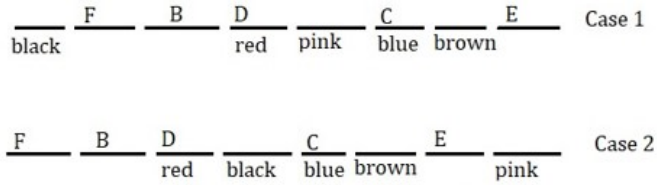

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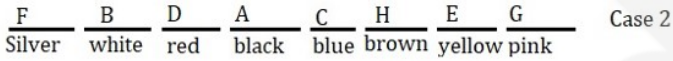
Here is the final arrangement:

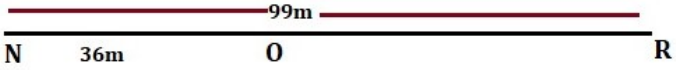


118. Ans. C
%-4, @-8
So 4:40 PM.
+3 hours 35 minutes= 8:15PM
8 hours means-@
15 minutes means minute hand at 3, so #=3
So, the required time is represented by '**@#'**.

119. Ans. D
Scheduled time of departure of train= @+= 8:25PM
Time for travel+ early arrival= 5 hours + 5 minutes= 5 hours 5 minutes
8:25 PM-5 hours 5 minutes= 3:20PM= #%
So, the required time is represented by **'#%'**.

120. Ans. B
'@@'= 8:40PM
20 minutes before= 8:20PM
8 hours means-@
20 minutes means minute hand at 4 so % = 4
So, the required time is represented by **'@%'**.

121. Ans. B
Point Z is in North-east direction with respect to car N.
• The distance between car N and car O is 36m and no car is parked between them. Car R is 99m to the right of car N. Only one car is parked between car O and car R. So car O must be right of N.

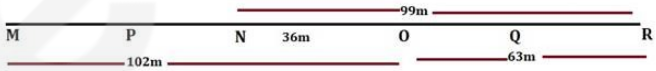


•The distance between O and R is 99-36=63m. We find one distance which is 36m and we have to find 4 more distances and we know that distance between each car is successive multiple of 3. 63m can be divided, 27+36, 24+39, 33+30. So, 36m is already distance N-O so that combination is not possible.
•24+39 also cannot be possible because if minimum is 24m then maximum must be 36m, so this is also not possible. So, only one combination left i.e. 30m and 33m.
•So we have right now 3 combinations, 30m, 33m and 36m.
•Car M is parked to the immediate left to car P. The distance between car M and car O is 102m. From this confirm that car Q is between O and R. Now we get 2 cases:

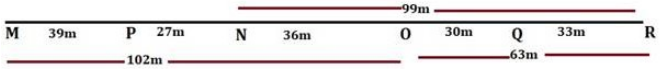
Case 1:

If that is the case then we know that the distance between car M and car O is 102m. The distance between RM= MO-OR= 102-63=39m. But we know that the distance between R and M is more than 60m. So this case gets rejected.

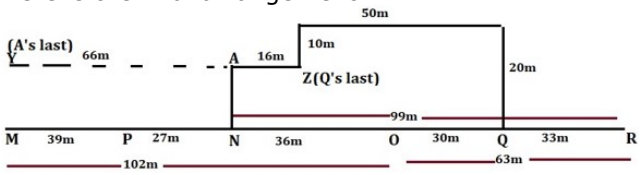
Case 2:



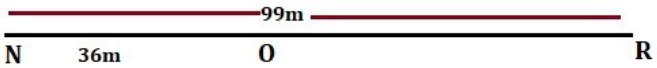
•The distance between MN= 102-36=66m. So, it must be 27m and 39m because we already get 30m, 33m and 36m.
•The distance between car M and car P is 12m more than the distance between car P and car N. So MP=39m and PN=27m.
•The distance between car P and car Q is 93m. So, distance between OQ= 30m and QR=33m.



• If car Q moves 20m to the north then takes a left turn and moves 50m then again takes a left turn and moves for 10m and stops at point Z. Car A is 16m to the west of point Z. Car A moves 66m towards west and stops at point Y.
Here is the final arrangement:



122. Ans. C
PR=PN+NO+OQ+OR= 126m
•The distance between car N and car O is 36m and no car is parked between them. Car R is 99m to the right of car N. Only one car is parked between car O and car R. So car O must be right of N.

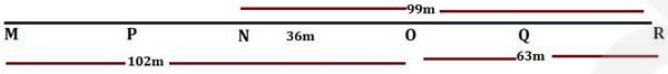


•The distance between O and R is 99-36=63m. We find one distance which is 36m and we have to find 4 more distances and we know that distance between each car is successive multiple of 3. 63m can be divided, 27+36, 24+39, 33+30. So, 36m is already distance N-O so that combination is not possible.
•24+39 also cannot be possible because if minimum is 24m then maximum must be 36m, so this is also not possible. So, only one combination left i.e. 30m and 33m.
•So we have right now 3 combinations, 30m, 33m and 36m.
•Car M is parked to the immediate left to car P. The distance between car M and car O is 102m. From this confirm that car Q is between O and R. Now we get 2 cases:

Case 1:

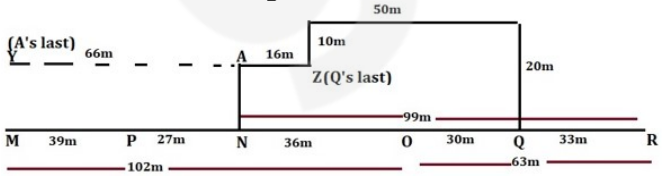
If that is the case then we know that the distance between car M and car O is 102m. The distance between RM= MO-OR= 102-63=39m. But we know that the distance between R and M is more than 60m. So this case gets rejected.

Case 2:

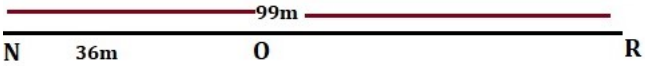


•The distance between MN= 102-36=66m. So, it must be 27m and 39m because we already get 30m, 33m and 36m.
•The distance between car M and car P is 12m more than the distance between car P and car N. So MP=39m and PN=27m.
•The distance between car P and car Q is 93m. So, distance between OQ= 30m and QR=33m.

• If car Q moves 20m to the north then takes a left turn and moves 50m then again takes a left turn and moves for 10m and stops at point Z. Car A is 16m to the west of point Z. Car A moves 66m towards west and stops at point Y.
Here is the final arrangement:



123. Ans. B
Point Y is 10m to the North of car M.
•The distance between car N and car O is 36m and no car is parked between them. Car R is 99m to the right of car N. Only one car is parked between car O and car R. So car O must be right of N.

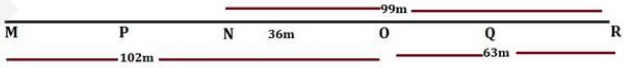


•The distance between O and R is 99-36=63m. We find one distance which is 36m and we have to find 4 more distances and we know that distance between each car is successive multiple of 3. 63m can be divided, 27+36, 24+39, 33+30. So, 36m is already distance N-O so that combination is not possible.
•24+39 also cannot be possible because if minimum is 24m then maximum must be 36m, so this is also not possible. So, only one combination left i.e. 30m and 33m.
•So we have right now 3 combinations, 30m, 33m and 36m.
•Car M is parked to the immediate left to car P. The distance between car M and car O is 102m. From this confirm that car Q is between O and R. Now we get 2 cases:

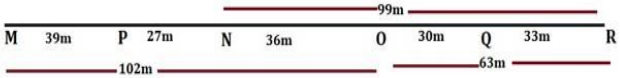
Case 1:

If that is the case then we know that the distance between car M and car O is 102m. The distance between RM= MO-OR= 102-63=39m. But we know that the distance between R and M is more than 60m. So this case gets rejected.

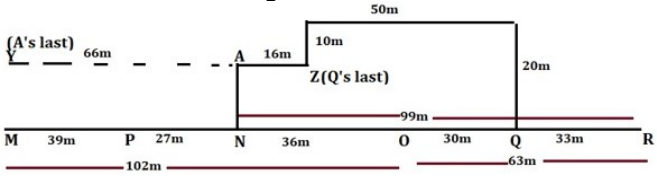
Case 2:



•The distance between MN= 102-36=66m. So, it must be 27m and 39m because we already get 30m, 33m and 36m.
•The distance between car M and car P is 12m more than the distance between car P and car N. So MP=39m and PN=27m.
•The distance between car P and car Q is 93m. So, distance between OQ= 30m and QR=33m.



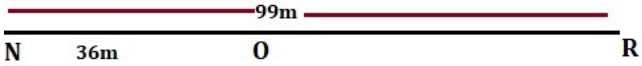
• If car Q moves 20m to the north then takes a left turn and moves 50m then again takes a left turn and moves for 10m and stops at point Z. Car A is 16m to the west of point Z. Car A moves 66m towards west and stops at point Y.
Here is the final arrangement:



124. Ans. A

Distance between point Z and point Y is 82m

•The distance between car N and car O is 36m and no car is parked between them. Car R is 99m to the right of car N. Only one car is parked between car O and car R. So car O must be right of N.



•The distance between O and R is 99-36=63m. We find one distance which is 36m and we have to find 4 more distances and we know that distance between each car is successive multiple of 3. 63m can be divided, 27+36, 24+39, 33+30. So, 36m is already distance N-O so that combination is not possible.

•24+39 also cannot be possible because if minimum is 24m then maximum must be 36m, so this is also not possible. So, only one combination left i.e. 30m and 33m.

•So we have right now 3 combinations, 30m, 33m and 36m.

•Car M is parked to the immediate left to car P. The distance between car M and car O is 102m. From this confirm that car Q is between O and R. Now we get 2 cases:

Case 1:

If that is the case then we know that the distance between car M and car O is 102m. The distance between RM= MO-OR= 102-63=39m. But we know that the distance between R and M is more than 60m. So this case gets rejected.

Case 2:

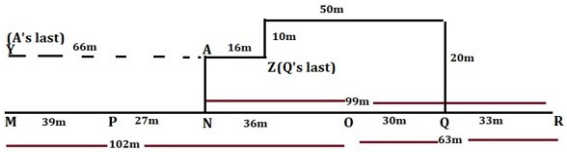
•The distance between MN= 102-36=66m. So, it must be 27m and 39m because we already get 30m, 33m and 36m.

•The distance between car M and car P is 12m more than the distance between car P and car N. So MP=39m and PN=27m.

•The distance between car P and car Q is 93m. So, distance between OQ= 30m and QR=33m.

• If car Q moves 20m to the north then takes a left turn and moves 50m then again takes a left turn and moves for 10m and stops at point Z. Car A is 16m to the west of point Z. Car A moves 66m towards west and stops at point Y.

Here is the final arrangement:



125. Ans. C

•The distance between car N and car O is 36m and no car is parked between them. Car R is 99m to the right of car N. Only one car is parked between car O and car R. So car O must be right of N.

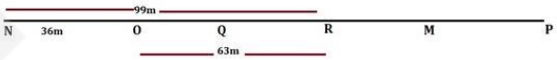
•The distance between O and R is 99-36=63m. We find one distance which is 36m and we have to find 4 more distances and we know that distance between each car is successive multiple of 3. 63m can be divided, 27+36, 24+39, 33+30. So, 36m is already distance N-O so that combination is not possible.

•24+39 also cannot be possible because if minimum is 24m then maximum must be 36m, so this is also not possible. So, only one combination left i.e. 30m and 33m.

•So we have right now 3 combinations, 30m, 33m and 36m.

•Car M is parked to the immediate left to car P. The distance between car M and car O is 102m. From this confirm that car Q is between O and R. Now we get 2 cases:

Case 1:



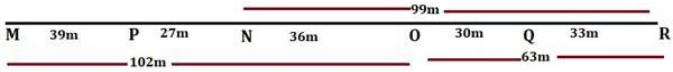
If that is the case then we know that the distance between car M and car O is 102m. The distance between RM= MO-OR= 102-63=39m. But we know that the distance between R and M is more than 60m. So this case gets rejected.

Case 2:

•The distance between MN= 102-36=66m. So, it must be 27m and 39m because we already get 30m, 33m and 36m.

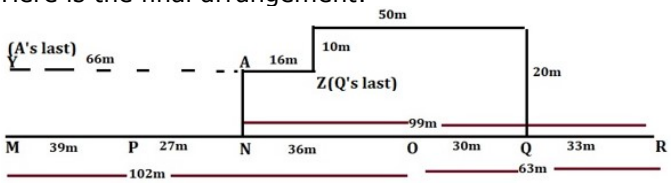
•The distance between car M and car P is 12m more than the distance between car P and car N. So MP=39m and PN=27m.

•The distance between car P and car Q is 93m. So, distance between OQ= 30m and QR=33m.



• If car Q moves 20m to the north then takes a left turn and moves 50m then again takes a left turn and moves for 10m and stops at point Z. Car A is 16m to the west of point Z. Car A moves 66m towards west and stops at point Y.

Here is the final arrangement:



126. Ans. B

This is because the recklessness of the actions carried out by the ISIS makes it clear that it does not care about political perceptiona nd fallout. The second statement is wrong as the author never mentions the nature of the organisations likes the Nazis and Khymer Rouge.)

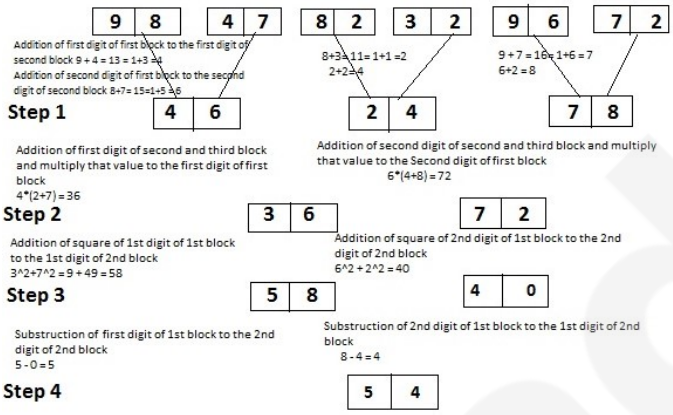
127. Ans. D

Option D is weakening the statement.

128. Ans. C

Ã 58 + 40 = 98

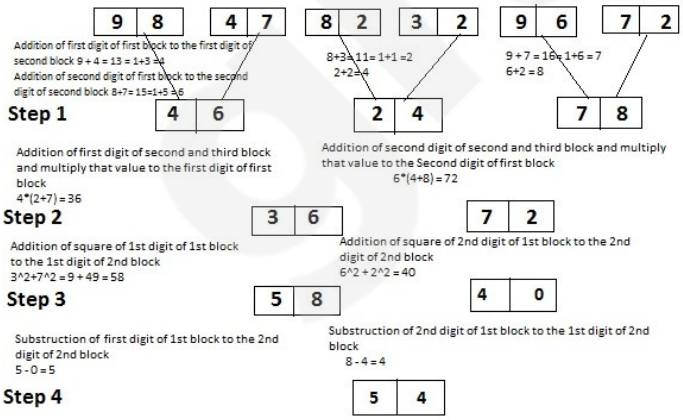
Explanation



129. Ans. D

Ã 5*4 = 20

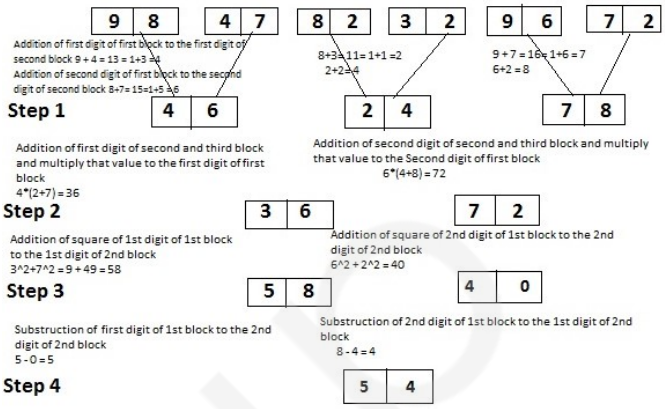
Explanation:



130. Ans. C

Ã 72/36 = 02

Explanation-

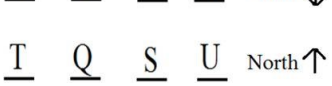


131. Ans. D

Choice (A): Based on some assessment, the school has come to the understanding that the students are not getting proper meal at home. No facts are provided to conform this. Hence, (A),is not implicit. Choice (B): There is no information given about the donation, which is given to the charity. Hence (B) is out of context. Statement (C) the statement has no reference to the utilization of funds. Hence it is out of context. Choice (D) The school authority was providing the breakfast to the students assuming that they are not getting a proper meal. Hence Choice (D) is an assumption.

132. Ans. E

as none of the statement alone is sufficient to answer the question, but if any of the two statements are taken together is sufficient to answer the question.



133. Ans. E

From I, II and III,

Two boxes are between D and E. D is above E. Two boxes are between E and G so box G is below box E. Box B is just above D so box B is at the top position and box G is at the bottom position.

So I, II and III are sufficient to answer the questions. Hence, option E.

134. Ans. B

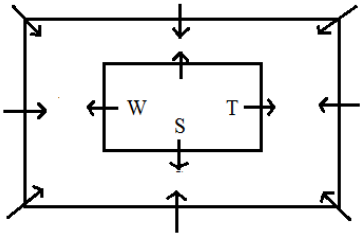
A, C and D justify the land owners claim on increasing the rent. Only B, if true will damage their claim that there will be an increase in supply. They might not be investing the amount in construction but in other profitable business.

135. Ans. C

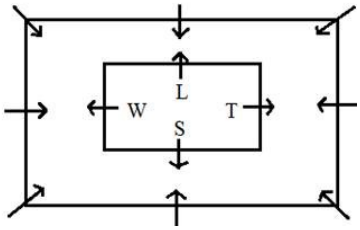
as seen from the diagram that the Person I is sitting at one of the corner seat as others are sitting on middle seats.

Detail Solution

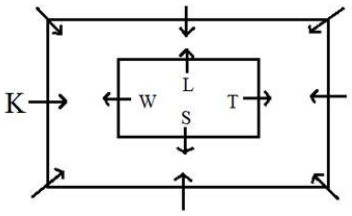
Case 1:
1) W is sitting second to the right of T, who is immediate left of S, who is sitting in smaller square.



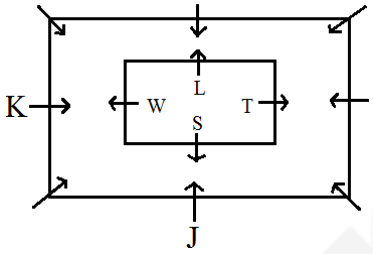
2) L and S have only one member between them.



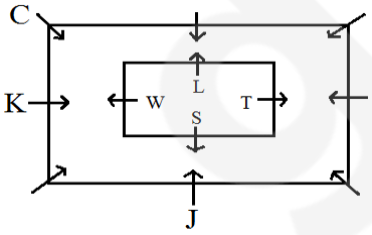
3) W faces K.



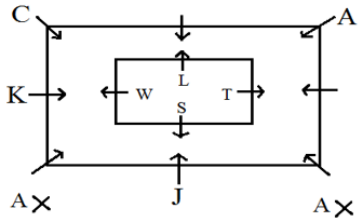
4) The one, who is sitting opposite to T, is second to right of J.



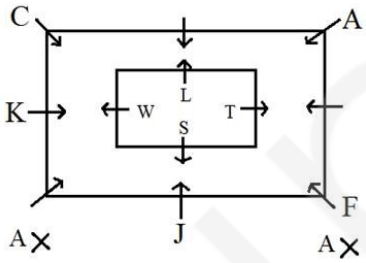
5) C and K are immediate neighbors, such that one of them is sitting at one of the middle seat. If, C is immediate left of K. (Case2 in Case1).



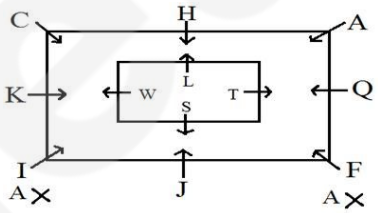
6) J is not immediate member of either of K or A.



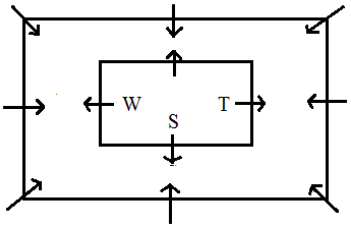
7) A, who is sitting at one of corners, is sitting second to the right of F.



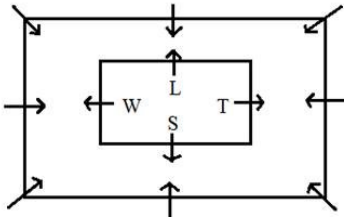
8) I is sitting third to the left of Q, who is sitting at one of the middle seat.
9) H has same members between him and J as between person A and I.
Final Answer:



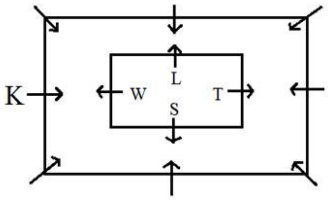
136. Ans. C
as seen from the diagram that the person S faces person J, who is sitting second to the left of person Q.
Detail Solution
Case 1:
1) W is sitting second to the right of T, who is immediate left of S, who is sitting in smaller square.



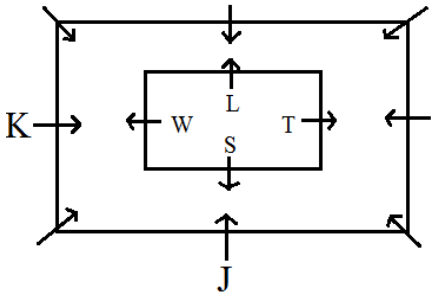
2) L and S have only one member between them.



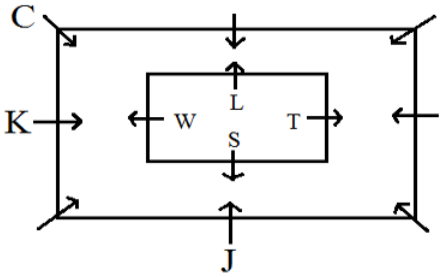
3) W faces K.



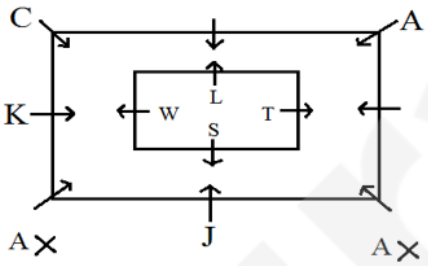
4) The one, who is sitting opposite to T, is second to right of J.



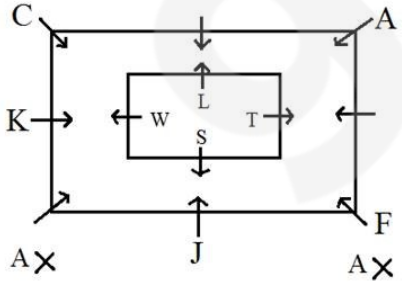
5) C and K are immediate neighbors, such that one of them is sitting at one of the middle seat. If, C is immediate left of K. (Case2 in Case1).



6) J is not immediate member of either of K or A.



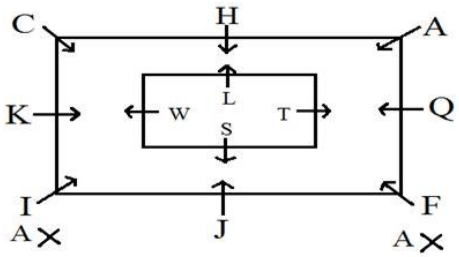
7) A, who is sitting at one of corners, is sitting second to the right of F.



8) I is sitting third to the left of Q, who is sitting at one of the middle seat.

9) H has same members between him and J as between person A and I.

Final Answer:



137. Ans. C

as seen from the diagram that the D is the son-in-law of B.

Step 1: G is the daughter of B. Here, we can conclude that - B can be either mother or father of G.

• A is the son of H and brother of G. Here, we can conclude that - H can be either mother or father of G.

• It is clearly given in the question that - H is the grandfather of E. So, H is a male and husband of B. H is also father of G.

• Two female members are clear and they are– G & B.

Step 2: F is the sister-in-law of G. Here, we can conclude that F is the wife of G's brother A. Hence, A is the husband of F.

Step 3: F is the mother of C. C is the niece of G. By step 2, we can conclude that - C is the daughter of A.

Step 4: D is the brother-in-law of A. We can conclude 2 possibilities here –

Case 1 - D is the husband of A's sister G.

Case 2 - D is the brother of A's wife F.

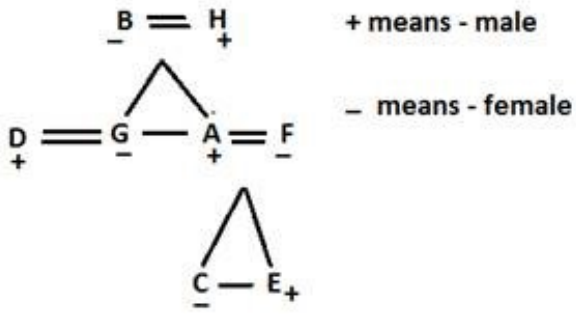
• But in the question, it is clearly mentioned that– There are three married couples in the family, so it is clear that - D is the husband of A's sister G.

Step 5: A is the father of E. H is the grandfather of E. Here, gender of E is not given but we can easily conclude that E is the son of both A & F and brother of G. As, it is mentioned in the question that there are equal number of males and females in a family and two of them are children.

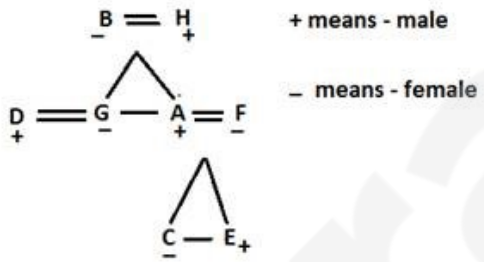
Males member are – H, A, D & E

Females member are – B, F, G & C

Family tree figure -



138. Ans. B
as seen from the diagram that C is the granddaughter of H.
Step 1: G is the daughter of B. Here, we can conclude that - B can be either mother or father of G.
• A is the son of H and brother of G. Here, we can conclude that - H can be either mother or father of G.
• It is clearly given in the question that - H is the grandfather of E. So, H is a male and husband of B. H is also father of G.
• Two female members are clear and they are – G & B.
Step 2: F is the sister-in-law of G. Here, we can conclude that F is the wife of G's brother A. Hence, A is the husband of F.
Step 3: F is the mother of C. C is the niece of G. By step 2, we can conclude that- C is the daughter of A.
Step 4: D is the brother-in-law of A. We can conclude 2 possibilities here–
Case 1 - D is the husband of A's sister G.
Case 2 - D is the brother of A's wife F.
• But in the question, it is clearly mentioned that– There are three married couples in the family, so it is clear that- D is the husband of A's sister G.
Step 5: A is the father of E. H is the grandfather of E. Here, gender of E is not given but we can easily conclude that E is the son of both A & F and brother of G. As, it is mentioned in the question that there are equal number of males and females in a family and two of them are children.
Males member are – H, A, D & E
Females member are – B, F, G & C
Family tree figure -



139. Ans. E
This is an explanation that may be drawn easily from the facts mentioned in the passage.)
140. Ans. E
Customer Management (CACMS) project will provide convenience of aadhar based fast and efficient onboarding to the customers.
141. Ans. A
On 10th of the month the exams scheduled are Physics and Biology.

Date of Exam	Morning Shift	Evening Shift
9	Math – 2hrs – 100 marks.	English – 2.5 hrs – 80 marks.
10	Physics – 3hr – 120 marks.	Biology – 5 hr – 150 marks.
11	Chemistry – 3.5 hrs – 130 marks	Economics – 1 hr – 90 marks
12	History – 4 hr – 160 marks.	Home Science – 1.5 hr – 70 marks.
13	Geography – 4.5 hrs – 140 marks	Accounts – 2.5 hrs – 110 marks

142. Ans. D
Except English other exams are scheduled in morning.

Date of Exam	Morning Shift	Evening Shift
9	Math – 2hrs – 100 marks.	English – 2.5 hrs – 80 marks.
10	Physics – 3hr – 120 marks.	Biology – 5 hr – 150 marks.
11	Chemistry – 3.5 hrs – 130 marks	Economics – 1 hr – 90 marks
12	History – 4 hr – 160 marks.	Home Science – 1.5 hr – 70 marks.
13	Geography – 4.5 hrs – 140 marks	Accounts – 2.5 hrs – 110 marks

143. Ans. D
Accounts is of 110 marks not of 140 marks.

Date of Exam	Morning Shift	Evening Shift
9	Math – 2hrs – 100 marks.	English – 2.5 hrs – 80 marks.
10	Physics – 3hr – 120 marks.	Biology – 5 hr – 150 marks.
11	Chemistry – 3.5 hrs – 130 marks	Economics – 1 hr – 90 marks
12	History – 4 hr – 160 marks.	Home Science – 1.5 hr – 70 marks.
13	Geography – 4.5 hrs – 140 marks	Accounts – 2.5 hrs – 110 marks

144. Ans. E
All statements are correct for the exam of Economics.

Date of Exam	Morning Shift	Evening Shift
9	Math – 2hrs – 100 marks.	English – 2.5 hrs – 80 marks.
10	Physics – 3hr – 120 marks.	Biology – 5 hr – 150 marks.
11	Chemistry – 3.5 hrs – 130 marks	Economics – 1 hr – 90 marks
12	History – 4 hr – 160 marks.	Home Science – 1.5 hr – 70 marks.
13	Geography – 4.5 hrs – 140 marks	Accounts – 2.5 hrs – 110 marks

145. Ans. B
The exam of Math is on 9th of the month, of 2hrs and of 100 marks.
Using above statements the final arrangement is as follows.

Date of Exam	Morning Shift	Evening Shift
9	Math – 2hrs – 100 marks.	English – 2.5 hrs – 80 marks.
10	Physics – 3hr – 120 marks.	Biology – 5 hr – 150 marks.
11	Chemistry – 3.5 hrs – 130 marks	Economics – 1 hr – 90 marks
12	History – 4 hr – 160 marks.	Home Science – 1.5 hr – 70 marks.
13	Geography – 4.5 hrs – 140 marks	Accounts – 2.5 hrs – 110 marks

146. Ans. A
There are 2 alphabets in English alphabetical series between alphabets written against numbers 2 and 4. "E" is written against number 4 and we know that no letter is repeated so "H" must be written against number 2. Now "M" is written against number 1 then letters between "M" and "H" is 4.
Hence, option A.
"COVER" in alphabetical order "CEORV" is written against each even number.

1	
2	C
3	
4	E
5	
6	O
7	
8	R
9	
10	V

Two letters are between C and B. So B is written against number 5. Two letters are written between V and S so S is written against number 7. The number of letter is written between M and E is same as O and G. M is written above E so M is written against number 1 and G is against number 9.

Here is the final table:

1	M
2	C
3	
4	E
5	B
6	O
7	S
8	R
9	G
10	V

147. Ans. B
"G" is written against number "9".
Hence, option B.
"COVER" in alphabetical order "CEORV" is written against each even number.

1	
2	C
3	
4	E
5	
6	O
7	
8	R
9	
10	V

Two letters are between C and B. So B is written against number 5. Two letters are written between V and S so S is written against number 7. The number of letter is written between M and E is same as O and G. M is written above E so M is written against number 1 and G is against number 9.

Here is the final table:

1	M
2	C
3	
4	E
5	B
6	O
7	S
8	R
9	G
10	V

148. Ans. B
Though the paragraph states the appeal that cash has to criminals, the paragraph does not mention "predatory street crime". **So, A is wrong.**
The passage states that the rates of three types of crime reduced due to electronic payments. So, it can be concluded that digitization of payments has for high reduced the opportunity for crime. **Thus, B is correct.**
C and D are generalizations that cannot be deduced from the limited information in the passage. E is out of context.
149. Ans. D
Shelf 6 is Orange color.
• **1 G.S.= 16cm and 1 P.F.= 8cm**
• The shelf 2 has length 24cm and we know that at least 1 glass slab is must so 16cm+8cm will be 24 cm.
Then **shelf 2** has G.S. = 1, P.F. =1.
• There is one shelf between shelf 2 and Green shelf. Then Green shelf must be number 4. The Green shelf contains 1 glass slab and 4 photo frames more than shelf 2. Then **Shelf 4**has G.S. =1+1=2, P.F. =1+4=5, total length will be =72cm.
• The Black shelf is just above the Green shelf. Black shelf must be number 9. The Black shelf contains same glass slab as Green Shelf and 2 photo frames less than Green shelf. So G.S. = 2 and P.F. = 3. Total length= 2*16+3*8= 32+24=56cm.
• No shelf is between the Blue shelf and the Black shelf. So, blue shelf either 8th or 10th. We have 2 cases

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 1: If Blue shelf is number 8-

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
			Blue	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 6.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm, then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf. The Yellow shelf is even number shelf in row 1. So, Yellow shelf must be number 2. Yellow shelf has only 1 P.F., then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. So, Pink shelf has 2 G.S.

• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 56cm so shelf 7 must be = 88-56= 32cm. But we know that shelf 7 length is more than Pink shelf which is 40cm so this case gets rejected.

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Pink G.S.=2 P.F.=1 Total=40cm		Blue G.S.=3 P.F.=1 Total=56cm	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		Yellow G.S =1 P.F.=1 Total = 24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 2: If Blue shelf is number 10

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	Blue
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 8.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf.
• The Yellow shelf is even number shelf in row 1 so Yellow shelf must be number 2. Yellow shelf has only 1 P.F. then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. so Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 40cm so shelf 7 must be = 88-40= 48cm. We know that shelf 7 (Which is white color) length is more than Pink shelf which is 40cm. The white shelf has same glass slab as Blue shelf. So White shelf must contain 3 G.S. is equal to 48cm so White shelf does not have any P.F.
• The Brown shelf is just below the Orange shelf. There is one shelf between Brown shelf and Red shelf. So Orange shelf must be number 6 and Brown shelf must be number 1 and Red shelf must be shelf 3.
• The Orange shelf has same number of glass slabs and photo frames as Pink shelf. So Orange must also 40cm length.
• The Brown shelf has same glass slab as Yellow shelf so it will be 1 G.S. and same photo frames as Green shelf so it will be 5 P.F. Total length must be 1*16+5*8=56cm.
• The Violet shelf is immediate next in number to Green shelf. Violet shelf must be number 5. The Violet and Red shelf have same number of glass slabs and photo frames. So both shelf lengths must be same. The total length of row 1 is 248cm. So, we get 3 shelves length then 248-(56+24+72) = 96cm.Then 96/2=48cm. So, Violet and Red shelf must be 48cm each. They both have 2 G.S. it means 32cm each then P.F. must be 48-32= 16cm so 2 P.F. also in each shelf.

Here is the final arrangement:

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Orange G.S.=2 P.F.=1 Total=40cm	White G.S.=3 P.F.=0 Total=48cm	Pink G.S.=2 P.F.=1 Total=40cm	Black G.S.=2 P.F.=3 Total=56cm	Blue G.S.=3 P.F.=1 Total=56cm
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
	Brown G.S.=1 P.F.=5 Total=56cm	Yellow G.S.=1 P.F.=1 Total=24cm	Red G.S.=2 P.F.=2 Total=48cm	Green G.S.=2 P.F.=5 Total=72cm	Violet G.S.=2 P.F.=2 Total=48cm

150. Ans. B
Green shelf has length of 72cm.
• **1 G.S.= 16cm and 1 P.F.= 8cm**
• The shelf 2 has length 24cm and we know that at least 1 glass slab is must so 16cm+8cm will be 24 cm. Then **shelf 2** has G.S. = 1, P.F. =1.
• There is one shelf between shelf 2 and Green shelf. Then Green shelf must be number 4. The Green shelf contains 1 glass slab and 4 photo frames more than shelf 2. Then **Shelf 4**has G.S. =1+1=2, P.F. =1+4=5, total length will be =72cm.
• The Black shelf is just above the Green shelf. Black shelf must be number 9. The Black shelf contains same glass slab as Green Shelf and 2 photo frames less than Green shelf. So G.S. = 2 and P.F. = 3. Total length= 2*16+3*8= 32+24=56cm.
• No shelf is between the Blue shelf and the Black shelf. So, blue shelf either 8^{th} or 10^{th}. We have 2 cases

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 1: If Blue shelf is number 8-

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
			Blue	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 6.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm, then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf. The Yellow shelf is even number shelf in row 1. So, Yellow shelf must be number 2. Yellow shelf has only 1 P.F., then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. So, Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 56cm so shelf 7 must be = 88-56= 32cm. But we know that shelf 7 length is more than Pink shelf which is 40cm so this case gets rejected.

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Pink G.S.=2 P.F.=1 Total=40cm		Blue G.S.=3 P.F.=1 Total=56cm	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		Yellow G.S =1 P.F.=1 Total = 24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 2: If Blue shelf is number 10

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	Blue
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 8.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf.
• The Yellow shelf is even number shelf in row 1 so Yellow shelf must be number 2. Yellow shelf has only 1 P.F. then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. so Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 40cm so shelf 7 must be = 88-40= 48cm. We know that shelf 7 (Which is white color) length is more than Pink shelf which is 40cm. The white shelf has same glass slab as Blue shelf. So White shelf must contain 3 G.S. is equal to 48cm so White shelf does not have any P.F.
• The Brown shelf is just below the Orange shelf. There is one shelf between Brown shelf and Red shelf. So Orange shelf must be number 6 and Brown shelf must be number 1 and Red shelf must be shelf 3.
• The Orange shelf has same number of glass slabs and photo frames as Pink shelf. So Orange must also 40cm length.
• The Brown shelf has same glass slab as Yellow shelf so it will be 1 G.S. and same photo frames as Green shelf so it will be 5 P.F. Total length must be 1*16+5*8=56cm.
• The Violet shelf is immediate next in number to Green shelf. Violet shelf must be number 5. The Violet and Red shelf have same number of glass slabs and photo frames. So both shelf lengths must be same. The total length of row 1 is 248cm. So, we get 3 shelves length then 248-(56+24+72) = 96cm.Then 96/2=48cm. So, Violet and Red shelf must be 48cm each. They both have 2 G.S. it means 32cm each then P.F. must be 48-32= 16cm so 2 P.F. also in each shelf.

Here is the final arrangement:

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Orange G.S.=2 P.F.=1 Total=40cm	White G.S.=3 P.F.=0 Total=48cm	Pink G.S.=2 P.F.=1 Total=40cm	Black G.S.=2 P.F.=3 Total=56cm	Blue G.S.=3 P.F.=1 Total=56cm
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
	Brown G.S.=1 P.F.=5 Total=56cm	Yellow G.S.=1 P.F.=1 Total=24cm	Red G.S.=2 P.F.=2 Total=48cm	Green G.S.=2 P.F.=5 Total=72cm	Violet G.S.=2 P.F.=2 Total=48cm

151. Ans. C
56+24=80cm
• **1 G.S.= 16cm and 1 P.F.= 8cm**
• The shelf 2 has length 24cm and we know that at least 1 glass slab is must so 16cm+8cm will be 24 cm.
Then **shelf 2** has G.S. = 1, P.F. =1.
• There is one shelf between shelf 2 and Green shelf.

Then Green shelf must be number 4. The Green shelf contains 1 glass slab and 4 photo frames more than shelf 2. Then **Shelf 4**has G.S. =1+1=2, P.F. =1+4=5, total length will be =72cm.

• The Black shelf is just above the Green shelf. Black shelf must be number 9. The Black shelf contains same glass slab as Green Shelf and 2 photo frames less than Green shelf. So G.S. = 2 and P.F. = 3. Total length= 2*16+3*8= 32+24=56cm.

• No shelf is between the Blue shelf and the Black shelf. So, blue shelf either 8th or 10th. We have 2 cases

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 1: If Blue shelf is number 8-

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
			Blue	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 6.

• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm, then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).

• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf. The Yellow shelf is even number shelf in row 1. So, Yellow shelf must be number 2. Yellow shelf has only 1 P.F., then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. So, Pink shelf has 2 G.S.

• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 56cm so shelf 7 must be = 88-56= 32cm. But we know that shelf 7 length is more than Pink shelf which is 40cm so this case gets rejected.

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Pink G.S.=2 P.F.=1 Total=40cm		Blue G.S.=3 P.F.=1 Total=56cm	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		Yellow G.S =1 P.F.=1 Total = 24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 2: If Blue shelf is number 10

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	Blue
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 8.

• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).

• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf.

• The Yellow shelf is even number shelf in row 1 so Yellow shelf must be number 2. Yellow shelf has only 1 P.F. then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. so Pink shelf has 2 G.S.

• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 40cm so shelf 7 must be = 88-40= 48cm. We know that shelf 7 (Which is white color) length is more than Pink shelf which is 40cm. The white shelf has same glass slab as Blue shelf. So White shelf must contain 3 G.S. is equal to 48cm so White shelf does not have any P.F.

• The Brown shelf is just below the Orange shelf. There is one shelf between Brown shelf and Red shelf. So Orange shelf must be number 6 and Brown shelf must be number 1 and Red shelf must be shelf 3.

• The Orange shelf has same number of glass slabs and photo frames as Pink shelf. So Orange must also 40cm length.

• The Brown shelf has same glass slab as Yellow shelf so it will be 1 G.S. and same photo frames as Green shelf so it will be 5 P.F. Total length must be 1*16+5*8=56cm.

• The Violet shelf is immediate next in number to Green shelf. Violet shelf must be number 5. The Violet and Red shelf have same number of glass slabs and photo frames. So both shelf lengths must be same. The total length of row 1 is 248cm. So, we get 3 shelves length then 248-(56+24+72) = 96cm.Then 96/2=48cm. So, Violet and Red shelf must be 48cm each. They both have 2 G.S. it means 32cm each then P.F. must be 48-32= 16cm so 2 P.F. also in each shelf.

Here is the final arrangement:

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Orange G.S.=2 P.F.=1 Total=40cm	White G.S.=3 P.F.=0 Total=48cm	Pink G.S.=2 P.F.=1 Total=40cm	Black G.S.=2 P.F.=3 Total=56cm	Blue G.S.=3 P.F.=1 Total=56cm
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
	Brown G.S.=1 P.F.=5 Total=56cm	Yellow G.S.=1 P.F.=1 Total=24cm	Red G.S.=2 P.F.=2 Total=48cm	Green G.S.=2 P.F.=5 Total=72cm	Violet G.S.=2 P.F.=2 Total=48cm

152. Ans. A
Violet shelf is just below the Blue shelf.
• **1 G.S.= 16cm and 1 P.F.= 8cm**
• The shelf 2 has length 24cm and we know that at least 1 glass slab is must so 16cm+8cm will be 24 cm.
Then **shelf 2** has G.S. = 1, P.F. =1.
• There is one shelf between shelf 2 and Green shelf. Then Green shelf must be number 4. The Green shelf contains 1 glass slab and 4 photo frames more than shelf 2. Then **Shelf 4**has G.S. =1+1=2, P.F. =1+4=5, total length will be =72cm.
• The Black shelf is just above the Green shelf. Black shelf must be number 9. The Black shelf contains same glass slab as Green Shelf and 2 photo frames less than Green shelf. So G.S. = 2 and P.F. = 3. Total length= 2*16+3*8= 32+24=56cm.
• No shelf is between the Blue shelf and the Black shelf. So, blue shelf either 8th or 10th. We have 2 cases

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 1: If Blue shelf is number 8-

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
			Blue	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 6.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm, then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf. The Yellow shelf is even number shelf in row 1. So, Yellow shelf must be number 2. Yellow shelf has only 1 P.F., then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. So, Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 56cm so shelf 7 must be = 88-56= 32cm. But we know that shelf 7 length is more than Pink shelf which is 40cm so this case gets rejected.

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Pink G.S.=2 P.F.=1 Total=40cm		Blue G.S.=3 P.F.=1 Total=56cm	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		Yellow G.S =1 P.F.=1 Total = 24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 2: If Blue shelf is number 10

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	Blue
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 8.

• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf.
• The Yellow shelf is even number shelf in row 1 so Yellow shelf must be number 2. Yellow shelf has only 1 P.F. then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. so Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 40cm so shelf 7 must be = 88-40= 48cm. We know that shelf 7 (Which is white color) length is more than Pink shelf which is 40cm. The white shelf has same glass slab as Blue shelf. So White shelf must contain 3 G.S. is equal to 48cm so White shelf does not have any P.F.
• The Brown shelf is just below the Orange shelf. There is one shelf between Brown shelf and Red shelf. So Orange shelf must be number 6 and Brown shelf must be number 1 and Red shelf must be shelf 3.
• The Orange shelf has same number of glass slabs and photo frames as Pink shelf. So Orange must also 40cm length.
• The Brown shelf has same glass slab as Yellow shelf so it will be 1 G.S. and same photo frames as Green shelf so it will be 5 P.F. Total length must be 1*16+5*8=56cm.
• The Violet shelf is immediate next in number to Green shelf. Violet shelf must be number 5. The Violet and Red shelf have same number of glass slabs and photo frames. So both shelf lengths must be same. The total length of row 1 is 248cm. So, we get 3 shelves length then 248-(56+24+72) = 96cm.Then 96/2=48cm. So, Violet and Red shelf must be 48cm each. They both have 2 G.S. it means 32cm each then P.F. must be 48-32= 16cm so 2 P.F. also in each shelf.

Here is the final arrangement:

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Orange G.S.=2 P.F.=1 Total=40cm	White G.S.=3 P.F.=0 Total=48cm	Pink G.S.=2 P.F.=1 Total=40cm	Black G.S.=2 P.F.=3 Total=56cm	Blue G.S.=3 P.F.=1 Total=56cm
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
	Brown G.S.=1 P.F.=5 Total=56cm	Yellow G.S.=1 P.F.=1 Total=24cm	Red G.S.=2 P.F.=2 Total=48cm	Green G.S.=2 P.F.=5 Total=72cm	Violet G.S.=2 P.F.=2 Total=48cm

153. Ans. C
40+48+40+56+56=240cm
• **1 G.S.= 16cm and 1 P.F.= 8cm**
• The shelf 2 has length 24cm and we know that at least 1 glass slab is must so 16cm+8cm will be 24 cm.
Then **shelf 2** has G.S. = 1, P.F. =1.
• There is one shelf between shelf 2 and Green shelf. Then Green shelf must be number 4. The Green shelf contains 1 glass slab and 4 photo frames more than shelf 2. Then **Shelf 4**has G.S. =1+1=2, P.F. =1+4=5, total length will be =72cm.
• The Black shelf is just above the Green shelf. Black shelf must be number 9. The Black shelf contains same glass slab as Green Shelf and 2 photo frames less than Green shelf. So G.S. = 2 and P.F. = 3. Total length= 2*16+3*8= 32+24=56cm.
• No shelf is between the Blue shelf and the Black shelf. So, blue shelf either 8th or 10th. We have 2 cases

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 1: If Blue shelf is number 8-

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
			Blue	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 6.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm, then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf. The Yellow shelf is even number shelf in row 1. So, Yellow shelf must be number 2. Yellow shelf has only 1 P.F., then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. So, Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 56cm so shelf 7 must be = 88-56= 32cm. But we know that shelf 7 length is more than Pink shelf which is 40cm so this case gets rejected.

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Pink G.S.=2 P.F.=1 Total=40cm		Blue G.S.=3 P.F.=1 Total=56cm	Black G.S.=2 P.F.=3 Total=56cm	
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		Yellow G.S =1 P.F.=1 Total = 24cm		Green G.S.=2 P.F.=5 Total=72cm	

Case 2: If Blue shelf is number 10

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
				Black G.S.=2 P.F.=3 Total=56cm	Blue
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
		G.S.=1 P.F.=1 Total=24cm		Green G.S.=2 P.F.=5 Total=72cm	

• There is one shelf between Blue shelf and Pink shelf. The Pink shelf is not at the extreme right end. So Pink shelf must be number 8.
• The length of Blue shelf and Black shelf is same but Black shelf has 1 glass slab less than Blue shelf. So, Blue shelf must be 56cm and contains 3 G.S. so it will be 3*16=48 cm then Blue shelf must have only 1 P.F. = 8cm (i.e. 56-48= 8cm).
• The length of Pink shelf is 16cm less than the Black shelf. Pink shelf must be 40cm. The Pink shelf has same photo frames as Yellow shelf.
• The Yellow shelf is even number shelf in row 1 so Yellow shelf must be number 2. Yellow shelf has only 1 P.F. then Pink shelf must also have 1 P.F. which is 8 cm. then G.S. = 40-8=32cm equal to 2 G.S. so Pink shelf has 2 G.S.
• Total length of shelf 7 and shelf 8 is 88cm. Shelf 8 is 40cm so shelf 7 must be = 88-40= 48cm. We know that shelf 7 (Which is white color) length is more than Pink shelf which is 40cm. The white shelf has same glass slab as Blue shelf. So White shelf must contain 3 G.S. is equal to 48cm so White shelf does not have any P.F.
• The Brown shelf is just below the Orange shelf. There is one shelf between Brown shelf and Red shelf. So Orange shelf must be number 6 and Brown shelf must be number 1 and Red shelf must be shelf 3.
• The Orange shelf has same number of glass slabs and photo frames as Pink shelf. So Orange must also 40cm length.
• The Brown shelf has same glass slab as Yellow shelf so it will be 1 G.S. and same photo frames as Green shelf so it will be 5 P.F. Total length must be 1*16+5*8=56cm.
• The Violet shelf is immediate next in number to Green shelf. Violet shelf must be number 5. The Violet and Red shelf have same number of glass slabs and photo frames. So both shelf lengths must be same. The total length of row 1 is 248cm. So, we get 3 shelves length then 248-(56+24+72) = 96cm.Then 96/2=48cm. So, Violet and Red shelf must be 48cm each. They both have 2 G.S. it means 32cm each then P.F. must be 48-32= 16cm so 2 P.F. also in each shelf.

Here is the final arrangement:

Row 2	Shelf 6	Shelf 7	Shelf 8	Shelf 9	Shelf 10
	Orange G.S.=2 P.F.=1 Total=40cm	White G.S.=3 P.F.=0 Total=48cm	Pink G.S.=2 P.F.=1 Total=40cm	Black G.S.=2 P.F.=3 Total=56cm	Blue G.S.=3 P.F.=1 Total=56cm
Row 1	**Shelf 1**	**Shelf 2**	**Shelf 3**	**Shelf 4**	**Shelf 5**
	Brown G.S.=1 P.F.=5 Total=56cm	Yellow G.S.=1 P.F.=1 Total=24cm	Red G.S.=2 P.F.=2 Total=48cm	Green G.S.=2 P.F.=5 Total=72cm	Violet G.S.=2 P.F.=2 Total=48cm

154. Ans. C
(B) defeats the purpose of the research. (A) is not substantiated. (D) does not come to the point. (C) fills the gap in the argument beer contains antioxidants which mop up free radicals.
155. Ans. D
Prabir Sengupta does Not satisfy the condition II but he fulfils the condition (a). So his case is to be referred to Executive Director.

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