

## Solutions of Mock CAT – 16 2017

Scorecard (procreview.jsp? qsetId=ajcqio8q12U=&qsetName=Mock CAT – 16 2017)	Accuracy (AccSelectGraph.jsp? qsetId=ajcqio8q12U=&qsetName=Mock CAT – 16 2017)	Time Analysis (TimeAnalysis.jsp? qsetId=ajcqio8q12U=&qsetName=Mock CAT – 16 2017)	Qs Analysis (QsAnalysis.jsp? qsetId=ajcqio8q12U=&qsetName=M CAT – 16 2017)
VRC	DILR		QA

### Sec 1

**Directions for questions 1 and 2:** Each of the following questions consists of a paragraph from which the last sentence has been deleted. From the given options, choose the one which completes the paragraph in a logical and coherent manner. Type the number of that option in the space provided below the question.

#### Q.1

Bolshevism, it seems to me, is just a superlative hatred of the thing they call the bourgeois; and what the bourgeois is, isn't quite defined. It is Capitalism, among other things. Feelings and emotions are also so decidedly bourgeois that you have to invent a man without them. Then the individual, especially the 'personal' man, is bourgeois: so he must be suppressed. You must submerge yourselves in the greater thing, the Soviet-social thing. Even an organism is bourgeois: so the ideal must be mechanical.

1. I am afraid Bolshevism is a large question.
2. I deny that Bolshevism is logical; it rejects the major part of the premises.
3. The only thing that is a unit, non-organic, composed of many different, yet equally essential parts, is the machine.
4. But also, it seems to me a perfect description of the whole of the industrial ideal.



**Solution:**

**Correct Answer : 3**

**Your Answer : 3**

The penultimate sentence introduces the concept of a machine. The overall tone of the paragraph is negative. Option 1 is vague and doesn't complete the paragraph. Option 2 can be eliminated as the theme is quite abrupt. Option 4 can be eliminated on the basis of the tone. Hence, option 3 is the correct answer.

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Answer key/Solution

**Directions for questions 1 and 2:** Each of the following questions consists of a paragraph from which the last sentence has been deleted. From the given options, choose the one which completes the paragraph in a logical and coherent manner. Type the number of that option in the space provided below the question.

#### Q.2

The legislature actually came up with this solution, or some individuals here and on Nantucket came up with this solution and presented it to the state legislature. The legislature established these kinds of land banks here and on Nantucket. There was an effort on Cape Cod to do it, and it ended up morphing into something that is related but different, which is statewide in Massachusetts. That is the CPA, the Community Preservation Act, which allow towns to add an additional tax on property. And something on the order of 140 towns in Massachusetts have done that, with the money going for conservation, affordable housing, and historic preservation.

1. It's extraordinarily expensive, so the question is: How do you advance conservation in a landscape where the normal players no longer can be effective because they can do so much more elsewhere with the equivalent amount of money?
2. But the basic idea is actually germane anywhere; you've got to come up with multiple avenues to advance and fund conservation.
3. There's tremendous money going to try to control these things in the landscape, or, even less wisely, to go into the woods and try to fix the problem in the woods.
4. The beauty of that, of course, is that the money it has generated is commensurate with the actual prices of real estate, so they can do significant work.

**Solution:**

**Correct Answer : 2**

This question can be answered by the method of elimination. Option 1 introduces a new idea. It doesn't complete the theme of the given paragraph. Similarly option 3 talks about "these things" and trying "to fix the problems in the woods". These are new ideas too. Option 4 introduces an analogy with "real estate" prices. It is beyond the scope of this paragraph. Option 2 provides a logical continuity to the theme of the paragraph. Hence, option 2 is the answer.

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Answer key/Solution

**Directions for questions 3 and 4:** The following questions consist of a set of five sentences each. These sentences need to be arranged in a coherent manner.

to create a meaningful paragraph. Type in the correct order of the sentences in the space provided below the question.

## Q.3

1. And also in realities like doctors not understanding the damage a drug such as Vioxx — a painkiller withdrawn from the market in 2004 because it increased risks of heart attack and stroke — can do until it's too late for thousands of patients.
2. He added that he's encouraged that medical students seem enthusiastic about data science.
3. The medical industry, Kohane said, doesn't utilize the vast amount of data it routinely gathers at anywhere close to its potential.
4. That results in missed opportunities for cost savings in an industry that accounts for 15 percent of the U.S. gross domestic product.
5. "For me, this is the way we're going to change medicine."

Solution:

Correct Answer : 34125

Sentence 3 provides the name of the person under discussion. So, it is the opening sentence of the paragraph. Sentences 3 and 4 make a mandatory pair ("that results in"). Sentence 1 comes next as it takes the idea forward (and ...also). Sentence 2 and 5 add a new direction to the topic. They make a mandatory pair too ("this is the way"). Hence, the correct order is 34125.

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Answer key/Solution

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## Q.4

1. Branch-banking would displace unit-banking, for instance, and there would be a tendency for a small number of 'big' nation-wide banks to emerge that would engage in all the major banking activities.
2. Historical free banking systems seem always to have shown some tendency towards economies of scale.
3. In addition to dispelling earlier misconceptions about free banking, the historical experience also indicates that free banking systems were efficient and highly advanced for their time.
4. But economies of scale never sufficiently pronounced that a single bank would emerge dominant in any of these activities.
5. The historical experience of free banking flatly contradicts the idea that the issue of currency is in any sense a natural monopoly.

Solution:

Correct Answer : 52143

Sentence 5 is the topic sentence as it introduces the issue of "free banking". 2 takes this idea forward by talking about "historical free banking systems". Sentence 1 gives an example of sentence 2 (for instance). Sentence 4 introduces a mild contradiction with "but". Sentence 3 follows with "in addition".

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Answer key/Solution

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Directions for questions 5-10: The passage given below is followed by a set of six questions. Choose the most appropriate answer to each question.

Certain sectors of the press and social media have of late been engaged in a largely pointless debate over whether indeed the children of today's society are in more stress and encounter more adversity than their predecessors.

Sarah Vine used her column in the *Daily Mail* to casually dismiss the recent, extensively researched government report which revealed one in three teenagers in the UK are experiencing psychological distress, because, as she puts it "asking a fourteen year old girl if she's unhappy is like asking if a dog wants to go for a walk".

Stan Kutcher, Professor at the Psychology Department at Dalhousie University, who has recently emerged as a prominent speaker here across the pond, famously declared of child and adolescent mental health "there is no crisis, for heaven's sake". Meanwhile, below-the-line comments from readers of heartfelt first-person accounts of anxiety and depression huffily proclaimed that this generation "don't know they're born", "we licked t'road clean wi't tongue", etc.

All of the above serves only to detract from the real issue. Whether you believe mental health is only "worse" today because we are talking about it more or that a percentage of young people are 'self-diagnosing' mental illness (in opposition to the overwhelming amount of evidence to the contrary) is completely irrelevant. 989 children aged 10-14 killed themselves here in the UK during the past decade. Suicide is responsible for one in four male deaths between the ages of 24 and 35 and Childline have reported a record number of callers with suicidal thoughts during the past year.

One young person in potential-draining, function-impairing distress is too many and this is particularly pertinent as the – World Suicide Prevention Day is around the corner.

The interesting notion in this on-going debate is that the reason young people are seemingly less able to cope with the pressures of the modern world is because we have taken away their coping mechanisms. This is something for which (husband of mental illness-mocking Sarah Vine) Michael Gove must shoulder some blame – due to his changes to the education system (as executed by Nicky Morgan and latterly, Justine Greening).

Mental Health First Aid England, an organization which provides training on how to deal with a person in psychological distress in the workplace and in schools, describes how every human being has a "stress bucket". Our stress buckets are incrementally filled by having to deal with every day challenges. In the life of a young person these challenges might consist of academic stress, peer pressure, family difficulties and pressure to conform socially, all of which are ever-more prevalent in our increasingly individualistic society. If a person does not have a "tap", a means by which to empty their stress bucket, it is

likely to overflow – resulting in panic, anxiety, depression or, in the most extreme cases, suicidal thoughts and behaviors.

The science supports MHFA's analogy. Any situation which places us under stress results in the release of adrenaline into our system, as our body enters "fight or flight" mode. The flooding of the system with adrenaline is responsible for panic attacks. Without means to release adrenaline, the body will produce the hormone cortisol, an imbalance of which is widely acknowledged to result in feelings of depression.

Adrenaline can be released through physical or creative activity or through relaxation, all of which are largely absent from the school curriculum – particularly in the state sector.

We who were privileged enough to enjoy daily or bi-daily PE lessons and for whom dance, drama, art and music were woven into the fabric of school life were actually learning coping mechanisms which are essential for our mental health and therefore our survival. An education agenda, in the UK, which has since 2010, focused pretty-much solely on core "academic" subjects, squeezing out the arts and stripping the budget for PHSE (personal health and social education) under austerity measures has had a devastating impact on children's ability to cope.

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Q.5

The author in the passage mentions all of the following ideas except:

- 1 ☐ the value of any human life can't be ignored.
- 2 ☐ educators are to share responsibility for the crisis under discussion.
- 3 ☐ "stress bucket" and the importance of a "tap" as coping mechanism.
- 4 ☐ the eradication of art and PE classes from the school curriculum.

x

Solution:

Correct Answer : 4

Your Answer : 2

The passage is based on the psychological pressure that adolescents face today and the blame for this falls on the rigid curriculum which rules out any form of extracurricular activity. Options 1, 2, and 3 have been discussed with this regard. However, option 4 is a distorted one. The author talks about "squeezing out" the arts and reducing the budget of the PE classes. However, that doesn't mean both have been eradicated from the curriculum. So, option 4 is the correct answer.

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Q.6

The author's use of the phrase "largely pointless debate" indicates that-

- ☐ 1 Vine's column and Kutcher's response about student stress is evidence enough that such a situation is not persistent.
- ☐ 2 it is more important that activities that release adrenaline, that are largely absent from the school curriculum, be promoted to mitigate student stress.
- ☐ 3 based on information from Childline and other sources, it is more important to underscore the rising number of suicides.
- ☐ 4 more interesting is the notion that the reason young people are seemingly less able to cope with the pressures of the modern world is because we have taken away their coping mechanisms.

✕

Solution:

Correct Answer : 3

Your Answer : 4

In paragraph 4, the author states that all discussions about deteriorating mental health are 'completely irrelevant'. And proceeds with the fact that the number of suicide thoughts and attempts have been on a rise and therefore they need to be acknowledged. Due to this, option 3 is the correct answer. Option 1 is an incorrect option because it just "detracts us from the real issue". Options 2 and 4 are facts stated in the passage but do not answer the given question and are hence unrelated.

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Q.7

Which of the following information is true according to the given passage?

- 1 ☐ Though drinking, smoking and drug-taking are down in the UK, there is a growing evidence that teens are in the grip of a mental-health crisis.
- 2 ☐ Rates of depression and anxiety among teenagers have increased by 70 per cent in the past 10 years in the UK.
- 3 ☐ Over the past 10 years, about 1000 adolescents took their lives in the UK.
- 4 ☐ The number of children and young people turning up with a psychiatric condition has more than doubled since 2005 in the UK.



Solution:

Correct Answer : 3

Your Answer : 3

Option 1 is incorrect since the passage is silent on "drinking, smoking and drug-taking" in the UK. Option 2 is ruled out since the figure "70 per cent" is not stated in the passage. Option 4 is ruled out since doubling of people with psychiatric condition is again not stated in the passage. Option 3 is the correct answer as it has been stated – "989 children aged 10-14 killed themselves here in the UK during the past decade."

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Q.8

When the author uses the phrase “detract from the real issue”, which real issue is he referring to?

- 1 ☐ The soaring number of suicides that has taken place in the past ten years.
- 2 ☐ The teenagers, both girls and boys, are victims of immense social distress and therefore suffer from mental illness.
- 3 ☐ The present generation is unaware of its existential purpose and therefore suffers from existential crisis.
- 4 ☐ The inability of youngsters to endure the realities of a world and their failure to cope up with the modern world, resulting in the overflowing of their stress buckets.



Solution:

Correct Answer : 1

Your Answer : 4

The author uses the given phrase in paragraph 4. Here, he states that topics about mental illness associated with stress and all irrelevant. Therefore 2 is ruled out. The major point of concern is the death of 989 children in the UK, which shows the high number of suicides, which makes option 1 correct. Option 3 is ruled out as the passage nowhere talks about existential crisis and it is hence beyond the scope of the passage. Option 4 is only a fact stated in the last sentence of the passage, but it fails to answer the real issue.

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Q.9

Which of the following is the purpose of the given passage?

- 1 ☐ To narrate that an epidemic of young people at odds with the world around them is not a positive reflection of the society that the UK has created for them.
- 2 ☐ To tell that children’s mental health has hit a crisis point due to the damaging education reforms in the UK.
- 3 ☐ To discuss the increasing rates of depression and anxiety among teenagers in the UK.
- 4 ☐ To present an exposition of how adolescents are struggling to cope with the pressures and expectations of their academic and personal life in the UK.

Solution:

Correct Answer : 2

The passage is clearly based on the psychological pressure that adolescents face today and the blame for this falls on the rigid curriculum which rules out any form of extracurricular activity. Due to this, option 2 is the correct answer. Option 1 is incorrect since the passage is not intended to present the reflection of society in the UK. This statement is beyond the scope of the passage. Option 3 is ruled out because it is too generic. The passage provides a reason for the growing stress in adolescents.

Option 4 is incorrect because of two reasons- A. The passage is not an exposition. An exposition is a comprehensive description along with an explanation of an idea or theory. Here, no such theory or idea is presented. The children are not struggling to cope up. They prefer giving up.

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Mental Health First Aid England, an organization which provides training on how to deal with a person in psychological distress in the workplace and in schools, describes how every human being has a “stress bucket”. Our stress buckets are incrementally filled by having to deal with every day challenges. In the life of a young person these challenges might consist of academic stress, peer pressure, family difficulties and pressure to conform socially, all of which are ever-more prevalent in our increasingly individualistic society. If a person does not have a “tap”, a means by which to empty their stress bucket, it is likely to overflow – resulting in panic, anxiety, depression or, in the most extreme cases, suicidal thoughts and behaviors.

The science supports MHFA’s analogy. Any situation which places us under stress results in the release of adrenaline into our system, as our body enters “fight or flight” mode. The flooding of the system with adrenaline is responsible for panic attacks. Without means to release adrenaline, the body will produce the hormone cortisol, an imbalance of which is widely acknowledged to result in feelings of depression.

Adrenaline can be released through physical or creative activity or through relaxation, all of which are largely absent from the school curriculum – particularly in the state sector.

We who were privileged enough to enjoy daily or bi-daily PE lessons and for whom dance, drama, art and music were woven into the fabric of school life were actually learning coping mechanisms which are essential for our mental health and therefore our survival. An education agenda, in the UK, which has since 2010, focused pretty-much solely on core "academic" subjects, squeezing out the arts and stripping the budget for PHSE (personal health and social education) under austerity measures has had a devastating impact on children's ability to cope.

Now, young people's collective stress buckets are overflowing as they attempt to endure the realities of a world which consistently demands academic, social and aesthetic perfection with no means of releasing that pressure.

Q.10

According to the passage, what does "stress bucket" not include?

- 1 ☐ Mental stress that comes from demands and pressures of the recent past and anticipated demands and pressures of the near future.
- 2 ☐ Mental stress that comes from the influence from members of one's group.
- 3 ☐ Mental stress with respect to some anticipated frustration associated with academic failure.
- 4 ☐ Mental stress that arises due to difficulty in fitting within a group.



Solution:

Correct Answer : 1

Your Answer : 1

In the given passage, it is stated- "Our stress buckets are incrementally filled by having to deal with every day challenges. In the life of a young person these challenges might consist of academic stress, peer pressure, family difficulties and pressure to conform socially, all of which are ever-more prevalent in our increasingly individualistic society." Option 2 talks about peer pressure, option 3 talks about academic stress, option 4 talks about the pressure of conforming socially. Option 1 talks about acute stress, which is not mentioned in the passage.

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Answer key/Solution

Directions for question 11: The following question consists of a set of five sentences. These sentences need to be arranged in a coherent manner to create meaningful paragraph. Type in the correct order of the sentences in the space provided below the question.

Q.11

1. Mr. Dasgupta rubbishes claims that India's CTUOs are a spent force rendered even more irrelevant by the absence of a base outside the organised sectors.
2. All the union leaders emphasise that the might of the 11 CTUOs is more than the numerical addition of their individual memberships.
3. If they do not listen to us, rest assured that our country is in for major turmoil due to labour unrest.
4. Of course, the series of actions planned in March will be a test not only of the CTUO's unity but also their strength.
5. Summing up, Mr. Reddy strikes a note of conciliation that sounds more like a warning.

Solution:

Correct Answer : 41253

Sentence 4 introduces the topic. It talks about CTUO and its test. Sentences 1 and 2 make a mandatory pair. Sentence 5 gives the conclusion which is further explained in sentence 3. Hence, 41253 is the correct sequence.

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Answer key/Solution

Directions for question 12: In this question, five sentences are given. Of these, four sentences can be logically sequenced to make a coherent paragraph. One of the sentences does not belong to the paragraph. Type in the sentence number that doesn't fit into the paragraph.

Q.12

1. The belief in creationism — that life originated and changed through divine creation — is widespread in Turkey.
2. The upcoming changes have caused uproar, with critics calling them a reshaping of education along the conservative, religion-oriented government's line.
3. Opposition parties and unions have organized protests against the changes, demanding that Turkey provide a scientific, secular education for its students.
4. Next fall, evolution and Charles Darwin will be scrapped from their textbooks.
5. Education Minister Ismet Yilmaz said the new "value-based" program had simplified topics in "harmonization with students' development."

Solution:

Correct Answer : 1

The correct order is 4235. Sentence 4 introduces the topic with Charles Darwin and the topic of evolution. Sentence 2 follows by adding to the idea ("the upcoming changes"). Sentence 3 and 5 continue with the same idea. However, sentence 1 talks about a different topic. It talks about creationism and the belief system. This is beyond the scope of this paragraph. Hence, sentence 1 is the odd one out.

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Answer key/Solution



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Directions for questions 13-15: The passage given below is followed by a set of three questions. Choose the most appropriate answer to each question.

An enduring barrier to women's efforts to find jobs in most occupations was the resistance of working men. Men traditionally saw women's employment as an economic threat and at other times simply resented the intrusion of women into their masculine world.

Men's resistance to women entering their occupations has mainly occurred in the background, leaving little record of its importance. Written accounts mainly were produced when male unions or professional associations made concerted efforts to deny women entry to an occupation. These should not be considered typical, but they are informative.

We can get some insight into working class men's concerns over the hiring of women by looking at the ideas of some local union leaders. First, let us consider the opinions of working class men early in the nineteenth century, as modern industry and capitalism were just starting to take shape. Then we will compare these to the ideas of local labor leaders in the 1950s.

**Working Class Men in the Jacksonian Era-** The leading labor activists of the 1830s left us evidence of their assessments of the *Female Labor* problem. Of the various published documents, the most informative are the discussions that took place during three annual conventions of the short-lived National Trades' Union during the 1830s. These discussions reveal the understandings of men who represented both the ideological and practical leadership of the urban trades' union movement. Of these discussions, the most complete and informative was the 1836 "Report of the Committee on Female Labor." The committee on female labor consisted of four men, two from Philadelphia (a saddler and a coachmaker), one from Pittsburgh, and one from Newark.

The committee's "report on the evils of Female Labor" reflected contemporary prejudices about working women. One resolution in the conclusion of the report asserted that "the present system of Female Labour is highly injurious to the best interests of the working classes, to the great object of mental improvement, and consequent corruption of good morals." This conclusion grew out of an earlier argument that "the health of the young female, in the majority of cases, is injured by unnatural restraint and confinement, and deprived of the qualities essentially necessary in the culture and bearing of healthy children." Moreover, "their morals frequently depart before their health," apparently as a consequence of exposure to men without the presence of moral supervision. Thus, the physical organization, the natural responsibilities, and the moral sensibility of women, prove conclusively that her labors should be only of a domestic nature. In short, women do not belong in the work place because they belong in the home.

Q.13

Which of the following can be inferred from the passage?

- 1 ☐ Men did not want their wives to take jobs because they did not welcome the rearrangement it might bring into their lives.
- 2 ☐ Men were not only against working with women, they were also conscious while hiring them.
- 3 ☐ Women in all eras have had sufficient skills necessary to secure good jobs.
- 4 ☐ Men, like women, had to adapt to the world they found themselves in.

Solution:

Correct Answer : 2

Option 1 is ruled out since the passage is silent on marital bonds- husbands and wives are not discussed at all. Options 3 and 4 are also incorrect since the passage does not talk about skills of women throughout ages, nor does it talk about adaptability of men. Option 2 is the correct answer since it is stated in paragraph 3- "....working class men's concerns over the hiring of women by looking...."

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Answer key/Solution

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Q.14

The 1836 Report of the Committee on Female Labor-

- 1 ☐ reflected on traditional bigotry towards working women.
- 2 ☐ concluded that preventing women from conditions necessary for rearing and bearing of children, affects their health.
- 3 ☐ concluded that the working class is affected by the contemporary system of Female Labour.
- 4 ☐ concluded that system of Female Labour curbs the moral degradation of men.

Solution:

Correct Answer : 3

Option 1 is incorrect since the report reflected present prejudices. Option 2 is incorrect because this was not concluded in the report, however the conclusion of the report grew out of this argument that took place earlier. Option 4 is incorrect since it is stated that contemporary system of Female Labour leads to consequent corruption of good morals.

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 Answer key/Solution

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Q.15

Which of the following is not a style the author has used in the passage?

- 1 ☐ Sermonizing without a doctrine
- 2 ☐ Analytical in an unbiased manner
- 3 ☐ Mildly critical of certain predispositions
- 4 ☐ Informative without being conceited

Solution:

Correct Answer : 1

The author has adopted a neutral tone and style in the passage. Option 1 is too extreme. Hence, it is the correct answer.

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Directions for question 16: The following question consists of a set of five sentences. These sentences need to be arranged in a coherent manner to create meaningful paragraph. Type in the correct order of the sentences in the space provided below the question.

## Q.16

1. If this knowledge always preoccupies one's mind and governs one's thought, word and deed, then one moves towards the state of abiding in the self.
2. But Krishna says that it is possible to rise to that state of mental purity through the performance of one's duties in the right spirit.
3. Krishna makes it clear that the path of knowledge is more challenging as it rests on one's maturity and purity of mind; not all are ready to meet this tall demand.
4. It has to be an intuitive recognition of the all pervading Supreme Brahman in the entire creation, including all the beings and objects in it.
5. From time immemorial many have strived to attain it and only a few have been successful.

Solution:

Correct Answer : 34152

Sentence 3 opens the paragraph. It gives the name of the narrator i.e. Krishna. Sentence 4 comes next with the pronoun "it" which refers to the concept mentioned in sentence 3. Sentence 1 comes next with "if this knowledge". Sentence 5 and 2 make a mandatory pair (From time immemorial...but Krishna"). Hence, 34152 is the correct sequence.

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Directions for question 17: The following question consists of a paragraph from which the last sentence has been deleted. From the given options, choose the one which completes the paragraph in a logical and coherent manner. Type the number of that option in the space provided below the question.

## Q.17

First, to the extent that New Delhi is seen to engage NRIs and protect their interests in foreign countries, foreign governments will not consider it an intrusion in their politics. However, if New Delhi begins to speak out on behalf of ethnic Indians who are not Indian citizens, then the interventions are likely to encounter resistance. In 2007, Malaysian politicians reacted viciously when Indian politicians made comments critical of Kuala Lumpur's strong-arm tactics against its Indian minorities. The modern world is constructed on the Westphalian model, where sovereign states relinquished their right to intercede on behalf of their religious and ethnic kin in other sovereign states.

1. Second, the reputation that PIOs have cultivated over several decades for being loyal citizens of the countries they live in can come under a shadow.
2. Any suspicion, even at the margin, of PIOs having multiple loyalties can be detrimental to their interests.
3. In many parts of the non-Western world, countries are still reconciling with their nationhood and identity.
4. To violate such a norm risks inviting any number of foreign interventions into our own domestic affairs.

Solution:

Correct Answer : 4

Option 3 is beyond the scope of the paragraph. Option 2 can be eliminated on the basis of the tone. The author also talks about "domestic affairs" and not "multiple loyalties". Option 4 creates a mandatory pair with the penultimate sentence. Hence, this is the correct answer.

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Directions for questions 18-23: The passage given below is followed by a set of six questions. Choose the most appropriate answer to each question.

Ten years ago this month, the French bank BNP Paribas decided to limit investors' access to the money they had deposited in three funds. It was the first loud signal of the financial stress that would, a year later, send the global economy into a tailspin. Yet the massive economic and financial dislocations that would come to a boil in late 2008 and continue through early 2009 – which brought the world to the brink of a devastating multi-year depression – took policymakers in advanced economies completely by surprise. They had clearly not paid enough attention to the lessons of crises in the emerging world.

Anyone who has experienced or studied developing-country financial crises will be painfully aware of their defining features. They can take a long time to develop, but once they erupt, they tend to spread rapidly, widely, violently, and (seemingly) indiscriminately.

In this process of cascading failures, overall financial conditions quickly flip from feast to famine. Private credit factories that seemed indestructible are brought to their knees, and central banks and governments are confronted with tough, inherently uncertain policy choices. Moreover, policymakers also have to account for the risk of a "sudden stop" to economic activity, which can devastate employment, trade, and investment.

Marshaling a sufficiently comprehensive response to extreme financial stress becomes even more difficult, if not enough was done during the good times to ensure sustainable and inclusive growth. It becomes harder still when politicians are actively playing the blame game. In the end, the sociopolitical and institutional effects of a crisis can far outlast the economic and financial ones.

So when BNP Paribas froze \$2.2 billion worth of funds on August 9, 2007, it should have been obvious that more financial stress would be forthcoming. But policymakers drew the wrong conclusions, primarily for two reasons.

First, it took some time for policymakers to come to grips with the extent of the financial system's latent instability, which had accumulated under their watch. Second, most policymakers in the advanced world were too dismissive of the idea that they had anything to learn from emerging countries' experiences.

Unfortunately, these problems are yet to be fully resolved. In fact, there is a growing risk that politicians – many of whom are distracted and sidestepping their economic-governance responsibilities – may be missing the biggest historical insight of all: the importance of an economy's underlying growth model.

Indeed, advanced-country politicians today still seem to be ignoring the limitations of an economic model that relies excessively on finance to create sustainable, inclusive growth. Though those limitations have been laid bare over the last ten years, policymakers did not strengthen adequately the growth

model on which their economies depend. Instead, they often acted as if the crisis was merely a cyclical – albeit dramatic – shock, and assumed that the economy would bounce back in a V-like fashion, as it had typically done after a recession.

Because policymakers were initially captivated by cyclical thinking, they did not regard the financial crisis as a secular or epochal event. The result was that they purposely designed their policy responses to be “timely, targeted, and temporary.” Eventually, it became clear that the problem required a much broader, longer-term structural solution. But by that time, the political window of opportunity for bold actions had essentially closed.

Consequently, advanced economies took too long returning to pre-crisis GDP levels, and were unable to unleash their considerable growth potential. Worse, the growth that they did achieve in the years after the crisis was not inclusive; instead, the excessively wide income, wealth, and opportunity gaps in many advanced economies endured.

The longer this pattern persisted, the more advanced economies’ future growth prospects suffered. And what was previously unthinkable – both financial and politically – started to become possible, even likely.

A decade after the start of the crisis, advanced economies still have not decisively pivoted away from a growth model that is overly reliant on liquidity and leverage – first from private financial institutions, and then from central banks. They have yet to make sufficient investments in infrastructure, education, and human capital more generally. They have not addressed anti-growth distortions that undermine the efficacy of tax systems, financial intermediation, and trade. And they have failed to keep up with technology, taking advantage of the potential benefits of big data, machine learning, artificial intelligence, and new forms of mobility, while managing effectively the related risks.

Policymakers in the advanced world lagged in internalizing the relevant insights from emerging economies. But they now have the evidence and analytical capability to do so. It is in their power to avert more disappointments, tap into sources of sustainable growth, and tackle today’s alarming levels of inequality. The ball is in the political class’s court.

Q.18

The global calamity on economic fronts came to being mostly as a result of neglect of which aspect?

- 1 ☐ The failure to pay heed and understand the growth model of an economy
- 2 ☐ A disinterested approach towards the pitfalls that plague the economic fortunes of developing nations
- 3 ☐ The capricious influence of politicians who provide a socio-political twist on most of the economic issues
- 4 ☐ The indiscriminate growth of unaccounted funds constructed through the help of private banks

Solution:

Correct Answer : 2

The passage starts with highlighting how failure to pay heed to the French bank’s crisis was one of the reasons behind the cascading fall of global economy. The passage later mentions how once the economy of a developing nation erupts it can become a malevolent force. The other options are logically incorrect for this question.

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 Answer key/Solution

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Q.19

An economic crisis forces the reduction of trade and commerce. What other aspect of the social life does it disrupt?

- 1 ☐ An economic crisis in a developing world produces a widely violent mob mentality which spreads and erupts into utter chaos.
- 2 ☐ A problematic distance between banks and policymakers is created which makes it extremely difficult for economies to stabilize even after the crisis blows over.
- 3 ☐ The disruption on the economic front spirals into other areas and sends shockwaves across socio-political fronts whose effects continue to linger.
- 4 ☐ The education and health sector suffers due to the damage inflicted upon the financial sector.

Solution:

Correct Answer : 3

The third paragraph discusses this issue at length. It mentions clearly how the sociopolitical problems outlast the economic ones. The other options provided are factually incorrect.

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Answer key/Solution

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Q.20

The author mentions how the politicians should start considering economic meltdowns as secular events. What perception on the politicians’ part makes the event religious in nature?

- 1 ☐ The focus of the politicians remains that such crisis are meant as retribution due to the erring ways of societies.
- 2 ☐ The thinking that such chaotic outcomes are providential and can be utilized for rebuilding.
- 3 ☐ Attributing enemy camp industrialists as the root cause of evil and thus sidetracking the main issue by justifying the crisis and coloring the events with religiosity.
- 4 ☐ The thinking that the event is primarily cyclical and thus will regenerate or reincarnate to make things better rather than approaching the scenario with an approach of rebuilding from the scratch.

Solution:

Correct Answer : 4

The entire issue is discussed in the seventh paragraph. The paragraph discusses how politicians look at these situations as something that will cure itself over time. This thinking necessitates outside influences which has to be beyond human comprehension if it cures itself. They consider these crises will die down and a new better economy will emerge out of the ashes. This makes it religious in nature rather than being epochal. Option 2 is not wholly enlightening on the issue. Options 1 and 3 are beyond the scope of the passage.

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Answer key/Solution

Directions for questions 18-23: The passage given below is followed by a set of six questions. Choose the most appropriate answer to each question.

Ten years ago this month, the French bank BNP Paribas decided to limit investors’ access to the money they had deposited in three funds. It was the first loud signal of the financial stress that would, a year later, send the global economy into a tailspin. Yet the massive economic and financial dislocations that would come to a boil in late 2008 and continue through early 2009 – which brought the world to the brink of a devastating multi-year depression – took policymakers in advanced economies completely by surprise. They had clearly not paid enough attention to the lessons of crises in the emerging world.

Anyone who has experienced or studied developing-country financial crises will be painfully aware of their defining features. They can take a long time to develop, but once they erupt, they tend to spread rapidly, widely, violently, and (seemingly) indiscriminately.

In this process of cascading failures, overall financial conditions quickly flip from feast to famine. Private credit factories that seemed indestructible are brought to their knees, and central banks and governments are confronted with tough, inherently uncertain policy choices. Moreover, policymakers also have to account for the risk of a “sudden stop” to economic activity, which can devastate employment, trade, and investment.

Marshaling a sufficiently comprehensive response to extreme financial stress becomes even more difficult, if not enough was done during the good times to ensure sustainable and inclusive growth. It becomes harder still when politicians are actively playing the blame game. In the end, the sociopolitical and institutional effects of a crisis can far outlast the economic and financial ones.

So when BNP Paribas froze \$2.2 billion worth of funds on August 9, 2007, it should have been obvious that more financial stress would be forthcoming. But policymakers drew the wrong conclusions, primarily for two reasons.

First, it took some time for policymakers to come to grips with the extent of the financial system’s latent instability, which had accumulated under their



watch. Second, most policymakers in the advanced world were too dismissive of the idea that they had anything to learn from emerging countries' experiences.

Unfortunately, these problems are yet to be fully resolved. In fact, there is a growing risk that politicians – many of whom are distracted and sidestepping their economic-governance responsibilities – may be missing the biggest historical insight of all: the importance of an economy's underlying growth model.

Indeed, advanced-country politicians today still seem to be ignoring the limitations of an economic model that relies excessively on finance to create sustainable, inclusive growth. Though those limitations have been laid bare over the last ten years, policymakers did not strengthen adequately the growth model on which their economies depend. Instead, they often acted as if the crisis was merely a cyclical – albeit dramatic – shock, and assumed that the economy would bounce back in a V-like fashion, as it had typically done after a recession.

Because policymakers were initially captivated by cyclical thinking, they did not regard the financial crisis as a secular or epochal event. The result was that they purposely designed their policy responses to be "timely, targeted, and temporary." Eventually, it became clear that the problem required a much broader, longer-term structural solution. But by that time, the political window of opportunity for bold actions had essentially closed.

Consequently, advanced economies took too long returning to pre-crisis GDP levels, and were unable to unleash their considerable growth potential. Worse, the growth that they did achieve in the years after the crisis was not inclusive; instead, the excessively wide income, wealth, and opportunity gaps in many advanced economies endured.

The longer this pattern persisted, the more advanced economies' future growth prospects suffered. And what was previously unthinkable – both financial and politically – started to become possible, even likely.

A decade after the start of the crisis, advanced economies still have not decisively pivoted away from a growth model that is overly reliant on liquidity and leverage – first from private financial institutions, and then from central banks. They have yet to make sufficient investments in infrastructure, education, and human capital more generally. They have not addressed anti-growth distortions that undermine the efficacy of tax systems, financial intermediation, and trade. And they have failed to keep up with technology, taking advantage of the potential benefits of big data, machine learning, artificial intelligence, and new forms of mobility, while managing effectively the related risks.

Policymakers in the advanced world lagged in internalizing the relevant insights from emerging economies. But they now have the evidence and analytical capability to do so. It is in their power to avert more disappointments, tap into sources of sustainable growth, and tackle today's alarming levels of inequality. The ball is in the political class's court.

Q.21

The crisis has highlighted that the advanced economies are yet to learn any substantial lesson. It is shown through:

- 1 ☐ their acts of desisting from investing on general and social capital structures and still relying on fungibility from private and public sectors.
- 2 ☐ their acts of ignoring developing nations and their economies with a certain degree of callous carelessness.
- 3 ☐ their acts of providing defaulters ample opportunities to run scot free.
- 4 ☐ their decisions to not generate enough public banks.

Solution:

Correct Answer : 1

It is mentioned in the passage that, 'A decade after the start of the crisis, advanced economies still have not decisively pivoted away from a growth model that is overly reliant on liquidity and leverage – first from private financial institutions, and then from central banks. They have yet to make sufficient investments in infrastructure, education, and human capital more generally'. The other options are logically incorrect.

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Q.22

From the passage it is evident that the government needs to :

- 1 ☐ integrate itself with public and private banks.
- 2 ☐ produce new age policymakers who are comfortable with understanding the nuances that distort the economy of developing nations.
- 3 ☐ work in tandem with academia and researchers comfortable with latest scientific understandings.
- 4 ☐ approach problems of this caliber with a secular viewpoint.

**Solution:**

**Correct Answer : 3**

In the passage it is stated that, ‘they have failed to keep up with technology, taking advantage of the potential benefits of big data, machine learning, artificial intelligence, and new forms of mobility, while managing effectively the related risks’. It is true not only for advanced economies but also for developing economies. The author mentions in the passage how such problems should be solved structurally and with long term views in mind. The other options do not offer any satisfactory answer.

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Q.23

What is the tone of the author in the second last paragraph of the passage?

1 ☐ Hopeful

2 ☐ Cautious

3 ☐ Critical

4 ☐ Pessimistic

Solution:

Correct Answer : 3

The author is wholly disapproving of the attitude invested by the policymakers of the advanced economies in their handling of the crisis. He mentions clearly how they have failed to do anything that would provide a long term solution. The other options are logically incorrect.

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the history of humankind — or that's perhaps inspired by previous events.

Even today, AI can be used to defend and to attack cyber infrastructure, as well as to increase the attack surface that hackers can target, that is, the number of ways for hackers to get into a system. In the future, as AIs increase in capability, I anticipate that they will first reach and then overtake humans in all domains of performance, as we have already seen with games like chess and Go and are now seeing with important human tasks such as investing and driving. It's important for business leaders to understand how that future situation will differ from our current concerns and what to do about it.

If one of today's cyber security systems fails, the damage can be unpleasant, but is tolerable in most cases: Someone loses money or privacy. But for human level AI (or above), the consequences could be catastrophic. A single failure of a super intelligent AI (SAI) system could cause an existential risk event — an event that has the potential to damage human well-being on a global scale. The risks are real, as evidenced by the fact that some of the world's greatest minds in technology and physics, including Stephen Hawking, Bill Gates, and Elon Musk, have expressed concerns about the potential for AI to evolve to a point where humans could no longer control it.

When one of today's cyber security systems fails, you typically get another chance to get it right, or at least to do better next time. But with an SAI safety system, failure or success is a binary situation: Either you have a safe, controlled SAI or you don't. The goal of cyber security in general is to reduce the number of successful attacks on a system; the goal of SAI safety, in contrast, is to make sure no attacks succeed in bypassing the safety mechanisms in place. The rise of brain-computer interfaces, in particular, will create a dream target for human and AI-enabled hackers. And brain-computer interfaces are not so futuristic — they're already being used in medical devices and gaming, for example. If successful, attacks on brain-computer interfaces would compromise not only critical information such as social security numbers or bank account numbers but also our deepest dreams, preferences, and secrets. There is the potential to create unprecedented new dangers for personal privacy, free speech, equal opportunity, and any number of human rights.

Business leaders are advised to familiarize themselves with the cutting edge of AI safety and security research, which at the moment is sadly similar to the state of cyber security in the 1990s, and our current situation with the lack of security for the internet of things. Armed with more knowledge, leaders can rationally consider how the addition of AI to their product or service will enhance user experiences, while weighing the costs of potentially subjecting use to additional data breaches and possible dangers. Hiring a dedicated AI safety expert may be an important next step, as most cyber security experts are not trained in anticipating or preventing attacks against intelligent systems. I am hopeful that on-going research will bring additional solutions for safely incorporating AI into the marketplace.

Q.24

According to the author, what will be the consequence if AI is used to fight AI?

- 1 ☐ All systems of the world will be shut down and people will lose access to their private information.
- 2 ☐ The war will be among various governments fighting to control a single AI that will take over the world.
- 3 ☐ It will fuel a competition between AIs and dominating countries will get involved in it.
- 4 ☐ AI war will be catastrophic if by any chance they surpass human intelligence by sophisticated social engineering attacks.



Solution:

Correct Answer : 3

Your Answer : 3

Option 1 is incorrect. Option 2 although partially correct but 'to control a single AI' is an assumption. 3 is perfect an answer as it clearly projects the word of the author as stated in the passage. 4 is quite farfetched as far as the given context is concerned. "...this is very likely to lead to an AI arms race, the consequences of which may be very troubling in the long term, especially as big government actors join the cyber wars."

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Q.25

"This work falls into a larger framework of AI safety..." What kind of work, the author is talking about?

- 1 ☐ To delete the bugs and make AI more accessible
- 2 ☐ To remove access by distant hackers so that the framework remains under control with proper security
- 3 ☐ To juxtapose AI with cyber security so that improper AIs can't harm people thus eliminating any sort of foul play
- 4 ☐ To work with the respective governments and increase cyber security



Solution:

Correct Answer : 3

Your Answer : 3

Option 1 is beyond the scope of the given passage. 2 is partially correct but incomplete. 4 is incorrect because again it's vague, and an assumed statement. Option 3 is the appropriate answer. The research of the author is about collaborating AI with cyber security to stop bad actors from harming the cyber world.

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Q.26

Which of the following statements is true according to Bostrom's thesis on orthogonality?

- 1 ☐ Anything is possible when the attack is from an unethical intelligence source.
- 2 ☐ The AIs will remain statistically independent.
- 3 ☐ AIs have limited access to any form of cyber goal or intelligentsia.
- 4 ☐ AIs are independent and can have any combination of intelligence and goals.



Solution:

Correct Answer : 4

Your Answer : 4

It is the only correct solution. Other options are beyond the scope of the given context and hence false. "... an AI system can potentially have any combination of intelligence and goals. Such goals can be introduced either through the initial design or through hacking, or introduced later, in case of off-the-shelf software — "just add your own goals."

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If one of today's cyber security systems fails, the damage can be unpleasant, but is tolerable in most cases: Someone loses money or privacy. But for human level AI (or above), the consequences could be catastrophic. A single failure of a super intelligent AI (SAI) system could cause an existential risk event — an event that has the potential to damage human well-being on a global scale. The risks are real, as evidenced by the fact that some of the world's greatest minds in technology and physics, including Stephen Hawking, Bill Gates, and Elon Musk, have expressed concerns about the potential for AI to evolve to a point where humans could no longer control it.

When one of today's cyber security systems fails, you typically get another chance to get it right, or at least to do better next time. But with an SAI safety



system, failure or success is a binary situation: Either you have a safe, controlled SAI or you don't. The goal of cyber security in general is to reduce the number of successful attacks on a system; the goal of SAI safety, in contrast, is to make sure no attacks succeed in bypassing the safety mechanisms in place. The rise of brain-computer interfaces, in particular, will create a dream target for human and AI-enabled hackers. And brain-computer interfaces are not so futuristic — they're already being used in medical devices and gaming, for example. If successful, attacks on brain-computer interfaces would compromise not only critical information such as social security numbers or bank account numbers but also our deepest dreams, preferences, and secrets. There is the potential to create unprecedented new dangers for personal privacy, free speech, equal opportunity, and any number of human rights.

Business leaders are advised to familiarize themselves with the cutting edge of AI safety and security research, which at the moment is sadly similar to the state of cyber security in the 1990s, and our current situation with the lack of security for the internet of things. Armed with more knowledge, leaders can rationally consider how the addition of AI to their product or service will enhance user experiences, while weighing the costs of potentially subjecting use to additional data breaches and possible dangers. Hiring a dedicated AI safety expert may be an important next step, as most cyber security experts are not trained in anticipating or preventing attacks against intelligent systems. I am hopeful that on-going research will bring additional solutions for safely incorporating AI into the marketplace.

Q.27

As the numbers of AI systems are increasing, what does the author anticipate?

- 1 ☐ AI can be used to defend and attack different cyber structures thus enhancing the security.
- 2 ☐ Keeping the present progress of AI in mind, will surpass human intelligence in every aspect and will be able to do everything on its own.
- 3 ☐ AI can drive cars, play chess and do other various stuffs which human can.
- 4 ☐ The anticipation is of the destructive nature of AI possibly taking control of human beings in the near future.



Solution:

Correct Answer : 2

Your Answer : 2

Although all the options can be seen potentially correct and linked with the passage, but 2 is the appropriate answer as it is closer to the given context. *"In the future, as AIs increase in capability, I anticipate that they will first reach and then overtake humans in all domains of performance, as we have already seen with games like chess and Go and are now seeing with important human tasks such as investing and driving."*

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Answer key/Solution

Directions for questions 24-29: The passage given below is followed by a set of six questions. Choose the most appropriate answer to each question.

In the near future, as artificial intelligence (AI) systems become more capable, we will begin to see more automated and increasingly sophisticated social engineering attacks. The rise of AI-enabled cyber-attacks is expected to cause an explosion of network penetrations, personal data thefts, and an epidemic level spread of intelligent computer viruses. Ironically, our best hope to defend against AI-enabled hacking is by using AI. But this is very likely to lead to a AI arms race, the consequences of which may be very troubling in the long term, especially as big government actors join the cyber wars.

My research is at the intersection of AI and cyber security. In particular, I am researching how we can protect AI systems from bad actors, as well as how we can protect people from failed or malevolent AI. This work falls into a larger framework of AI safety, attempts to create AI that is exceedingly capable but also safe and beneficial.

A lot has been written about problems that might arise with the arrival of "true AI," either as a direct impact of such inventions or because of a programmer's error. However, intentional malice in design and AI hacking have not been addressed to a sufficient degree in the scientific literature. It's fair to say that when it comes to dangers from a purposefully unethical intelligence, anything is possible. According to Bostrom's orthogonality thesis, an AI system can potentially have any combination of intelligence and goals. Such goals can be introduced either through the initial design or through hacking, or introduced later, in case of an off-the-shelf software — "just add your own goals." Consequently, depending on whose bidding the system is doing (governments, corporations, sociopaths, dictators, military industrial complexes, terrorists, etc.), it may attempt to inflict damage that's unprecedented in the history of humankind — or that's perhaps inspired by previous events.

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Q.28

What is the best organization of this passage?

1 ☐ Negatively narrow-minded2 ☐ Optimistically sanguine3 ☐ Sarcastically revealing4 ☐ Assertively retelling

Solution:

Correct Answer : 2

Your Answer : 4

Although the passage talks about merits and demerits of AI, the tone with which it ends is optimistic. The use of the word '*hopeful*' confirms it. Assertive is to generic a tone. Other options can be straight away rejected.

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Q.29

Keeping in mind the theme of the passage, which of the following titles suite the given passage?

1 ☐ AI and Us

2 ☐ Affects and Effects of AI

3 ☐ Artificial Intelligence-future of cyber security

4 ☐ A research on Artificial Intelligence



Solution:

Correct Answer : 3

Your Answer : 3

This is the most suitable title. 1 is vague, doesn't represent the main theme of the passage, that is, AI and its interaction with cyber security. Option 2 is also incorrect since this passage is not talking about AI only, it's too generic, and so is option 4. Therefore according to the theme of the passage, option 3 is the most title that can be given to the passage.

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Answer key/Solution

Directions for questions 30 and 31: In each of the following questions, five sentences are given. Of these, four sentences can be logically sequenced to make a coherent paragraph. One of the sentences does not belong to the paragraph. Type in the sentence number that doesn't fit into the paragraph.

Q.30

1. At root, the argument was about comparing two specific totalitarianisms.
2. More broadly, it was a dispute about the salience of analogy, one that played out at a key moment in the nation's history.
3. In divided cold war-era Germany, the last thing that an eminent historian of fascism would have hoped to do was scandalize.
4. Breaking open this Pandora's box of historiographical taboos unleashed a very public reckoning with the origins and future of Germany's violent past.
5. The so-called historians' controversy occupied headlines for more than a year and resurfaced several times thereafter.

Solution:

Correct Answer : 3

The correct order is 4512. "Pandora's box" and "historians' controversy" suggest that sentences 4 and 5 make a mandatory pair. Sentences 1 and 2 also talk about the same topic. However, sentence 3 talks about "cold war-era Germany" which is not directly related to the given paragraph. Hence, option 3 is the correct answer.

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Answer key/Solution

Directions for questions 30 and 31: In each of the following questions, five sentences are given. Of these, four sentences can be logically sequenced to make a coherent paragraph. One of the sentences does not belong to the paragraph. Type in the sentence number that doesn't fit into the paragraph.

Q.31

1. Most deaths occur at the end of the blooming season, when Tilia nectar supply becomes limited, and the bees have less energy stored up to keep them going.
2. It was determined that nectar from the tree contained a toxic sugar called mannose that poisoned and killed the bees.
3. In the 1970s, scientists fed eight bees nectar from Tilia flowers, and they died too.
4. When other food sources have run out late in the season, bees depend on Tilia.
5. The theory pervaded public opinion and scientific literature for years.

Solution:

Correct Answer : 1

The correct order is 4325. Sentence 1 talks about "the end of the blooming season" which is beyond the scope of the paragraph. This paragraph talks about a particular theory based on a certain observation. Hence, sentence 1 is the misfit.

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Answer key/Solution

Directions for questions 32-34: The passage given below is followed by a set of three questions. Choose the most appropriate answer to each question.

The most interesting contribution to a theory of beauty is to be found in his *Poetics*. There, Aristotle develops the notion of beauty as related to organic wholes. Yet, his initial discussion of beauty does not actually mention the term. It is in Chapter 3. There, he talks about how imitation is natural to man, how we are the most imitative creatures, and how we delight in works of imitation. It seems that this delight is an aesthetic delight. He observes that we even

delight in realistic representations of "the lowest animals" and of dead bodies. He further observes that we delight in a picture because we learn from it at the same time, for example we learn that a man falls into a certain category. Even things we have not seen before can, when represented, give us delight in the execution or coloring. We know he is thinking of beauty here since he also mentions that harmony and rhythm are natural to us.

When Aristotle gets around to defining tragedy in Chapter 6 of *Poetics* he doesn't explicitly mention beauty and, since the purpose of tragedy is catharsis, seems that beauty is not central to tragedy. But there are two reasons to question this conclusion. First, one could say that there is a kind of beauty in the which causes catharsis. Second, his account of beauty is essential to evaluating tragedy. Note also that tragedy is often full of depictions of painful things...and these were recently mentioned in the section on the value of imitation. In the definition of tragedy he does explicitly mention "language with pleasurable accessories" by which he means "with rhythm and harmony superadded." This may imply that these things provide a kind of beauty, although perhaps only as an add-on to the core experience of catharsis. So the key issue is whether the play in its central purpose can be understood in terms of beauty.

The central discussion of beauty comes in the second part of Chapter 6 when Aristotle talks about the proper construction of a Plot. We find that a tragedy is an "imitation of an action complete in itself, a whole of some magnitude" and that the whole should have a beginning, middle and end, the beginning and end being non-arbitrary.

"Magnitude" does not just mean "size" but rather "appropriate size," and maybe even more than that, i.e. "appropriate size to be considered beautiful." For that he says "Again: to be beautiful, a living creature, and every whole made up of parts, must not only present a certain order in its arrangements of parts but also a certain definite magnitude." It is not enough for something to be beautiful to be made up of ordered parts, but that the parts need to be arranged in a way similar to the way they appear in an organism. This was his revert to the Pythagorean view.

Q.32

Which of the following is not true according to the given passage?

1 ☐ Beauty is not a part of Tragedy.

2 ☐ Purpose of tragedy is purgation of pity and fear.

3 ☐ Tragedy should not be open ended.

4 ☐ Aristotle refrains from directly touching upon the word 'beauty' while defining Tragedy.

Solution:

Correct Answer : 1

Option 2 is incorrect since it is stated that the purpose of tragedy is catharsis. Catharsis means purgation of pity and fear.

Option 3 is incorrect since according to Aristotle tragedy should have a beginning, middle and end and that it should not end arbitrarily. This means that tragedy shouldn't be open ended. Option 4 is incorrect since it has been stated in the opening sentence of paragraph 2. Option 1 is the correct answer since it is stated- In the definition of tragedy he does explicitly mention

"language with pleasurable accessories" by which he means "with rhythm and harmony superadded." This may imply that these things provide a kind of beauty, although perhaps only as an add-on to the core experience of catharsis.. So, it is incorrect to conclude that tragedy does not compromise of beauty

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Answer key/Solution

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Q.33

The most suitable title for the given passage is-

1 ☐ Aristotle vs Pythagoras

2 ☐ Aristotle's Theory of Beauty

3 ☐ Contributions of Aristotle to the world of Literature

4 ☐ Aristotle's *Poetics*

**Solution:**

**Correct Answer : 2**

Option 1 is ruled out since the passage quotes Pythagoras only once. Option 3 is ruled out because the passage discusses only one book of Aristotle- *Poetics*. Option 4 is incorrect since the passage discusses only chapters 3 and 6 from the book of *Poetics*. Option 2 is the most appropriate as the passage discusses the theory of Beauty as propounded by Aristotle in his book. The passage starts on this, and ends on the same.

🔖 Bookmark

🔍 Answer key/Solution

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**Directions for questions 32-34: The passage given below is followed by a set of three questions. Choose the most appropriate answer to each question.**

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**Q.34**

**Which of the following best describes Aristotle's idea of beauty?**

1 ☐ The chief forms of beauty are order and symmetry.

2 ☐ If one thing is desirable for itself, than a thing that is for the look of it, the former will better define beauty.

3 ☐ Beauty is a matter of both size and order.

4 ☐ Magnitude is the only important thing for beauty.

**Solution:**

**Correct Answer : 3**

As stated in the last paragraph of the passage, Aristotle defines beauty as a combination of both magnitude (appropriate size) and order. This makes option 3 correct. Options 1 and 4 are ruled out because of the same reason. Option 2 is beyond the scope of the given passage.

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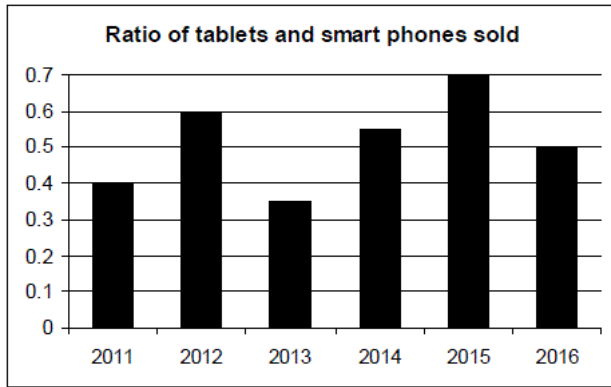
🔍 Answer key/Solution

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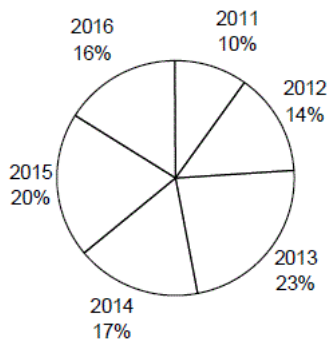
## Sec 2

**Direction for the questions 35 to 38: Answer the questions on the basis of the information given below.**

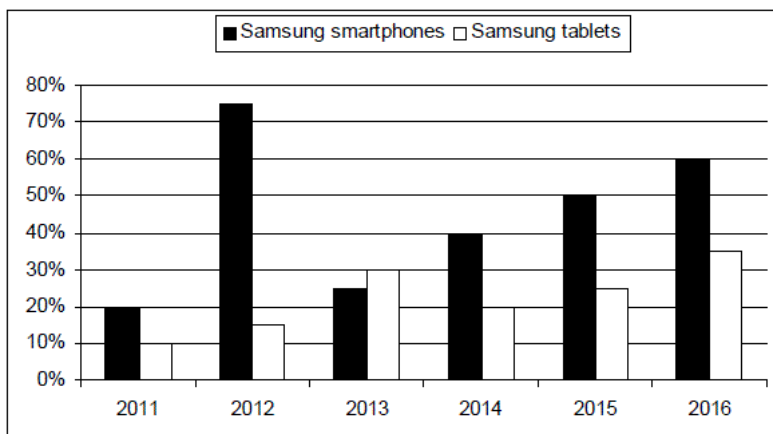
The graph below gives the ratio of the number of tablets sold to that of number of smartphones sold from the year 2011 to 2016.



The total number of smartphones sold in all the 6 years put together was 84 lakh and the percentage break-up of the sales for each year is given in the pie chart below:



The graph below gives the number of Samsung smartphones sold as a percentage of total number of smartphones sold in that year and the number of Samsung tablets sold as a percentage of total number of tablets sold in that year.



**Q.35**

How many Micromax smartphones were sold in 2014, given that 10% of non-Samsung smartphones sold in 2014 were Micromax?

1 ☐ 85680

2 ☐ 84000

3 ☐ 176400

4 ☐ 80640



**Solution:**

Correct Answer : 1

Your Answer : 1

Bookmark

Answer key/Solution



The table below gives the number of smartphones and tablets sold for the years 2011 to 2016 based on the given data from the bar-graph and pie-chart

Year	Ratio of tablets & smartphones sold	Percentage share	Smartphones sold	Tablets sold
2011	0.4	10%	840000	336000
2012	0.6	14%	1176000	705600
2013	0.35	23%	1932000	676200
2014	0.55	17%	1428000	785400
2015	0.7	20%	1680000	1176000
2016	0.5	16%	1344000	672000
Total		100%	8400000	4351200

The table below gives details about the number of Samsung smartphones, Samsung tablets, non- Samsung smartphones and non-Samsung tablets sold from 2011 to 2016 from bar graph 2.

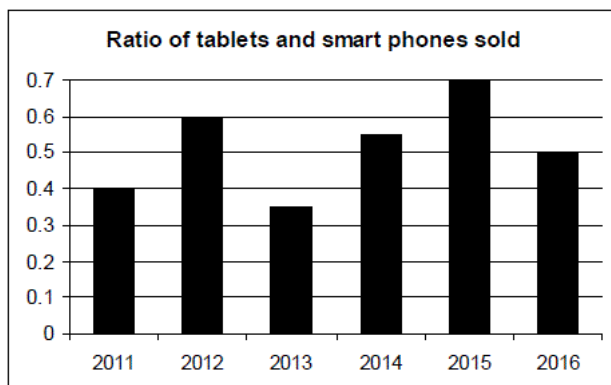
Year	Samsung smart-phones sold (%)	Samsung tablets	Samsung smart-phones sold (No.)	Samsung tablets sold (No.)	Non-Samsung smart-phones sold	Non-Samsung tablets sold
2011	20%	10%	168000	33600	672000	302400
2012	75%	15%	882000	105840	294000	599760
2013	25%	30%	483000	202860	1449000	473340
2014	40%	20%	571200	157080	856800	628320
2015	50%	25%	840000	294000	840000	882000
2016	60%	35%	806400	235200	537600	436800
Total			3750600	1028580	4649400	3322620

Number of Micromax smartphones sold in 2014  
 $= 0.10 \times 856800 = 85680$ .

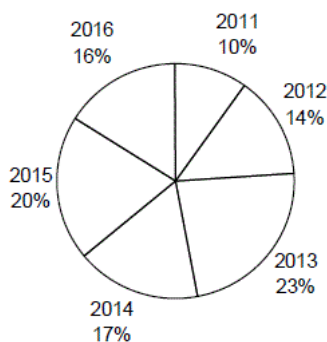
FeedBack

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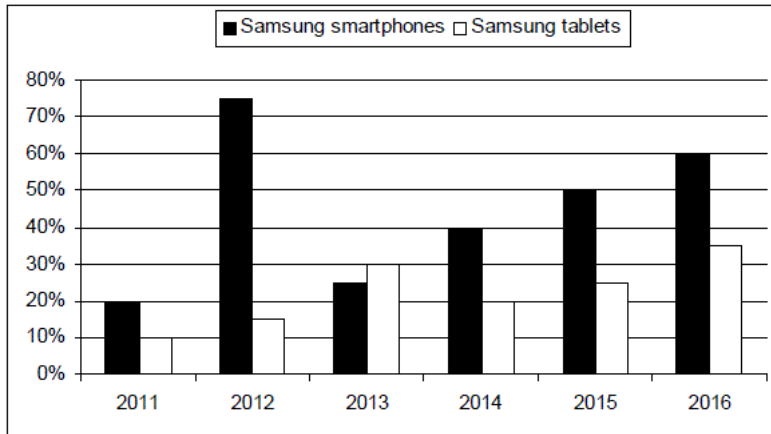
The graph below gives the ratio of the number of tablets sold to that of number of smartphones sold from the year 2011 to 2016.



The total number of smartphones sold in all the 6 years put together was 84 lakh and the percentage break-up of the sales for each year is given in the pie chart below:



The graph below gives the number of Samsung smartphones sold as a percentage of total number of smartphones sold in that year and the number of Samsung tablets sold as a percentage of total number of tablets sold in that year.



Q.36

Which of the following statements is true?

- 1 ☐ The number of Samsung tablets sold in 2015 was less than the sum of the Samsung tablets sold in 2012 and 2014.
- 2 ☐ The highest number of non-Samsung tablets were sold in the year 2014.
- 3 ☐ The number of non-Samsung smartphones sold in 2015 was more the number of non- Samsung smartphones sold in 2012.
- 4 ☐ Samsung sold the highest number of smartphones in the year 2016.

Solution:

Correct Answer : 3

The table below gives the number of smartphones and tablets sold for the years 2011 to 2016 based on the given data from the bar-graph and pie-chart

Year	Ratio of tablets & smartphones sold	Percentage share	Smartphones sold	Tablets sold
2011	0.4	10%	840000	336000
2012	0.6	14%	1176000	705600
2013	0.35	23%	1932000	676200
2014	0.55	17%	1428000	785400
2015	0.7	20%	1680000	1176000
2016	0.5	16%	1344000	672000
Total		100%	8400000	4351200

The table below gives details about the number of Samsung smartphones, Samsung tablets, non- Samsung smartphones and non-Samsung tablets sold from 2011 to 2016 from bar graph 2.

Year	Samsung smart-phones sold (%)	Samsung tablets sold (%)	Samsung smart-phones sold (No.)	Samsung tablets sold (No.)	Non-Samsung smart-phones sold	Non-Samsung tablets sold
2011	20%	10%	168000	33600	672000	302400
2012	75%	15%	882000	105840	294000	599760
2013	25%	30%	483000	202860	1449000	473340
2014	40%	20%	571200	157080	856800	628320
2015	50%	25%	840000	294000	840000	882000
2016	60%	35%	806400	235200	537600	436800
Total			3750600	1028580	4649400	3322620

Number of non-samsung smartphones sold in 2015

= 840000

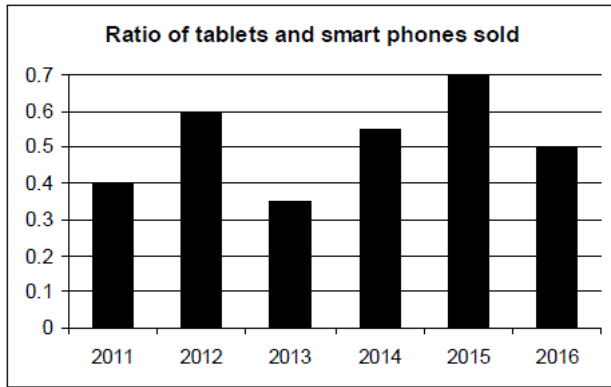
Number of non-samsung smartphones sold in 2012

= 294000.

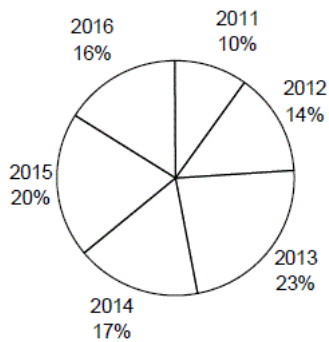
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Direction for the questions 35 to 38: Answer the questions on the basis of the information given below.

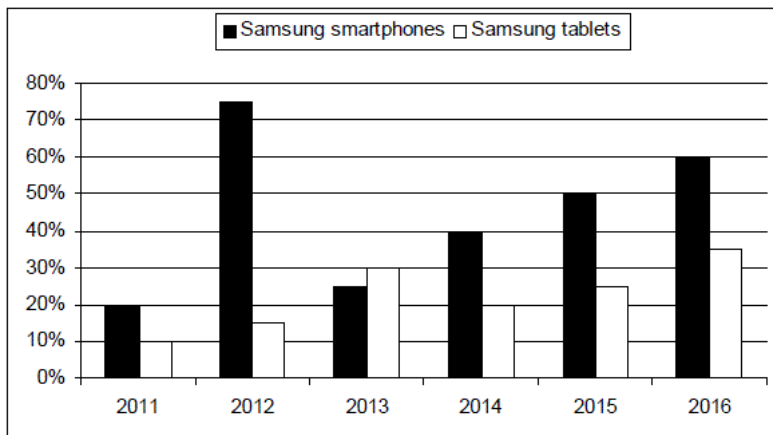
The graph below gives the ratio of the number of tablets sold to that of number of smartphones sold from the year 2011 to 2016.



The total number of smartphones sold in all the 6 years put together was 84 lakh and the percentage break-up of the sales for each year is given in the pie chart below:



The graph below gives the number of Samsung smartphones sold as a percentage of total number of smartphones sold in that year and the number of Samsung tablets sold as a percentage of total number of tablets sold in that year.



**Q.37**

How many non-Samsung tablets were sold in the year 2013?

1 ☐ 473340

2 ☐ 599760

3 ☐ 628320

4 ☐ 882000



**Solution:**

Correct Answer : 1

Your Answer : 1

Bookmark

Answer key/Solution

The table below gives the number of smartphones and tablets sold for the years 2011 to 2016 based on the given data from the bar-graph and pie-chart

Year	Ratio of tablets & smartphones sold	Percentage share	Smartphones sold	Tablets sold
2011	0.4	10%	840000	336000
2012	0.6	14%	1176000	705600
2013	0.35	23%	1932000	676200
2014	0.55	17%	1428000	785400
2015	0.7	20%	1680000	1176000
2016	0.5	16%	1344000	672000
Total		100%	8400000	4351200

The table below gives details about the number of Samsung smartphones, Samsung tablets, non- Samsung smartphones and non-Samsung tablets sold from 2011 to 2016 from bar graph 2.

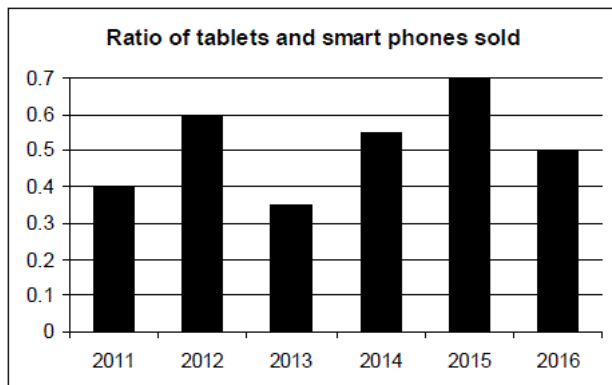
Year	Samsung smart-phones sold (%)	Samsung tablets	Samsung smart-phones sold (No.)	Samsung tablets sold (No.)	Non-Samsung smart-phones sold	Non-Samsung tablets sold
2011	20%	10%	168000	33600	672000	302400
2012	75%	15%	882000	105840	294000	599760
2013	25%	30%	483000	202860	1449000	473340
2014	40%	20%	571200	157080	856800	628320
2015	50%	25%	840000	294000	840000	882000
2016	60%	35%	806400	235200	537600	436800
Total			3750600	1028580	4649400	3322620

Total number of non-Samsung tablets sold in year 2013 = 473340.

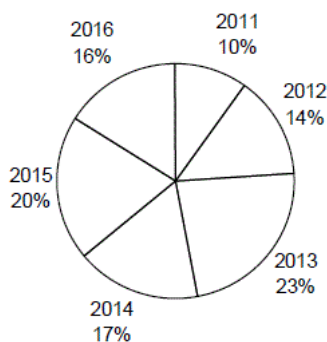
FeedBack

**Direction for the questions 35 to 38: Answer the questions on the basis of the information given below.**

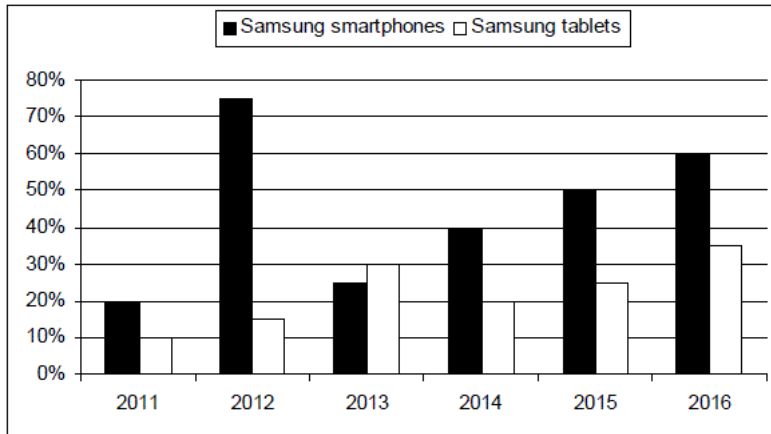
The graph below gives the ratio of the number of tablets sold to that of number of smartphones sold from the year 2011 to 2016.



The total number of smartphones sold in all the 6 years put together was 84 lakh and the percentage break-up of the sales for each year is given in the pie chart below:



The graph below gives the number of Samsung smartphones sold as a percentage of total number of smartphones sold in that year and the number of Samsung tablets sold as a percentage of total number of tablets sold in that year.



Q.38

In how many of the given years did Samsung sell more than 2 lakh tablets?

1 ☐ 22 ☐ 33 ☐ 44 ☐ 5

Solution:

Correct Answer : 2

The table below gives the number of smartphones and tablets sold for the years 2011 to 2016 based on the given data from the bar-graph and pie-chart

Year	Ratio of tablets & smartphones sold	Percentage share	Smartphones sold	Tablets sold
2011	0.4	10%	840000	336000
2012	0.6	14%	1176000	705600
2013	0.35	23%	1932000	676200
2014	0.55	17%	1428000	785400
2015	0.7	20%	1680000	1176000
2016	0.5	16%	1344000	672000
Total		100%	8400000	4351200

The table below gives details about the number of Samsung smartphones, Samsung tablets, non- Samsung smartphones and non-Samsung tablets sold from 2011 to 2016 from bar graph 2.

Year	Samsung smart-phones sold (%)	Samsung tablets sold (%)	Samsung smart-phones sold (No.)	Samsung tablets sold (No.)	Non-Samsung smart-phones sold	Non-Samsung tablets sold
2011	20%	10%	168000	33600	672000	302400
2012	75%	15%	882000	105840	294000	599760
2013	25%	30%	483000	202860	1449000	473340
2014	40%	20%	571200	157080	856800	628320
2015	50%	25%	840000	294000	840000	882000
2016	60%	35%	806400	235200	537600	436800
Total			3750600	1028580	4649400	3322620

In the years 2013, 2015 and 2016, Samsung sold more than 2 lakh tablets.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 39 to 42: Answer the questions on the basis of the information given below.

The following is the analysis of the performance of three cricket players – Tendulkar, Ponting and Kallis – for Test cricket. The runs made by the three players are divided into three categories:

- Category A: Runs made in the Indian Sub-continent i.e. India, Pakistan, Bangladesh and Sri- Lanka
- Category B: Runs made in Australia, South-Africa and England
- Category C: Runs made in West Indies, Zimbabwe, New Zealand and any other country.

The following conditions are also given:

1. The total runs made by Tendulkar are 4000 more than Ponting.
2. Ponting scored 40% of his runs in category B locations.
3. The total runs made by Kallis is the average of the total runs made by Tendulkar and Ponting.
4. Tendulkar made 20% of his runs, that is 4000 runs, in category B locations.
5. The runs scored by Kallis in category C locations is 20% of sum of the total runs scored by Tendulkar and Ponting.
6. The runs scored by Kallis in category A locations is 40% of the total runs scored by him.
7. Each player scored at least 1000 runs in each location.

Q.39

The minimum possible difference between the runs scored by Tendulkar in category A and Kallis in category C is:

- 1 ☐ 6200
- 2 ☐ 4600
- 3 ☐ 0
- 4 ☐ Cannot be determined



**Solution:**

**Correct Answer : 3**

**Your Answer : 3**

As per the given conditions, can from the following table:

	A	B	C	Total
<b>Tendulkar</b>		4000		20000
<b>Ponting</b>		6400		16000
<b>Kallis</b>	7200	3600	7200	18000
<b>Total</b>				54000

The runs scored by Kallis in category C = 7200  
 The difference can be minimum if Tendulkar scores the same runs i.e. 7200 in category A and which is possible. Hence the minimum possible difference is 0.

FeedBack

Bookmark

Answer key/Solution

Directions for questions 39 to 42: Answer the questions on the basis of the information given below.

The following is the analysis of the performance of three cricket players – Tendulkar, Ponting and Kallis – for Test cricket. The runs made by the three players are divided into three categories:

- Category A: Runs made in the Indian Sub-continent i.e. India, Pakistan, Bangladesh and Sri- Lanka
- Category B: Runs made in Australia, South-Africa and England
- Category C: Runs made in West Indies, Zimbabwe, New Zealand and any other country.

The following conditions are also given:

1. The total runs made by Tendulkar are 4000 more than Ponting.



- Ponting scored 40% of his runs in category B locations.
- The total runs made by Kallis is the average of the total runs made by Tendulkar and Ponting.
- Tendulkar made 20% of his runs, that is 4000 runs, in category B locations.
- The runs scored by Kallis in category C locations is 20% of sum of the total runs scored by Tendulkar and Ponting.
- The runs scored by Kallis in category A locations is 40% of the total runs scored by him.
- Each player scored at least 1000 runs in each location.

Q.40

The runs scored by Ponting in category A countries is  $p\%$  of the total runs scored by the three players in category B countries. What is the maximum possible value of  $p$ ?

1 ☐ 61.42 ☐ 52.63 ☐ 43.84 ☐ 66.4

Solution:

Correct Answer : 1

Your Answer : 1

As per the given conditions, can from the following table:

	A	B	C	Total
Tendulkar		4000		20000
Ponting		6400		16000
Kallis	7200	3600	7200	18000
Total				54000

Maximum number of runs Ponting can score in category A countries = 8600 (i.e.,  $16000 - 6400 - 1000$ ) (we assume that he scores the least number of numbers in category C (1000).)

The total runs scored by all the three players in category B is  $4000 + 6400 + 3600 = 14000$

Thus, the required percentage:  $8600 / 14000 \times 100 = 61.4\%$ .




Directions for questions 39 to 42: Answer the questions on the basis of the information given below.

The following is the analysis of the performance of three cricket players – Tendulkar, Ponting and Kallis – for Test cricket. The runs made by the three players are divided into three categories:

- Category A: Runs made in the Indian Sub-continent i.e. India, Pakistan, Bangladesh and Sri- Lanka
- Category B: Runs made in Australia, South-Africa and England
- Category C: Runs made in West Indies, Zimbabwe, New Zealand and any other country.

The following conditions are also given:

- The total runs made by Tendulkar are 4000 more than Ponting.
- Ponting scored 40% of his runs in category B locations.
- The total runs made by Kallis is the average of the total runs made by Tendulkar and Ponting.
- Tendulkar made 20% of his runs, that is 4000 runs, in category B locations.
- The runs scored by Kallis in category C locations is 20% of sum of the total runs scored by Tendulkar and Ponting.
- The runs scored by Kallis in category A locations is 40% of the total runs scored by him.
- Each player scored at least 1000 runs in each location.

Q.41

- The runs made by Tendulkar in category A are 2000 more than the runs made by Ponting in that category.
- In category C locations, Ponting scored  $\frac{5}{9}$  of the runs scored by Kallis in category B and C locations combined

The ratio of runs scored by Ponting in category A and C put together to the runs scored by Kallis in category A and B put together to the runs scored by Tendulkar in category B and C put together is:

1 ☐ 5 : 6 : 72 ☐ 7 : 8 : 93 ☐ 8 : 9 : 124 ☐ 10 : 11 : 12

**Solution:****Correct Answer : 3****Your Answer : 3**

	A	B	C	Total
<b>Tendulkar</b>	5600	4000	10400	20000
<b>Ponting</b>	3600	6400	6000	16000
<b>Kallis</b>	7200	3600	7200	18000
<b>Total</b>				54000

The required ratio is  $9600 : 10800 : 14400 = 8 : 9 : 12$ .
**Bookmark**
**Answer key/Solution**
**Directions for questions 39 to 42: Answer the questions on the basis of the information given below.**

The following is the analysis of the performance of three cricket players – Tendulkar, Ponting and Kallis – for Test cricket. The runs made by the three players are divided into three categories:

- Category A: Runs made in the Indian Sub-continent i.e. India, Pakistan, Bangladesh and Sri- Lanka
- Category B: Runs made in Australia, South-Africa and England
- Category C: Runs made in West Indies, Zimbabwe, New Zealand and any other country.

The following conditions are also given:

1. The total runs made by Tendulkar are 4000 more than Ponting.
2. Ponting scored 40% of his runs in category B locations.
3. The total runs made by Kallis is the average of the total runs made by Tendulkar and Ponting.
4. Tendulkar made 20% of his runs, that is 4000 runs, in category B locations.
5. The runs scored by Kallis in category C locations is 20% of sum of the total runs scored by Tendulkar and Ponting.
6. The runs scored by Kallis in category A locations is 40% of the total runs scored by him.
7. Each player scored at least 1000 runs in each location.

**Q.42**

1. The runs made by Tendulkar in category A are 2000 more than the runs made by Ponting in that category.
2. In category C locations, Ponting scored 5/9 of the runs scored by Kallis in category B and C locations combined

What is the difference between the total runs scored by three batsmen in category A and the total runs scored by three batsmen in category B?

1 ☐ 36002 ☐ 24503 ☐ 24004 ☐ 2700**Solution:****Correct Answer : 3****Your Answer : 3**

	A	B	C	Total
<b>Tendulkar</b>	5600	4000	10400	20000
<b>Ponting</b>	3600	6400	6000	16000
<b>Kallis</b>	7200	3600	7200	18000
<b>Total</b>				54000

Total runs scored in category A = 16400. Total runs scored in category B = 14000. Difference = 2400.

**Bookmark**
**Answer key/Solution**
**Directions for questions 43 to 46: Answer the questions on the basis of the information given below.**

The 5 new IIMs – Raipur, Trichy, Udaipur, Kashipur and Ranchi – have decided to call the same set of 1000 students for the 2nd stage of selection process depending on their scores in 5 categories i.e. their scores in section I of CAT, their scores in section II of CAT, their scores in class XII, their scores in graduation and their scores due to Work-Experience. The scores in each of the above categories are normalized out of 100 (making an overall score out of 500). These 1000 students were first divided into 10 groups of 100 students each. In each group, the average category score is then computed for each of the 5 categories (which is the average of normalized scores of all 100 students in that group). Each group is then given a rank in each of the 5 categories, depending on its average category score. For instance the group having the highest category score in any category is given rank 1 in that category and the

one with lowest category score is given rank 10 in that category. Each IIM then calls 2 of these groups for the 2nd stage over the same 5 day period in two slots (Morning and Evening), taking care that the same group is not called to more than one IIM on the same day. Each IIM gives importance to a different category score, and accordingly calls the groups in the following manner:

	Morning	Evening		Category given importance
Day 1	Rank 1	Rank 2	Raipur	Section II
Day 2	Rank 3	Rank 4	Trichy	Class XII
Day 3	Rank 5	Rank 6	Udaipur	Work-Experience
Day 4	Rank 7	Rank 8	Kashipur	Section I
Day 5	Rank 9	Rank 10	Ranchi	Graduation

For example, IIM Trichy would call the group with Rank 3 in Class XII scores on Day 2 in the morning slot, while IIM Ranchi would call group with Rank 8 in Graduation scores on Day 4 in the evening slot.

The following table gives the Average Category Scores for each of the 10 groups.

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	68.7	79.4	71.8	87.6	65.1
Group II	76.4	65.3	68.7	72.2	91.6
Group III	58.9	72.8	79.5	84.3	71.6
Group IV	88.5	75.6	65.2	62.9	80.7
Group V	65.4	84.3	76.4	60.8	87.2
Group VI	71.8	62.1	70.6	77.6	94.3
Group VII	60.6	68.4	92.5	80.7	78.4
Group VIII	83.2	70.9	82.3	65.4	69.5
Group IX	63.5	80.2	73.9	57.2	83.5
Group X	73.3	60.6	86.5	68.3	74.9

Q.43

Which group will be called in the evening slot on all 5 days?

1 ☐ Group III

2 ☐ Group IV

3 ☐ Group IX

4 ☐ Group X

Solution:

Correct Answer : 3

We know Average Category Scores for all the groups for Section I, Class XII and Work-Ex. Hence, we can rank all the groups in these 3 categories. It is as follows:

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	6	3	7	1	10
Group II	3	8	9	5	2
Group III	10	5	4	2	8
Group IV	1	4	10	8	5
Group V	7	1	5	9	3
Group VI	5	9	8	4	1
Group VII	9	7	1	3	6
Group VIII	2	6	3	7	9
Group IX	8	2	6	10	4
Group X	4	10	2	6	7

Hence, calls for the 2nd stage will be given as follows:

	Kashipur	Raipur	Trichy	Ranchi	Udaipur
	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	Day 3: E	Day 2: M	Day 4: M	Day 1: M	Day 5: E
Group II	Day 2: M	Day 4: E	Day 5: M	Day 3: M	Day 1: E
Group III	Day 5: E	Day 3: M	Day 2: E	Day 1: E	Day 4: E
Group IV	Day 1: M	Day 2: E	Day 5: E	Day 4: E	Day 3: M
Group V	Day 4: M	Day 1: M	Day 3: M	Day 5: M	Day 2: M
Group VI	Day 3: M	Day 5: M	Day 4: E	Day 2: E	Day 1: M
Group VII	Day 5: M	Day 4: M	Day 1: M	Day 2: M	Day 3: E
Group VIII	Day 1: E	Day 3: E	Day 2: M	Day 4: M	Day 5: M
Group IX	Day 4: E	Day 1: E	Day 3: E	Day 5: E	Day 2: E
Group X	Day 2: E	Day 5: E	Day 1: E	Day 3: E	Day 4: M

As we can see from the above table, Group IX will be called in the evening on all 5 days.

 Bookmark

 Answer key/Solution

FeedBack

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

The 5 new IIMs – Raipur, Trichy, Udaipur, Kashipur and Ranchi – have decided to call the same set of 1000 students for the 2nd stage of selection process depending on their scores in 5 categories i.e. their scores in section I of CAT, their scores in section II of CAT, their scores in class XII, their scores in graduation and their scores due to Work-Experience. The scores in each of the above categories are normalized out of 100 (making an overall score out of 500). These 1000 students were first divided into 10 groups of 100 students each. In each group, the average category score is then computed for each of the 5 categories (which is the average of normalized scores of all 100 students in that group). Each group is then given a rank in each of the 5 categories, depending on its average category score. For instance the group having the highest category score in any category is given rank 1 in that category and the one with lowest category score is given rank 10 in that category. Each IIM then calls 2 of these groups for the 2nd stage over the same 5 day period in two slots (Morning and Evening), taking care that the same group is not called to more than one IIM on the same day. Each IIM gives importance to a different category score, and accordingly calls the groups in the following manner:

	Morning	Evening		Category given importance
Day 1	Rank 1	Rank 2	Raipur	Section II
Day 2	Rank 3	Rank 4	Trichy	Class XII
Day 3	Rank 5	Rank 6	Udaipur	Work-Experience
Day 4	Rank 7	Rank 8	Kashipur	Section I
Day 5	Rank 9	Rank 10	Ranchi	Graduation

For example, IIM Trichy would call the group with Rank 3 in Class XII scores on Day 2 in the morning slot, while IIM Ranchi would call group with Rank 8 in Graduation scores on Day 4 in the evening slot.

The following table gives the Average Category Scores for each of the 10 groups.

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	68.7	79.4	71.8	87.6	65.1
Group II	76.4	65.3	68.7	72.2	91.6
Group III	58.9	72.8	79.5	84.3	71.6
Group IV	88.5	75.6	65.2	62.9	80.7
Group V	65.4	84.3	76.4	60.8	87.2
Group VI	71.8	62.1	70.6	77.6	94.3
Group VII	60.6	68.4	92.5	80.7	78.4
Group VIII	83.2	70.9	82.3	65.4	69.5
Group IX	63.5	80.2	73.9	57.2	83.5
Group X	73.3	60.6	86.5	68.3	74.9

Q.44

Which group will be alternately called in the morning and evening slots over the 5 day period?

1 ☐ Group II

2 ☐ Group IV

3 ☐ Group VI

4 ☐ Group VIII

Solution:

Correct Answer : 3

 Bookmark

 Answer key/Solution

We know Average Category Scores for all the groups for Section I, Class XII and Work-Ex. Hence, we can rank all the groups in these 3 categories. It is as follows:

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	6	3	7	1	10
Group II	3	8	9	5	2
Group III	10	5	4	2	8
Group IV	1	4	10	8	5
Group V	7	1	5	9	3
Group VI	5	9	8	4	1
Group VII	9	7	1	3	6
Group VIII	2	6	3	7	9
Group IX	8	2	6	10	4
Group X	4	10	2	6	7

Hence, calls for the 2nd stage will be given as follows:

	Kashipur	Raipur	Trichy	Ranchi	Udaipur
	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	Day 3: E	Day 2: M	Day 4: M	Day 1: M	Day 5: E
Group II	Day 2: M	Day 4: E	Day 5: M	Day 3: M	Day 1: E
Group III	Day 5: E	Day 3: M	Day 2: E	Day 1: E	Day 4: E
Group IV	Day 1: M	Day 2: E	Day 5: E	Day 4: E	Day 3: M
Group V	Day 4: M	Day 1: M	Day 3: M	Day 5: M	Day 2: M
Group VI	Day 3: M	Day 5: M	Day 4: E	Day 2: E	Day 1: M
Group VII	Day 5: M	Day 4: M	Day 1: M	Day 2: M	Day 3: E
Group VIII	Day 1: E	Day 3: E	Day 2: M	Day 4: M	Day 5: M
Group IX	Day 4: E	Day 1: E	Day 3: E	Day 5: E	Day 2: E
Group X	Day 2: E	Day 5: E	Day 1: E	Day 3: E	Day 4: M

As we can see from the above table, Group VI will be called in the morning slots on Days 1, 3 and 5 and in the evening slots on Days 2 and 4.

FeedBack

Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

The 5 new IIMs – Raipur, Trichy, Udaipur, Kashipur and Ranchi – have decided to call the same set of 1000 students for the 2nd stage of selection process depending on their scores in 5 categories i.e. their scores in section I of CAT, their scores in section II of CAT, their scores in class XII, their scores in graduation and their scores due to Work-Experience. The scores in each of the above categories are normalized out of 100 (making an overall score out of 500). These 1000 students were first divided into 10 groups of 100 students each. In each group, the average category score is then computed for each of the 5 categories (which is the average of normalized scores of all 100 students in that group). Each group is then given a rank in each of the 5 categories, depending on its average category score. For instance the group having the highest category score in any category is given rank 1 in that category and the one with lowest category score is given rank 10 in that category. Each IIM then calls 2 of these groups for the 2nd stage over the same 5 day period in two slots (Morning and Evening), taking care that the same group is not called to more than one IIM on the same day. Each IIM gives importance to a different category score, and accordingly calls the groups in the following manner:

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Day 3	Rank 5	Rank 6	Udaipur	Work-Experience
Day 4	Rank 7	Rank 8	Kashipur	Section I
Day 5	Rank 9	Rank 10	Ranchi	Graduation

For example, IIM Trichy would call the group with Rank 3 in Class XII scores on Day 2 in the morning slot, while IIM Ranchi would call group with Rank 8 in Graduation scores on Day 4 in the evening slot.

The following table gives the Average Category Scores for each of the 10 groups.

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	68.7	79.4	71.8	87.6	65.1
Group II	76.4	65.3	68.7	72.2	91.6
Group III	58.9	72.8	79.5	84.3	71.6
Group IV	88.5	75.6	65.2	62.9	80.7
Group V	65.4	84.3	76.4	60.8	87.2
Group VI	71.8	62.1	70.6	77.6	94.3
Group VII	60.6	68.4	92.5	80.7	78.4
Group VIII	83.2	70.9	82.3	65.4	69.5
Group IX	63.5	80.2	73.9	57.2	83.5
Group X	73.3	60.6	86.5	68.3	74.9

Q.45

Which 2 groups will be called together (i.e. at the same IIM) on each of the 5 days?

- 1 ☐ Groups II and X
- 2 ☐ Groups IV and VI
- 3 ☐ Groups I and VIII
- 4 ☐ Groups V and IX

Solution:

Correct Answer : 4

We know Average Category Scores for all the groups for Section I, Class XII and Work-Ex. Hence, we can rank all the groups in these 3 categories. It is as follows:

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	6	3	7	1	10
Group II	3	8	9	5	2
Group III	10	5	4	2	8
Group IV	1	4	10	8	5
Group V	7	1	5	9	3
Group VI	5	9	8	4	1
Group VII	9	7	1	3	6
Group VIII	2	6	3	7	9
Group IX	8	2	6	10	4
Group X	4	10	2	6	7

Hence, calls for the 2nd stage will be given as follows:

	Kashipur	Raipur	Trichy	Ranchi	Udaipur
	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	Day 3: E	Day 2: M	Day 4: M	Day 1: M	Day 5: E
Group II	Day 2: M	Day 4: E	Day 5: M	Day 3: M	Day 1: E
Group III	Day 5: E	Day 3: M	Day 2: E	Day 1: E	Day 4: E
Group IV	Day 1: M	Day 2: E	Day 5: E	Day 4: E	Day 3: M
Group V	Day 4: M	Day 1: M	Day 3: M	Day 5: M	Day 2: M
Group VI	Day 3: M	Day 5: M	Day 4: E	Day 2: E	Day 1: M
Group VII	Day 5: M	Day 4: M	Day 1: M	Day 2: M	Day 3: E
Group VIII	Day 1: E	Day 3: E	Day 2: M	Day 4: M	Day 5: M
Group IX	Day 4: E	Day 1: E	Day 3: E	Day 5: E	Day 2: E
Group X	Day 2: E	Day 5: E	Day 1: E	Day 3: E	Day 4: M

As we can see from the above table, Groups V and IX will always be called together by each IIM on the same day.

Day 1: Raipur, Day 2: Udaipur, Day 3: Trichy, Day 4: Kashipur and Day 5: Ranchi.

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Directions for questions 43 to 46: Answer the questions on the basis of the information given below.

The 5 new IIMs – Raipur, Trichy, Udaipur, Kashipur and Ranchi – have decided to call the same set of 1000 students for the 2nd stage of selection process depending on their scores in 5 categories i.e. their scores in section I of CAT, their scores in section II of CAT, their scores in class XII, their scores in graduation and their scores due to Work-Experience. The scores in each of the above categories are normalized out of 100 (making an overall score out of 500). These 1000 students were first divided into 10 groups of 100 students each. In each group, the average category score is then computed for each of the 5 categories (which is the average of normalized scores of all 100 students in that group). Each group is then given a rank in each of the 5 categories, depending on its average category score. For instance the group having the highest category score in any category is given rank 1 in that category and the one with lowest category score is given rank 10 in that category. Each IIM then calls 2 of these groups for the 2nd stage over the same 5 day period in two slots (Morning and Evening), taking care that the same group is not called to more than one IIM on the same day. Each IIM gives importance to a different category score, and accordingly calls the groups in the following manner:

	Morning	Evening		Category given importance
Day 1	Rank 1	Rank 2	Raipur	Section II
Day 2	Rank 3	Rank 4	Trichy	Class XII
Day 3	Rank 5	Rank 6	Udaipur	Work-Experience
Day 4	Rank 7	Rank 8	Kashipur	Section I
Day 5	Rank 9	Rank 10	Ranchi	Graduation

For example, IIM Trichy would call the group with Rank 3 in Class XII scores on Day 2 in the morning slot, while IIM Ranchi would call group with Rank 8 in Graduation scores on Day 4 in the evening slot.

The following table gives the Average Category Scores for each of the 10 groups.

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	68.7	79.4	71.8	87.6	65.1
Group II	76.4	65.3	68.7	72.2	91.6
Group III	58.9	72.8	79.5	84.3	71.6
Group IV	88.5	75.6	65.2	62.9	80.7
Group V	65.4	84.3	76.4	60.8	87.2
Group VI	71.8	62.1	70.6	77.6	94.3
Group VII	60.6	68.4	92.5	80.7	78.4
Group VIII	83.2	70.9	82.3	65.4	69.5
Group IX	63.5	80.2	73.9	57.2	83.5
Group X	73.3	60.6	86.5	68.3	74.9

Q.46

Which of the following is true?

- 1 ☐ IIM Trichy will call Group IV in morning slot on Day 5
- 2 ☐ IIM Udaipur has called Group I in evening slot on Day 5 and Group VIII in Morning slot on Day 4
- 3 ☐ Of all even numbered groups, 3 out of 5 groups have been called by IIM Raipur in Evening slots and 2 in morning slots
- 4 ☐ None of these

Solution:

Correct Answer : 4

We know Average Category Scores for all the groups for Section I, Class XII and Work-Ex. Hence, we can rank all the groups in these 3 categories. It is as follows:

	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	6	3	7	1	10
Group II	3	8	9	5	2
Group III	10	5	4	2	8
Group IV	1	4	10	8	5
Group V	7	1	5	9	3
Group VI	5	9	8	4	1
Group VII	9	7	1	3	6
Group VIII	2	6	3	7	9
Group IX	8	2	6	10	4
Group X	4	10	2	6	7

Hence, calls for the 2nd stage will be given as follows:

	Kashipur	Raipur	Trichy	Ranchi	Udaipur
	Section I	Section II	Class XII	Graduation	Work-Ex
Group I	Day 3: E	Day 2: M	Day 4: M	Day 1: M	Day 5: E
Group II	Day 2: M	Day 4: E	Day 5: M	Day 3: M	Day 1: E
Group III	Day 5: E	Day 3: M	Day 2: E	Day 1: E	Day 4: E
Group IV	Day 1: M	Day 2: E	Day 5: E	Day 4: E	Day 3: M
Group V	Day 4: M	Day 1: M	Day 3: M	Day 5: M	Day 2: M
Group VI	Day 3: M	Day 5: M	Day 4: E	Day 2: E	Day 1: M
Group VII	Day 5: M	Day 4: M	Day 1: M	Day 2: M	Day 3: E
Group VIII	Day 1: E	Day 3: E	Day 2: M	Day 4: M	Day 5: M
Group IX	Day 4: E	Day 1: E	Day 3: E	Day 5: E	Day 2: E
Group X	Day 2: E	Day 5: E	Day 1: E	Day 3: E	Day 4: M

- (1) IIM Trichy will call Group IV in morning slot on Day 5 -> False
- (2) IIM Udaipur has called Group I in evening slot on Day 5 and Group VIII in Morning slot on Day 4 -> False
- (3) Of all even numbered groups, 3 out of 5 groups have been called by IIM Raipur in Evening slots and 2 in morning slots -> False
- Hence, none of the given statements are true.

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Direction for the questions 47 to 50: Answer the questions on the basis of the information given below.

The table below gives details about the number of books sold by each author as a percentage of the total number of books sold by the five authors.



Author	No. of books sold as a % of total books sold by the authors
George Martin	27%
J.K. Rowling	24%
J.R.R. Tolkien	25%
Stephanie Meyer	14%
Charles Dickens	10%

The table below gives the number of copies sold of each of their books by the authors. No other books were sold apart from the ones mentioned in the tables below. Certain data elements in the table are missing.

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210

Q.47

How many copies of 'Midnight Sun' are sold?



**Solution:**

**Correct Answer : 86300**

**Your Answer : 86300**

The total number of books sold by Charles Dickens is 307400, which is 10% of the books sold by five authors. Hence the total number of books sold by the five authors is 3074000.

Therefore, the number of books sold by each author is as follows:

Author	No. of books sold as a % of total books sold by the authors	No. of Books sold
George Martin	27%	829980
J.K. Rowling	24%	737760
J.R.R. Tolkien	25%	768500
Stephanie Meyer	14%	430360
Charles Dickens	10%	307400

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210
Total	829980		737760		768500		430360		307400

Number of copies of Midnight Sun sold by Stephanie Meyer  
 $= 430360 - (80785 + 95425 + 73375 + 94475) = 430360 - 344060 = 86300$ .

FeedBack

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Answer key/Solution

Direction for the questions 47 to 50: Answer the questions on the basis of the information given below.

The table below gives details about the number of books sold by each author as a percentage of the total number of books sold by the five authors.

Author	No. of books sold as a % of total books sold by the authors
George Martin	27%
J.K. Rowling	24%
J.R.R. Tolkien	25%
Stephanie Meyer	14%
Charles Dickens	10%

The table below gives the number of copies sold of each of their books by the authors. No other books were sold apart from the ones mentioned in the tables below. Certain data elements in the table are missing.

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210

Q.48

The number of copies of 'Feast for crows' sold is the average of the number of copies of 'Return of the King' sold and the number of copies of 'Silmarillion' sold. How many copies of 'Dance with Dragons' are sold?

✖

**Solution:**

**Correct Answer : 120505**

**Your Answer : 87165**

The total number of books sold by Charles Dickens is 307400, which is 10% of the books sold by five authors. Hence the total number of books sold by the five authors is 3074000.

Therefore, the number of books sold by each author is as follows:

Author	No. of books sold as a % of total books sold by the authors	No. of Books sold
George Martin	27%	829980
J.K. Rowling	24%	737760
J.R.R. Tolkien	25%	768500
Stephanie Meyer	14%	430360
Charles Dickens	10%	307400

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210
Total	829980		737760		768500		430360		307400

Total of the number of copies of 'Return of the king' and 'Silmarillion' sold

= 768500 – (150155 + 175480 + 235175) = 207690

Hence, number of copies of 'Feast for crows' sold = the average of copies of 'Return of the king' and 'Silmarillion'

$\frac{207690}{2} = 103845$

Therefore, number of copies of 'Dance with dragons' sold

= 829980 – (130430 + 240575 + 234625 + 234625 + 103845)

= 829980 – 709475 = 120505.

FeedBack

Bookmark

Answer key/Solution

Direction for the questions 47 to 50: Answer the questions on the basis of the information given below.

The table below gives details about the number of books sold by each author as a percentage of the total number of books sold by the five authors.

Author	No. of books sold as a % of total books sold by the authors
George Martin	27%
J.K. Rowling	24%
J.R.R. Tolkien	25%
Stephanie Meyer	14%
Charles Dickens	10%

The table below gives the number of copies sold of each of their books by the authors. No other books were sold apart from the ones mentioned in the tables below. Certain data elements in the table are missing.

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210

**Q.49**  
If the number of copies of 'Order of Phoenix' is greater than number of copies of 'Breaking Dawn' and less than the number of copies of 'The Hobbit', then how many of the following statements are incorrect?

- The number of copies of 'Chamber of Secrets' sold is not the lowest among any book sold.
- The number of copies of 'Chamber of secrets' sold can be higher than the number of copies of 'Two towers' sold.
- The number of copies of 'Chamber of secrets' sold is higher than the number of copies of 'Hard times' sold.
- The number of copies of 'Chamber of Secrets' sold is higher than the sum of the number of copies of 'Breaking dawn' and 'Vampire story' sold.

**Solution:**

**Correct Answer : 1**

Bookmark

Answer key/Solution

The total number of books sold by Charles Dickens is 307400, which is 10% of the books sold by five authors. Hence the total number of books sold by the five authors is 3074000.

Therefore, the number of books sold by each author is as follows:

Author	No. of books sold as a % of total books sold by the authors	No. of Books sold
George Martin	27%	829980
J.K. Rowling	24%	737760
J.R.R. Tolkien	25%	768500
Stephanie Meyer	14%	430360
Charles Dickens	10%	307400

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210
Total	829980		737760		768500		430360		307400

The range of the number of books of 'Order of Phoenix' sold is [95426, 235174]

Minimum number of J.K Rowling books sold excluding 'Chamber of secrets' =  $135350 + 142480 + 185560 + 95426$   
= 558816

Maximum number of J.K Rowling books sold excluding 'Chamber of secrets' =  $135350 + 142480 + 185560 + 235174$   
= 698564

Therefore total number of J.K Rowling books sold apart from 'Chamber of Secrets' is in the range [558816, 698564]

Hence, the number of 'Chamber of secrets' copies sold would be in the range = [39196, 178944]

Total number of copies of 'Breaking dawn' and 'Vampire Story' sold =  $94475 + 95425 = 189900$  which is greater than the number of 'Chamber of secrets' books that can be sold.

Hence, only one statement is incorrect.

FeedBack

**Direction for the questions 47 to 50: Answer the questions on the basis of the information given below.**

**The table below gives details about the number of books sold by each author as a percentage of the total number of books sold by the five authors.**

Author	No. of books sold as a % of total books sold by the authors
George Martin	27%
J.K. Rowling	24%
J.R.R. Tolkien	25%
Stephanie Meyer	14%
Charles Dickens	10%

**The table below gives the number of copies sold of each of their books by the authors. No other books were sold apart from the ones mentioned in the tables below. Certain data elements in the table are missing.**

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210

Q.50

The number of copies of 'Feast for crows' sold is 150000 which is 25% more than the number of copies of Chamber of secrets sold. What is the difference between the number of copies sold of 'Dance with Dragons' and the number of copies sold of 'Order of Phoenix'?



Solution:

Correct Answer : 80020

Your Answer : 80020

The total number of books sold by Charles Dickens is 307400, which is 10% of the books sold by five authors. Hence the total number of books sold by the five authors is 3074000.

Therefore, the number of books sold by each author is as follows:

Author	No. of books sold as a % of total books sold by the authors	No. of Books sold
George Martin	27%	829980
J.K. Rowling	24%	737760
J.R.R. Tolkien	25%	768500
Stephanie Meyer	14%	430360
Charles Dickens	10%	307400

George Martin		J.K. Rowling		J.R.R. Tolkien		Stephanie Meyer		Charles Dickens	
Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold	Book	No. of copies sold
Game of Thrones	130430	Philosopher's stone	135350	Fellowship of the ring	150155	Twilight	80785	Oliver Twist	81825
Clash of Kings	240575	Chamber of Secrets		Two towers	175480	Breaking dawn	95425	David Copperfield	49475
Storm of Swords	234625	Prisoner of Azkaban	142480	Return of the king		New moon	73375	Tale of two cities	54255
Feast for crows		Goblet of fire	185560	The Hobbit	235175	Midnight sun		Hard times	37635
Dance with Dragons		Order of Phoenix		Silmarillion		Vampire story	94475	Nicholas Nickleby	84210
Total	829980		737760		768500		430360		307400

Number of copies of 'Feast for Crows' = 150000

= Chamber of Secrets  $\left(\frac{125}{100}\right)$

∴ Number of copies of 'Chamber of Secrets' = 120000

Number of copies of 'Dance with Dragons' sold

= 829980 - 755630 = 74350

Number of copies of 'Chamber of secrets' sold

= 120000

Number of copies of 'Order of Phoenix' sold

= 737760 - 583390 = 154370

∴ Hence, the required difference = 80020.

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Answer key/Solution

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

The following data was obtained by Dr. Fokatmein Davadaru when he was on an expedition to the deep jungles of sub-Saharan Africa. He discovered many new independent diseases and came up with their names and sequence of their cause as under:

- Adimbo, Bimbusaki, Chikolati or YallaYalla may cause Didimbo.
- Bimbusaki, Chikolati or YallaYalla may cause Ekandi.
- YallaYalla or Xirongo may cause Feritongo.
- Didimbo or Ekandi may cause Godambo or Hingulaki only if Didimbo or Ekandi are caused by Bimbusaki or Chikolati.
- Didimbo or Ekandi may cause Iringo only if Didimbo or Ekandi are caused by Chikolati.
- Only Ekandi and Feritongo together can cause Maringo or Naringo.
- Feritongo may cause Hingulaki only if it is caused by YallaYalla or Xirongo.

Q.51

Which of the disease may result as a direct consequence of four other diseases?

Fill "1 if your answer is Didimbo"

Fill "2 if your answer is Ekandi"

Fill "3 if your answer is Feritongo"

Fill "4 if your answer is Maringo"

Solution:

Correct Answer : 1

Bookmark

Answer key/Solution

Let us denote the name of given diseases by their initials, say, Adimbo is denoted by A, Bimbusaki is denoted by B and so on. Given information is shown in the table, where rows represent causing diseases and columns represent caused diseases and ( )s represent any previous disease condition required.

Following disease \ Preceding disease	D	E	F	G	H	I	M	N
A	√							
B	√	√						
C	√	√						
D				√ (B, C)	√ (B, C)	√ (C)		
E				√ (B, C)	√ (B, C)	√ (C)		
F					√ (X, Y)		√	√
G								
X			√					
Y	√	√	√					

Among the given diseases, Didimbo result from the direct consequences of Adimbo, Bimbusaki, Chikolati and Yallayalla.

FeedBack

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

The following data was obtained by Dr. Fokatmein Davadaru when he was on an expedition to the deep jungles of sub-Saharan Africa. He discovered many new independent diseases and came up with their names and sequence of their cause as under:

- Adimbo, Bimbusaki, Chikolati or YallaYalla may cause Didimbo.
- Bimbusaki, Chikolati or YallaYalla may cause Ekandi.
- YallaYalla or Xirongo may cause Feritongo.
- Didimbo or Ekandi may cause Godambo or Hingulaki only if Didimbo or Ekandi are caused by Bimbusaki or Chikolati.
- Didimbo or Ekandi may cause Iringo only if Didimbo or Ekandi are caused by Chikolati.
- Only Ekandi and Feritongo together can cause Maringo or Naringo.
- Feritongo may cause Hingulaki only if it is caused by YallaYalla or Xirongo.

Q.52

Which disease does not cause any of the other given diseases?

Fill "1 if your answer is Chikolati"

Fill "2 if your answer is Bimbusaki"

Fill "3 if your answer is Godambo"

Fill "4 if your answer is YallaYalla"

Solution:

Correct Answer : 3

Let us denote the name of given diseases by their initials, say, Adimbo is denoted by A, Bimbusaki is denoted by B and so on. Given information is shown in the table, where rows represent causing diseases and columns represent caused diseases and ( )s represent any previous disease condition required.

Following disease \ Preceding disease	D	E	F	G	H	I	M	N
A	√							
B	√	√						
C	√	√						
D				√ (B, C)	√ (B, C)	√ (C)		
E				√ (B, C)	√ (B, C)	√ (C)		
F					√ (X, Y)		√	√
G								
X			√					
Y	√	√	√					

Godambo does not causes any other diseases.

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Answer key/Solution

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

The following data was obtained by Dr. Fokatmein Davadaru when he was on an expedition to the deep jungles of sub-Saharan Africa. He discovered many new independent diseases and came up with their names and sequence of their cause as under:

- Adimbo, Bimbusaki, Chikolati or YallaYalla may cause Didimbo.
- Bimbusaki, Chikolati or YallaYalla may cause Ekandi.
- YallaYalla or Xirongo may cause Feritongo.
- Didimbo or Ekandi may cause Godambo or Hingulaki only if Didimbo or Ekandi are caused by Bimbusaki or Chikolati.
- Didimbo or Ekandi may cause Iringo only if Didimbo or Ekandi are caused by Chikolati.
- Only Ekandi and Feritongo together can cause Maringo or Naringo.
- Feritongo may cause Hingulaki only if it is caused by YallaYalla or Xirongo.

Q.53

Which of the following diseases may be caused by the combination of diseases Ekandi and Feritongo?

- (I) Maringo  
(II) Naringo  
(III) Adimbo  
(IV) both Maringo and Naringo

Fill "1 if your answer is (I)"

Fill "2 if your answer is (II)"

Fill "3 if your answer is (III)"

Fill "4 if your answer is (IV)"

**Solution:**

**Correct Answer : 4**

Let us denote the name of given diseases by their initials, say, Adimbo is denoted by A, Bimbusaki is denoted by B and so on. Given information is shown in the table, where rows represent causing diseases and columns represent caused diseases and ( )s represent any previous disease condition required.

Following disease Preceding disease	D	E	F	G	H	I	M	N
A	√							
B	√	√						
C	√	√						
D				√ (B, C)	√ (B, C)	√ (C)		
E				√ (B, C)	√ (B, C)	√ (C)	√	√
F					√ (X, Y)			
G								
X			√					
Y	√	√	√					

Naringo and Maringo both can be caused by the combination of Ekandi and Feritongo.

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Answer key/Solution

Directions for questions 51 to 54: Answer the questions on the basis of the information given below.

The following data was obtained by Dr. Fokatmein Davadaru when he was on an expedition to the deep jungles of sub-Saharan Africa. He discovered many new independent diseases and came up with their names and sequence of their cause as under:

- Adimbo, Bimbusaki, Chikolati or YallaYalla may cause Didimbo.
- Bimbusaki, Chikolati or YallaYalla may cause Ekandi.
- YallaYalla or Xirongo may cause Feritongo.
- Didimbo or Ekandi may cause Godambo or Hingulaki only if Didimbo or Ekandi are caused by Bimbusaki or Chikolati.
- Didimbo or Ekandi may cause Iringo only if Didimbo or Ekandi are caused by Chikolati.
- Only Ekandi and Feritongo together can cause Maringo or Naringo.
- Feritongo may cause Hingulaki only if it is caused by YallaYalla or Xirongo.

Q.54

How many different combinations of various diseases may cause Hingulaki?

Fill "1 if your answer is 4"

Fill "2 if your answer is 5"

Fill "3 if your answer is 2"

Fill "4 if your answer is 6"



**Solution:****Correct Answer : 4**

Let us denote the name of given diseases by their initials, say, Adimbo is denoted by A, Bimbusaki is denoted by B and so on. Given information is shown in the table, where rows represent causing diseases and columns represent caused diseases and ( )s represent any previous disease condition required.

Following disease \ Preceding disease	D	E	F	G	H	I	M	N
A	✓							
B	✓	✓						
C	✓	✓						
D				✓ (B, C)	✓ (B, C)	✓ (C)		
E				✓ (B, C)	✓ (B, C)	✓ (C)		
F					✓ (X, Y)		✓	✓
G								
X			✓					
Y	✓	✓	✓					

Hingulaki may be caused by combinations of any of the following diseases:

Bimbusaki + Didimbo;  
Chikolati + Didimbo;  
Bimbusaki + Ekandi;  
Chikolati + Ekandi;  
Xirongo + Feritongo;  
Yallayalla + Feritongo.

These 6 combinations can cause Hingulaki.

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Answer key/Solution

**Directions for questions 55 to 58: Answer the questions on the basis of the information given below.**

Faketa Kapoor is in a major casting crisis for her upcoming daily soap 'Kahaani SaasBahu Ki' having six characters shown belonging to the same family. Three actors and three actresses refused to play the role that was originally cast for them by the casting manager and instead opted for a role that was given to some other actor/actress amongst them. All information given below pertains to these six people and the characters portrayed by them only. And every actor portrays the same gender in the serial that he/she actually belongs to in real life.

- The actor who was originally playing the brother of a character named Tulsi in the serial, decided to play her father instead.
- The actress whose real name is Saakshi was originally supposed to play the role of the granddaughter of the person playing the character of Hasmukh, but instead opts out to play the role that was originally assigned to the actress with real name Sudha.
- The actor whose real name is Amar was supposed to play the uncle of the lady playing the character of Bhavesh, but instead opts to play the role of the father of the actor whose real name is Ronit in the new casting scenario.
- The actress whose real name is Smriti decides to play the daughter of the character who she herself was supposed to be cast for and now ends up being single instead of married, as in the original cast.
- Kinjal is supposed to be Mihir's, a male, brother-in-law in the serial and the actor whose real name is Ram was originally cast to play the character of Nehal, who is also shown to have a spouse.

**Q.55**

**How is Hasmukh related to Tulsi in the serial?**

- 1 ☐ Father
- 2 ☐ Brother
- 3 ☐ Mother
- 4 ☐ Husband

**Solution:****Correct Answer : 3**

Let us list down the real and screen names of actors and actresses first:

**Actors Real Names:** Amar, Ronit, Ram

**Actresses Real Names:** Sudha, Saakshi, Smriti

**Actors Character Names:**

Kinjal (Mihir's brother-in-law), Nehal (although a female name, but an actor is playing that role and hence must be a male), Mihir (Tulsi is being referred to her and has a brother, while Mihir has a brother-in-law. Hence, Mihir must be Tulsi's husband).

Since, all the above characters were males, the remaining characters must all be females, since there are 3 actors and 3 actresses and everyone is portraying the same gender as they actually belong to).

**Actresses Character Names:** Tulsi, Hasmukh and Bhavesh

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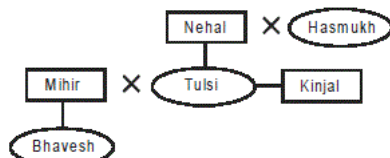
Answer key/Solution

Note that these character names are the real cause of all confusion. Hasmukh and Bhavesh seem to be names of males, but as it turns out these are the names of characters portrayed by females in the serial. Also, Nehal is a female name, however it is being portrayed by a male. Hence it was important to sort out names first.

#### Characters and their relationship in the serial:

Let us first understand the relationship of different characters in the serial. This is important to be done first because the characters in the serial have not changed, it is the actors/actresses portraying them who have changed.

Tulsi is Mihir's wife (as deduced earlier). Kinjal is Mihir's brother-in-law and hence, Tulsi's brother. There is mention of Bhavesh's uncle and also of grand-daughter of Hasmukh. It is obvious that, Bhavesh must then be the daughter of Tulsi and Mihir and hence Kinjal must be Bhavesh's uncle. There is a mention of Tulsi's father and a character named Nehal, having a spouse. Hence, Nehal and Hasmukh are Tulsi's parents. Hasmukh (already identified as female) must then be Bhavesh's grandmother or Tulsi's mother and Nehal must be her father or Hasmukh's husband.



Now let us assign the actors/actresses to these characters (both in Original and Revised scenario).

**Original and Revised casting for Actresses:** Smriti decides to play the daughter of the character that she was originally supposed to play (So, she could now portray either Tulsi or Bhavesh), and ends up being single instead of married as in the original cast (But Tulsi is not single). This means, originally Smriti was supposed to play the character of Tulsi, now she is playing the character of Bhavesh.

Saakshi was originally supposed to play the role of grand-daughter of character Hasmukh i.e. Bhavesh.

**Original cast for actresses:** Tulsi (Smriti), Bhavesh (Saakshi) and Hasmukh (Sudha, as this is the only female character left for her).

In the revised scenario, Saakshi ends up playing the role of actresses with real name Sudha (i.e. Hasmukh).

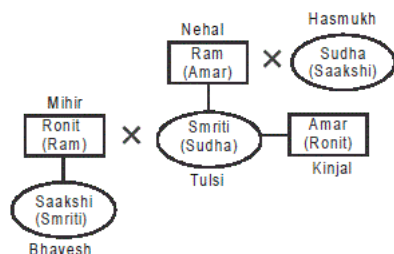
**Revised cast for actresses:** Hasmukh (Saakshi), Bhavesh (Smriti) and Tulsi (Sudha, as this is the only female character left for her).

**Original and Revised casting for Actors:** Amar was originally supposed to play the role of Bhavesh's uncle (i.e. Kinjal) or Tulsi's brother. He is now playing the role of her father (i.e. Nehal) instead or even Ronit's father. This means Ronit must be portraying the role of Kinjal in the revised casting. The actor Ram was supposed to play the role of Nehal in the original casting.

**Original cast for actors:** Kinjal (Amar), Nehal (Ram), Mihir (Ronit, as this is the only male character left for him).

**Revised cast for actors:** Kinjal (Ronit), Nehal (Amar), Mihir (Ram, as this is the only male character left for him).

#### Original Cast (Revised Cast)



From the image, Hasmukh is Tulsi's mother.

FeedBack

**Directions for questions 55 to 58: Answer the questions on the basis of the information given below.**

**Faketa Kapoor is in a major casting crisis for her upcoming daily soap 'Kahaani SaasBahu Ki' having six characters shown belonging to the same family.**

Three actors and three actresses refused to play the role that was originally cast for them by the casting manager and instead opted for a role that was given to some other actor/actress amongst them. All information given below pertains to these six people and the characters portrayed by them only. And every actor portrays the same gender in the serial that he/she actually belongs to in real life.

- The actor who was originally playing the brother of a character named Tulsi in the serial, decided to play her father instead.
- The actress whose real name is Saakshi was originally supposed to play the role of the granddaughter of the person playing the character of Hasmukh, but instead opts out to play the role that was originally assigned to the actress with real name Sudha.
- The actor whose real name is Amar was supposed to play the uncle of the lady playing the character of Bhavesh, but instead opts to play the role of the father of the actor whose real name is Ronit in the new casting scenario.
- The actress whose real name is Smriti decides to play the daughter of the character who she herself was supposed to be cast for and now ends up being single instead of married, as in the original cast.
- Kinjal is supposed to be Mihir's, a male, brother-in-law in the serial and the actor whose real name is Ram was originally cast to play the character of Nehal, who is also shown to have a spouse.

Q.56

Which actor/actress was originally supposed to portray the role of Bhavesh?

1 ☐ Amar2 ☐ Saakshi3 ☐ Ronit4 ☐ Smriti**Solution:****Correct Answer : 2**

Let us list down the real and screen names of actors and actresses first:

**Actors Real Names:** Amar, Ronit, Ram**Actresses Real Names:** Sudha, Saakshi, Smriti**Actors Character Names:**

Kinjal (Mihir's brother-in-law), Nehal (although a female name, but an actor is playing that role and hence must be a male), Mihir (Tulsi is being referred to her and has a brother, while Mihir has a brother-in-law. Hence, Mihir must be Tulsi's husband).

Since, all the above characters were males, the remaining characters must all be females, since there are 3 actors and 3 actresses and everyone is portraying the same gender as they actually belong to).

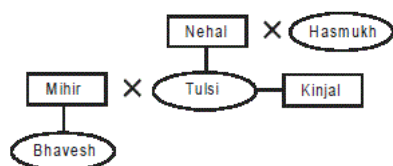
**Actresses Character Names:** Tulsi, Hasmukh and Bhavesh

Note that these character names are the real cause of all confusion. Hasmukh and Bhavesh seem to be names of males, but as it turns out these are the names of characters portrayed by females in the serial. Also, Nehal is a female name, however it is being portrayed by a male. Hence it was important to sort out names first.

**Characters and their relationship in the serial:**

Let us first understand the relationship of different characters in the serial. This is important to be done first because the characters in the serial have not changed, it is the actors/actresses portraying them who have changed.

Tulsi is Mihir's wife (as deduced earlier). Kinjal is Mihir's brother-in-law and hence, Tulsi's brother. There is mention of Bhavesh's uncle and also of grand-daughter of Hasmukh. It is obvious that, Bhavesh must then be the daughter of Tulsi and Mihir and hence Kinjal must be Bhavesh's uncle. There is a mention of Tulsi's father and a character named Nehal, having a spouse. Hence, Nehal and Hasmukh are Tulsi's parents. Hasmukh (already identified as female) must then be Bhavesh's grandmother or Tulsi's mother and Nehal must be her father or Hasmukh's husband.



Now let us assign the actors/actresses to these characters (both in Original and Revised scenario).

**Original and Revised casting for Actresses:** Smriti decides to play the daughter of the character that she was originally supposed to play (So, she could now portray either Tulsi or Bhavesh), and ends up being single instead of married as in the original cast (But Tulsi is not single). This means, originally Smriti was supposed to play the character of Tulsi, now she is playing the character of Bhavesh.

Saakshi was originally supposed to play the role of grand-daughter of character Hasmukh i.e. Bhavesh.

**Original cast for actresses:** Tulsi (Smriti), Bhavesh (Saakshi) and Hasmukh (Sudha, as this is the only female character left for her).

[Bookmark](#)
[Answer key/Solution](#)

In the revised scenario, Saakshi ends up playing the role of actresses with real name Sudha (i.e. Hasmukh).

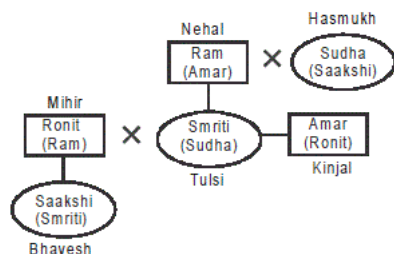
**Revised cast for actresses:** Hasmukh (Saakshi), Bhavesh (Smriti) and Tulsi (Sudha, as this is the only female character left for her).

**Original and Revised casting for Actors:** Amar was originally supposed to play the role of Bhavesh's uncle (i.e. Kinjal) or Tulsi's brother. He is now playing the role of her father (i.e. Nehal) instead or even Ronit's father. This means Ronit must be portraying the role of Kinjal in the revised casting. The actor Ram was supposed to play the role of Nehal in the original casting.

**Original cast for actors:** Kinjal (Amar), Nehal (Ram), Mihir (Ronit, as this is the only male character left for him).

**Revised cast for actors:** Kinjal (Ronit), Nehal (Amar), Mihir (Ram, as this is the only male character left for him).

#### Original Cast (Revised Cast)



As you can see Saakshi was supposed to portray Bhavesh.

FeedBack

Directions for questions 55 to 58: Answer the questions on the basis of the information given below.

Faketa Kapoor is in a major casting crisis for her upcoming daily soap 'Kahaani SaasBahu Ki' having six characters shown belonging to the same family. Three actors and three actresses refused to play the role that was originally cast for them by the casting manager and instead opted for a role that was given to some other actor/actress amongst them. All information given below pertains to these six people and the characters portrayed by them only. And every actor portrays the same gender in the serial that he/she actually belongs to in real life.

- The actor who was originally playing the brother of a character named Tulsi in the serial, decided to play her father instead.
- The actress whose real name is Saakshi was originally supposed to play the role of the granddaughter of the person playing the character of Hasmukh, but instead opts out to play the role that was originally assigned to the actress with real name Sudha.
- The actor whose real name is Amar was supposed to play the uncle of the lady playing the character of Bhavesh, but instead opts to play the role of the father of the actor whose real name is Ronit in the new casting scenario.
- The actress whose real name is Smriti decides to play the daughter of the character who she herself was supposed to be cast for and now ends up being single instead of married, as in the original cast.
- Kinjal is supposed to be Mihir's, a male, brother-in-law in the serial and the actor whose real name is Ram was originally cast to play the character of Nehal, who is also shown to have a spouse.

Q.57

Which character in the serial is Amar portraying in the revised casting?

- 1 ☐ Nehal
- 2 ☐ Kinjal
- 3 ☐ Mihir
- 4 ☐ Bhavesh

**Solution:**

**Correct Answer : 1**

Let us list down the real and screen names of actors and actresses first:

**Actors Real Names:** Amar, Ronit, Ram

**Actresses Real Names:** Sudha, Saakshi, Smriti

**Actors Character Names:**

Kinjal (Mihir's brother-in-law), Nehal (although a female name, but an actor is playing that role and hence must be a male), Mihir (Tulsi is being referred to her and has a brother, while Mihir has a brother-in-law. Hence, Mihir must be Tulsi's husband).

Since, all the above characters were males, the remaining characters must all be females, since there are 3 actors and 3 actresses and everyone is portraying the same gender as they actually belong to).

**Actresses Character Names:** Tulsi, Hasmukh and Bhavesh

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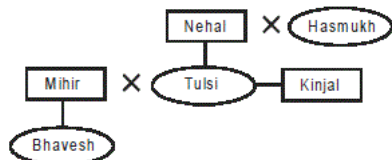
Answer key/Solution

Note that these character names are the real cause of all confusion. Hasmukh and Bhavesh seem to be names of males, but as it turns out these are the names of characters portrayed by females in the serial. Also, Nehal is a female name, however it is being portrayed by a male. Hence it was important to sort out names first.

#### Characters and their relationship in the serial:

Let us first understand the relationship of different characters in the serial. This is important to be done first because the characters in the serial have not changed, it is the actors/actresses portraying them who have changed.

Tulsi is Mihir's wife (as deduced earlier). Kinjal is Mihir's brother-in-law and hence, Tulsi's brother. There is mention of Bhavesh's uncle and also of grand-daughter of Hasmukh. It is obvious that, Bhavesh must then be the daughter of Tulsi and Mihir and hence Kinjal must be Bhavesh's uncle. There is a mention of Tulsi's father and a character named Nehal, having a spouse. Hence, Nehal and Hasmukh are Tulsi's parents. Hasmukh (already identified as female) must then be Bhavesh's grandmother or Tulsi's mother and Nehal must be her father or Hasmukh's husband.



Now let us assign the actors/actresses to these characters (both in Original and Revised scenario).

**Original and Revised casting for Actresses:** Smriti decides to play the daughter of the character that she was originally supposed to play (So, she could now portray either Tulsi or Bhavesh), and ends up being single instead of married as in the original cast (But Tulsi is not single). This means, originally Smriti was supposed play the character of Tulsi, now she is playing the character of Bhavesh.

Saakshi was originally supposed to play the role of grand-daughter of character Hasmukh i.e. Bhavesh.

**Original cast for actresses:** Tulsi (Smriti), Bhavesh (Saakshi) and Hasmukh (Sudha, as this is the only female character left for her).

In the revised scenario, Saakshi ends up playing the role of actresses with real name Sudha (i.e. Hasmukh).

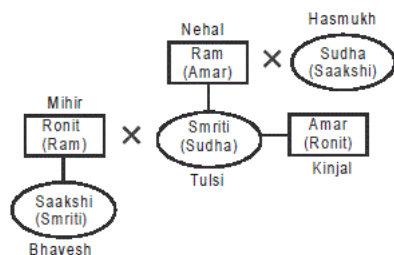
**Revised cast for actresses:** Hasmukh (Saakshi), Bhavesh (Smriti) and Tulsi (Sudha, as this is the only female character left for her).

**Original and Revised casting for Actors:** Amar was originally supposed to play the role of Bhavesh's uncle (i.e. Kinjal) or Tulsi's brother. He is now playing the role of her father (i.e. Nehal) instead or even Ronit's father. This means Ronit must be portraying the role of Kinjal in the revised casting. The actor Ram was supposed to play the role of Nehal in the original casting.

**Original cast for actors:** Kinjal (Amar), Nehal (Ram), Mihir (Ronit, as this is the only male character left for him).

**Revised cast for actors:** Kinjal (Ronit), Nehal (Amar), Mihir (Ram, as this is the only male character left for him).

#### Original Cast (Revised Cast)



From the image, it is Nehal.

FeedBack

**Directions for questions 55 to 58: Answer the questions on the basis of the information given below.**

**Faketa Kapoor is in a major casting crisis for her upcoming daily soap 'Kahaani SaasBahu Ki' having six characters shown belonging to the same family. Three actors and three actresses refused to play the role that was originally cast for them by the casting manager and instead opted for a role that was**



given to some other actor/actress amongst them. All information given below pertains to these six people and the characters portrayed by them only. And every actor portrays the same gender in the serial that he/she actually belongs to in real life.

- The actor who was originally playing the brother of a character named Tulsi in the serial, decided to play her father instead.
- The actress whose real name is Saakshi was originally supposed to play the role of the granddaughter of the person playing the character of Hasmukh, but instead opts out to play the role that was originally assigned to the actress with real name Sudha.
- The actor whose real name is Amar was supposed to play the uncle of the lady playing the character of Bhavesh, but instead opts to play the role of the father of the actor whose real name is Ronit in the new casting scenario.
- The actress whose real name is Smriti decides to play the daughter of the character who she herself was supposed to be cast for and now ends up being single instead of married, as in the original cast.
- Kinjal is supposed to be Mihir's, a male, brother-in-law in the serial and the actor whose real name is Ram was originally cast to play the character of Nehal, who is also shown to have a spouse.

Q.58

How Ronit's original casting is related to Ronit's revised casting?

1 ☐ Brother in law

2 ☐ Father

3 ☐ Son

4 ☐ Father in law

**Solution:**

**Correct Answer : 1**

Let us list down the real and screen names of actors and actresses first:

**Actors Real Names:** Amar, Ronit, Ram

**Actresses Real Names:** Sudha, Saakshi, Smriti

**Actors Character Names:**

Kinjal (Mihir's brother-in-law), Nehal (although a female name, but an actor is playing that role and hence must be a male), Mihir (Tulsi is being referred to her and has a brother, while Mihir has a brother-in-law. Hence, Mihir must be Tulsi's husband).

Since, all the above characters were males, the remaining characters must all be females, since there are 3 actors and 3 actresses and everyone is portraying the same gender as they actually belong to).

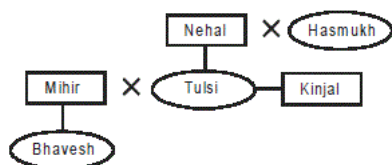
**Actresses Character Names:** Tulsi, Hasmukh and Bhavesh

Note that these character names are the real cause of all confusion. Hasmukh and Bhavesh seem to be names of males, but as it turns out these are the names of characters portrayed by females in the serial. Also, Nehal is a female name, however it is being portrayed by a male. Hence it was important to sort out names first.

**Characters and their relationship in the serial:**

Let us first understand the relationship of different characters in the serial. This is important to be done first because the characters in the serial have not changed, it is the actors/actresses portraying them who have changed.

Tulsi is Mihir's wife (as deduced earlier). Kinjal is Mihir's brother-in-law and hence, Tulsi's brother. There is mention of Bhavesh's uncle and also of grand-daughter of Hasmukh. It is obvious that, Bhavesh must then be the daughter of Tulsi and Mihir and hence Kinjal must be Bhavesh's uncle. There is a mention of Tulsi's father and a character named Nehal, having a spouse. Hence, Nehal and Hasmukh are Tulsi's parents. Hasmukh (already identified as female) must then be Bhavesh's grandmother or Tulsi's mother and Nehal must be her father or Hasmukh's husband.



Now let us assign the actors/actresses to these characters (both in Original and Revised scenario).

**Original and Revised casting for Actresses:** Smriti

decides to play the daughter of the character that she was originally supposed to play (So, she could now portray either Tulsi or Bhavesh), and ends up being single instead of married as in the original cast (But Tulsi is not single). This means, originally Smriti was supposed to play the character of Tulsi, now she is playing the character of Bhavesh.

Saakshi was originally supposed to play the role of grand-daughter of character Hasmukh i.e. Bhavesh.

**Original cast for actresses:** Tulsi (Smriti), Bhavesh (Saakshi) and Hasmukh (Sudha, as this is the only female character left for her).

In the revised scenario, Saakshi ends up playing the role of

Bookmark

Answer key/Solution

actresses with real name Sudha (i.e. Hasmukh).

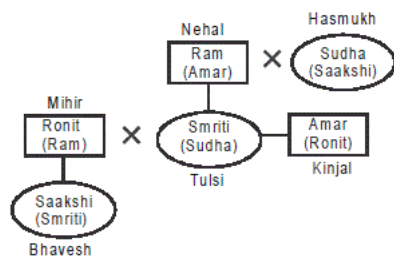
**Revised cast for actresses:** Hasmukh (Saakshi), Bhavesh (Smriti) and Tulsi (Sudha, as this is the only female character left for her).

**Original and Revised casting for Actors:** Amar was originally supposed to play the role of Bhavesh's uncle (i.e. Kinjal) or Tulsi's brother. He is now playing the role of her father (i.e. Nehal) instead or even Ronit's father. This means Ronit must be portraying the role of Kinjal in the revised casting. The actor Ram was supposed to play the role of Nehal in the original casting.

**Original cast for actors:** Kinjal (Amar), Nehal (Ram), Mihir (Ronit, as this is the only male character left for him).

**Revised cast for actors:** Kinjal (Ronit), Nehal (Amar), Mihir (Ram, as this is the only male character left for him).

#### Original Cast (Revised Cast)



From the image, it is brother in law.

FeedBack

**Directions for questions 59 to 62:** Answer the questions on the basis of the information given below.

Eight B School students – P, Q, R, S, T, U, V and W – are sitting around a circular table, not necessarily in that order (all are facing center of the table). Each student specializes in a different subject among HR, Finance, Corporate Finance, Marketing, Sales, Operations, Business Management and Banking, not necessarily in that order. The students are ranked according to their Heights, rank 1 was given to the Tallest and rank 8 to the shortest, and no two students got the same rank. The sum of the ranks of any two students sitting opposite to each other is an odd number.

Further it is known that, the tallest person is not opposite the shortest person, who, in turn, specializes in Corporate Finance. S is sitting to the immediate right of P and the person sitting opposite to S specializes in Sales. Q is opposite to R and one of them specializes in Operations and the other in Finance. There is exactly one person sitting between U, the second shortest person, and the second tallest person. The students whose specializations are HR and Business Management are sitting adjacent to each other. T is sitting two places away from P and the person sitting opposite T specializes in HR. P, whose specialization is Marketing, is the fourth Tallest person and he is sitting opposite to the person who is the fourth shortest and whose specialization is Banking.

**Q.59**

If it is known that when the shortest person and the tallest person interchange their places, then the person whose specialization is in Finance will be opposite to V; Who among the following specializes in Banking?

1 ☐ R

2 ☐ W

3 ☐ P

4 ☐ S

**Solution:**

**Correct Answer : 2**

**Bookmark**

**Answer key/Solution**



There are three different descriptions for each slot in the circular table.

We begin by placing P, who has rank 4 and specializes in Marketing. To the right of him would be S. The person opposite to S is specializing in Sales.

Opposite to P is sitting the person who has rank 5 and specializes in banking.

It is given that T is two places away from P, which means that either T is on the right of S or two places to the left of P.

It is given that Q and R are opposite each other. Since T is to two places away from P, it follows that either Q or R is to the immediate left of P. They specialize in Operations or Finance as the case may be.

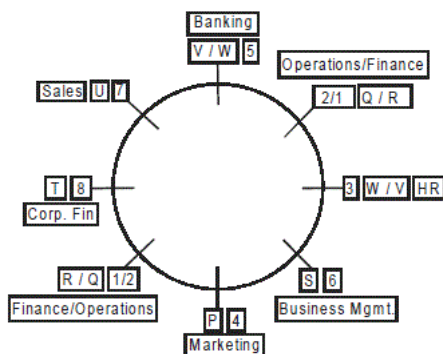
We can also see that since U is ranked 7 and has one person between him and the person ranked 2. We can then have only one place for U and that person therefore specializes in Sales.

It is given that the persons with HR and Business Management as their specializations sit next to each other. The only two continuous slots available are the position of S and the position immediate right of S. It follows therefore that T has to be two places to the left of P only. This is because the person opposite T is specializing in HR. Therefore, S specializes in Business Management. Also, T is ranked 8. Since the person opposite 8 cannot be 1, it follows that the person opposite 8 should be 3 (it cannot be 7 who is to the left of 8 and 5 who is opposite 4) as the sum of the ranks of persons sitting opposite to each other has to be odd.

Also, we can therefore see that the person sitting opposite to the one who has rank 7 has to be rank 6 as the person ranked 2 is sitting one seat away from the person ranked 7.

It follows therefore that ranks 1 and 2 have to be for Q and R in any order.

The final arrangement will look as given below.



Only V and W have to be fixed between ranks 3 and 5 and we would need the exact distribution of Q and R with respect to ranks and specializations.

If 1 and 8 interchange, then clearly the person sitting opposite 1 would be rank 3 or the HR person. Since that is given as V (as Finance person obviously gets swapped), the only slot to be filled will be for the Banking person with rank 5 and that has to be W.

FeedBack

Directions for questions 59 to 62: Answer the questions on the basis of the information given below.

Eight B School students – P, Q, R, S, T, U, V and W – are sitting around a circular table, not necessarily in that order (all are facing center of the table). Each student specializes in a different subject among HR, Finance, Corporate Finance, Marketing, Sales, Operations, Business Management and Banking, not necessarily in that order. The students are ranked according to their Heights, rank 1 was given to the Tallest and rank 8 to the shortest, and no two students got the same rank. The sum of the ranks of any two students sitting opposite to each other is an odd number.

Further it is known that, the tallest person is not opposite the shortest person, who, in turn, specializes in Corporate Finance. S is sitting to the immediate right of P and the person sitting opposite to S specializes in Sales. Q is opposite to R and one of them specializes in Operations and the other in Finance. There is exactly one person sitting between U, the second shortest person, and the second tallest person. The students whose specializations are HR and Business Management are sitting adjacent to each other. T is sitting two places away from P and the person sitting opposite T specializes in HR. P, whose specialization is Marketing, is the fourth Tallest person and he is sitting opposite to the person who is the fourth shortest and whose specialization is Banking.

Q.60

If V is adjacent to the person whose specialization is in Operations, then the person whose specialization is in Finance is adjacent to who among the following?

1 ☐ Q

2 ☐ R

3 ☐ T

4 ○ W

**Solution:****Correct Answer : 3**

There are three different descriptions for each slot in the circular table.

We begin by placing P, who has rank 4 and specializes in Marketing. To the right of him would be S. The person opposite to S is specializing in Sales.

Opposite to P is sitting the person who has rank 5 and specializes in banking.

It is given that T is two places away from P, which means that either T is on the right of S or two places to the left of P.

It is given that Q and R are opposite each other. Since T is to two places away from P, it follows that either Q or R is to the immediate left of P. They specialize in Operations or Finance as the case may be.

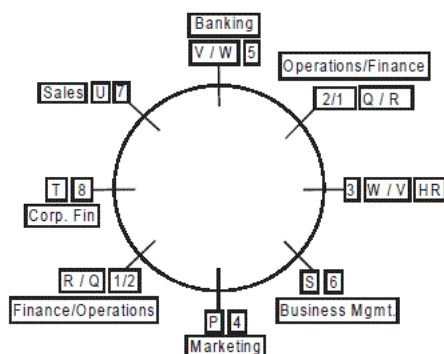
We can also see that since U is ranked 7 and has one person between him and the person ranked 2. We can then have only one place for U and that person therefore specializes in Sales.

It is given that the persons with HR and Business Management as their specializations sit next to each other. The only two continuous slots available are the position of S and the position immediate right of S. It follows therefore that T has to be two places to the left of P only. This is because the person opposite T is specializing in HR. Therefore, S specializes in Business Management. Also, T is ranked 8. Since the person opposite 8 cannot be 1, it follows that the person opposite 8 should be 3 (it cannot be 7 who is to the left of 8 and 5 who is opposite 4) as the sum of the ranks of persons sitting opposite to each other has to be odd.

Also, we can therefore see that the person sitting opposite to the one who has rank 7 has to be rank 6 as the person ranked 2 is sitting one seat away from the person ranked 7.

It follows therefore that ranks 1 and 2 have to be for Q and R in any order.

The final arrangement will look as given below.



Only V and W have to be fixed between ranks 3 and 5 and we would need the exact distribution of Q and R with respect to ranks and specializations.

If V is adjacent to the person who specialize in operations, then the one specializing in finance is sitting between T and P.

FeedBack

**Directions for questions 59 to 62: Answer the questions on the basis of the information given below.**

Eight B School students – P, Q, R, S, T, U, V and W – are sitting around a circular table, not necessarily in that order (all are facing center of the table). Each student specializes in a different subject among HR, Finance, Corporate Finance, Marketing, Sales, Operations, Business Management and Banking, not necessarily in that order. The students are ranked according to their Heights, rank 1 was given to the Tallest and rank 8 to the shortest, and no two student got the same rank. The sum of the ranks of any two students sitting opposite to each other is an odd number.

Further it is known that, the tallest person is not opposite the shortest person, who, in turn, specializes in Corporate Finance. S is sitting to the immediate right of P and the person sitting opposite to S specializes in Sales. Q is opposite to R and one of them specializes in Operations and the other in Finance. There is exactly one person sitting between U, the second shortest person, and the second tallest person. The students whose specializations are HR and Business Management are sitting adjacent to each other. T is sitting two places away from P and the person sitting opposite T specializes in HR. P, whose specialization is Marketing, is the fourth Tallest person and he is sitting opposite to the person who is the fourth shortest and whose specialization is Banking.

**Q.61**

Which of the following statements is definitely true?

- 1 ☐ If the person who specializes in Finance is adjacent to the shortest person, then the person who specializes in Operations is adjacent to the person who specializes in HR.
- 2 ☐ If Q is the tallest person, then W is the third tallest person.

3 ☐ If V specializes in Banking, then the second tallest person specializes in Finance.

4 ☐ If Q is the second tallest person, then R specializes in Finance.

**Solution:**

**Correct Answer : 1**

There are three different descriptions for each slot in the circular table.

We begin by placing P, who has rank 4 and specializes in Marketing. To the right of him would be S. The person opposite to S is specializing in Sales.

Opposite to P is sitting the person who has rank 5 and specializes in banking.

It is given that T is two places away from P, which means that either T is on the right of S or two places to the left of P.

It is given that Q and R are opposite each other. Since T is to two places away from P, it follows that either Q or R is to the immediate left of P. They specialize in Operations or Finance as the case may be.

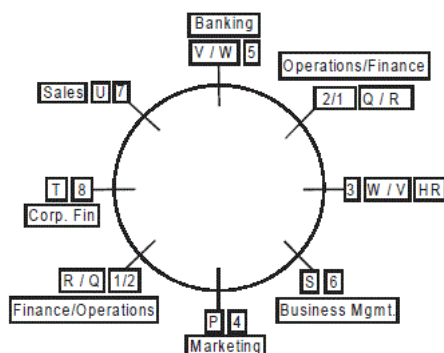
We can also see that since U is ranked 7 and has one person between him and the person ranked 2. We can then have only one place for U and that person therefore specializes in Sales.

It is given that the persons with HR and Business Management as their specializations sit next to each other. The only two continuous slots available are the position of S and the position immediate right of S. It follows therefore that T has to be two places to the left of P only. This is because the person opposite T is specializing in HR. Therefore, S specializes in Business Management. Also, T is ranked 8. Since the person opposite 8 cannot be 1, it follows that the person opposite 8 should be 3 (it cannot be 7 who is to the left of 8 and 5 who is opposite 4) as the sum of the ranks of persons sitting opposite to each other has to be odd.

Also, we can therefore see that the person sitting opposite to the one who has rank 7 has to be rank 6 as the person ranked 2 is sitting one seat away from the person ranked 7.

It follows therefore that ranks 1 and 2 have to be for Q and R in any order.

The final arrangement will look as given below.



Only V and W have to be fixed between ranks 3 and 5 and we would need the exact distribution of Q and R with respect to ranks and specializations.

Choice (1) will clearly be true.

FeedBack

**Directions for questions 59 to 62: Answer the questions on the basis of the information given below.**

Eight B School students – P, Q, R, S, T, U, V and W – are sitting around a circular table, not necessarily in that order (all are facing center of the table). Each student specializes in a different subject among HR, Finance, Corporate Finance, Marketing, Sales, Operations, Business Management and Banking, not necessarily in that order. The students are ranked according to their Heights, rank 1 was given to the Tallest and rank 8 to the shortest, and no two students got the same rank. The sum of the ranks of any two students sitting opposite to each other is an odd number.

Further it is known that, the tallest person is not opposite the shortest person, who, in turn, specializes in Corporate Finance. S is sitting to the immediate right of P and the person sitting opposite to S specializes in Sales. Q is opposite to R and one of them specializes in Operations and the other in Finance. There is exactly one person sitting between U, the second shortest person, and the second tallest person. The students whose specializations are HR and Business Management are sitting adjacent to each other. T is sitting two places away from P and the person sitting opposite T specializes in HR. P, whose specialization is Marketing, is the fourth Tallest person and he is sitting opposite to the person who is the fourth shortest and whose specialization is Banking.

**Q.62**

Which of the following does U specialize in?

1 ☐ Marketing

2 ☐ Business Management

3 ☐ HR4 ☐ Sales**Solution:****Correct Answer : 4**

There are three different descriptions for each slot in the circular table.

We begin by placing P, who has rank 4 and specializes in Marketing. To the right of him would be S. The person opposite to S is specializing in Sales.

Opposite to P is sitting the person who has rank 5 and specializes in banking.

It is given that T is two places away from P, which means that either T is on the right of S or two places to the left of P.

It is given that Q and R are opposite each other. Since T is to two places away from P, it follows that either Q or R is to the immediate left of P. They specialize in Operations or Finance as the case may be.

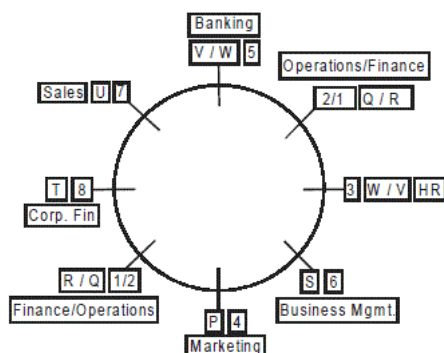
We can also see that since U is ranked 7 and has one person between him and the person ranked 2. We can then have only one place for U and that person therefore specializes in Sales.

It is given that the persons with HR and Business Management as their specializations sit next to each other. The only two continuous slots available are the position of S and the position immediate right of S. It follows therefore that T has to be two places to the left of P only. This is because the person opposite T is specializing in HR. Therefore, S specializes in Business Management. Also, T is ranked 8. Since the person opposite 8 cannot be 1, it follows that the person opposite 8 should be 3 (it cannot be 7 who is to the left of 8 and 5 who is opposite 4) as the sum of the ranks of persons sitting opposite to each other has to be odd.

Also, we can therefore see that the person sitting opposite to the one who has rank 7 has to be rank 6 as the person ranked 2 is sitting one seat away from the person ranked 7.

It follows therefore that ranks 1 and 2 have to be for Q and R in any order.

The final arrangement will look as given below.



Only V and W have to be fixed between ranks 3 and 5 and we would need the exact distribution of Q and R with respect to ranks and specializations.

U is clearly the one who has rank 7 and specializes in sales.

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Answer key/Solution

**Directions for questions 63 to 66: Answer the questions on the basis of the information given below.**

Each of nine friends – Arun, Bhanu, Charles, Dhoni, Eishan, Finny, Gaurav, Hemanth and Imran – lives in different flats in Raheja Towers, which has six floor (excluding the ground floor which cannot be used for living) and three flats on each floor. The three flats on each floor are in a row and no two adjacent flats on the same floor are occupied. At least one of them lives on each floor.

Further the following information is also known:

- Hemanth lives on the floor that is immediately above the floor on which Imran lives. Eishan lives on the middle flat of the fourth floor.
- Arun and Bhanu live on the same floor.
- Finny lives on the fifth floor and Gaurav lives on the first floor.
- Charles and Dhoni live on different floors.

**Q.63**

If Finny and Imran do not live on the same floor, then which of the following cannot be true?

1 ☐ Bhanu lives on the third floor

2 ☐ Charles lives on the second floor

3 ☐ Arun lives on the second floor

4 ☐ Hemanth lives on the third floor**Solution:****Correct Answer : 3****Your Answer : 3**

The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eshan		
3				
2				
1				Gaurav

Now, it is also given that Hemanth and Imran are on two adjacent floors with Hemanth exactly on top of Imran.

Arun and Bhanu are on the same floor and hence they have to occupy flats 1 and 3 of that floor in any order.

Clearly, Arun and Bhanu can only take Floors 2, 3 or 6.

Charles and Dhoni cannot be on the same floor.

Given that Imran is not with Finny, then

**Case 1 :**

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6	Arun/ Bhanu		Bhanu/ Arun	
5				Finny
4		Eshan		
3				Hemanth
2				Imran
1				Gaurav

Dhoni and Charles can occupy any of the two floors (one each) out of 2<sup>nd</sup>, 3<sup>rd</sup> and 5<sup>th</sup>.

**Case 2 :**

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eshan		
3	Arun/ Bhanu		Bhanu/ Arun	
2				Hemanth
1				Imran, Gaurav

Dhoni and Charles can occupy any of the two floors (one each) out of 2<sup>nd</sup>, 5<sup>th</sup> and 6<sup>th</sup>.

Bookmark

Answer key/Solution

**Directions for questions 63 to 66: Answer the questions on the basis of the information given below.**

Each of nine friends – Arun, Bhanu, Charles, Dhoni, Eshan, Finny, Gaurav, Hemanth and Imran – lives in different flats in Raheja Towers, which has six floor (excluding the ground floor which cannot be used for living) and three flats on each floor. The three flats on each floor are in a row and no two adjacent flats on the same floor are occupied. At least one of them lives on each floor.

Further the following information is also known:

- Hemanth lives on the floor that is immediately above the floor on which Imran lives. Eshan lives on the middle flat of the fourth floor.
- Arun and Bhanu live on the same floor.
- Finny lives on the fifth floor and Gaurav lives on the first floor.
- Charles and Dhoni live on different floors.

**Q.64**

If Dhoni and Charles are living on the Second floor and sixth floor respectively, then which of the following must be true?

- 1 ☐ Bhanu is living on the second floor.

2 ☐ Hemanth is living alone on his floor.

3 ☐ Eishan is living on the same floor as Imran.

4 ☐ Arun is living on the third floor.



**Solution:**

**Correct Answer : 4**

**Your Answer : 4**

The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eishan		
3				
2				
1				Gaurav

Now, it is also given that Hemanth and Imran are on two adjacent floors with Hemanth exactly on top of Imran.

Arun and Bhanu are on the same floor and hence they have to occupy flats 1 and 3 of that floor in any order.

Clearly, Arun and Bhanu can only take Floors 2, 3 or 6.

Charles and Dhoni cannot be on the same floor.

The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				Charles
5				Finny
4		Eishan		
3	Arun/ Bhanu		Bhanu/ Arun	
2				Dhoni
1				Gaurav

As per the given condition, the only place for Arun and Bhanu is Floor 3. (As given above).

FeedBack

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Answer key/Solution

**Directions for questions 63 to 66: Answer the questions on the basis of the information given below.**

Each of nine friends – Arun, Bhanu, Charles, Dhoni, Eishan, Finny, Gaurav, Hemanth and Imran – lives in different flats in Raheja Towers, which has six floor (excluding the ground floor which cannot be used for living) and three flats on each floor. The three flats on each floor are in a row and no two adjacent flats on the same floor are occupied. At least one of them lives on each floor.

Further the following information is also known:

- Hemanth lives on the floor that is immediately above the floor on which Imran lives. Eishan lives on the middle flat of the fourth floor.
- Arun and Bhanu live on the same floor.
- Finny lives on the fifth floor and Gaurav lives on the first floor.
- Charles and Dhoni live on different floors.

**Q.65**

If Bhanu lives on the third floor and Imran lives on the first floor to the extreme left corner then how many combinations of persons could live on the second floor?

1 ☐ 2

2 ☐ 3

3 ☐ 4

4 ☐ 5



**Solution:**

Bookmark

**Correct Answer : 2****Your Answer : 2**

The information given can be put across as below:

Answer key/Solution

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eshan		
3				
2				
1				Gaurav

Now, it is also given that Hemanth and Imran are on two adjacent floors with Hemanth exactly on top of Imran.

Arun and Bhanu are on the same floor and hence they have to occupy flats 1 and 3 of that floor in any order.

Clearly, Arun and Bhanu can only take Floors 2, 3 or 6.

Charles and Dhoni cannot be on the same floor.

The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eshan		
3	Arun/ Bhanu		Bhanu/ Arun	
2				Hemanth, Charles/Dhoni
1	Imran		Gaurav	

The combinations are Only Hemanth, Hemanth and Charles, Hemanth and Dhoni. Hence, total of 3 combinations are possible.

**Directions for questions 63 to 66: Answer the questions on the basis of the information given below.**

Each of nine friends – Arun, Bhanu, Charles, Dhoni, Eshan, Finny, Gaurav, Hemanth and Imran – lives in different flats in Raheja Towers, which has six floors (excluding the ground floor which cannot be used for living) and three flats on each floor. The three flats on each floor are in a row and no two adjacent flats on the same floor are occupied. At least one of them lives on each floor.

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- Arun and Bhanu live on the same floor.
- Finny lives on the fifth floor and Gaurav lives on the first floor.
- Charles and Dhoni live on different floors.

**Q.66**

Given that Arun and Bhanu lives on the sixth floor and Imran lives on the first floor to the extreme left corner then in how many floors can Charles stay?

- 1 ☐ 1
- 2 ☐ 2
- 3 ☐ 3
- 4 ☐ Cannot be determined

**Solution:****Correct Answer : 3****Your Answer : 3**

Bookmark

Answer key/Solution



The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6				
5				Finny
4		Eshan		
3				
2				
1				Gaurav

Now, it is also given that Hemanth and Imran are on two adjacent floors with Hemanth exactly on top of Imran.

Arun and Bhanu are on the same floor and hence they have to occupy flats 1 and 3 of that floor in any order.

Clearly, Arun and Bhanu can only take Floors 2, 3 or 6.

Charles and Dhoni cannot be on the same floor.

The information given can be put across as below:

Floor Number	Flat 1	Flat 2	Flat 3	Possibilities
6	Arun/ Bhanu		Bhanu/ Arun	
5				Finny
4		Eshan		
3				
2				Hemanth
1	Imran		Gaurav	

From the above table, Charles can be on Floor 2, Floor 3 or Floor 5 only.

FeedBack

## Sec 3

### Q.67

Find the number of integer solutions of the equation  $\left\lceil \frac{x}{9} \right\rceil = \left\lceil \frac{x}{11} \right\rceil$ , where  $\lceil . \rceil$  denotes the greatest integer function.

1 ☐ 50

2 ☐ 25

3 ☐ 49

4 ☐ Cannot be determined

**Solution:**

**Correct Answer : 1**

 **Bookmark**

 **Answer key/Solution**

When  $LHS = RHS = 0$ , we see that  $x$  can take all values from 0 to 8. So there are 9 solutions

For  $\left\lfloor \frac{x}{9} \right\rfloor = \left\lfloor \frac{x}{11} \right\rfloor = 1$ ,  $11 \leq x \leq 17$ ,

hence, there are 7 solutions.

For  $\left\lfloor \frac{x}{9} \right\rfloor = \left\lfloor \frac{x}{11} \right\rfloor = 2$ ,  $22 \leq x \leq 26$ , there are 5 solutions

For  $\left\lfloor \frac{x}{9} \right\rfloor = \left\lfloor \frac{x}{11} \right\rfloor = 3$ ,  $33 \leq x \leq 35$ , there are 3 solutions.

For  $\left\lfloor \frac{x}{9} \right\rfloor = \left\lfloor \frac{x}{11} \right\rfloor = 4$ ,  $x = 44$ , there is 1 solution.

Hence the number of non negative integer solutions is 25, (i.e.,  $9 + 7 + 5 + 3 + 1$ ).

Similarly for negative values of  $x$ , we get all values from  $-36 \leq x \leq -1$  except the following values :  $-10$ ,  $-11$ ;  $-19$  to  $-22$ ;  $-28$  to  $-33$ .

Also, there is only  $x = -45$  after this.

Hence the number of negative integer solutions =  $36 + 1 - (2 + 4 + 6) = 25$ .

$\therefore$  There are total 50 solutions.

FeedBack

**Q.68**  
The natural numbers from 3 to 1002 are written in base 3 system. If a number is randomly chosen from the given set, then what is the probability that the tens place as well as unit place digit of the chosen number is 1?

- 1 ☐ 1/3
- 2 ☐ 111/1000
- 3 ☐ 167/500
- 4 ☐ 333/1000

**Solution:**

**Correct Answer : 2**

If the last 2 digits in base 3 are 11, then the number would be of the form  $9n + 4$ . It can be represented as  $XXXXX11$ , where  $X$  can be 0, 1, 2. There are 111 such numbers in the numbers 3 to 1002.

So, probability =  $\frac{111}{1000}$ .

FeedBack

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Answer key/Solution

**Q.69**  
Raju was asked to multiply  $X$  with 'a', which is a positive real number. Instead he divided it by 'a'. The result introduced a 96% error. Then 'a' is

- 1 ☐ 5
- 2 ☐ 5/7
- 3 ☐ Both (1) and (2)
- 4 ☐ None of these

x

**Solution:**

**Correct Answer : 3**

**Your Answer : 1**

Bookmark

Answer key/Solution

If (X)  $a = 100$  ;  $\frac{X}{a} = 4$  or  $\frac{X}{a} = 196$

$\Rightarrow a^2 = 25$  ;  $a = 5$

$a^2 = \frac{100}{196}$  ;  $a = \frac{10}{14} = \frac{5}{7}$ .

**Alternative method:**

$$\left| \frac{Xa - \frac{X}{a}}{Xa} \right| \times 100 = 96$$

Solving this we get  $a = 5, \frac{5}{7}$ .

FeedBack

**Q.70**

The sum of the values of  $x$  that satisfy the equation  $(x^2 - 4x - 4)^{2x-6} = 1$  is



**Solution:**

**Correct Answer : 7**

**Your Answer : 7**

The equation  $(x^2 - 4x - 4)^{2x-6} = 1$ ,

if  $2x - 6 = 0$

or  $x^2 - 4x - 4 = 1$ .

So,  $x = 3$  or  $x = 5, -1$

Hence,  $3 + 5 - 1 = 7$ .

FeedBack

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Answer key/Solution

**Q.71**

Three friends Ashwin, Bharat and Chetan run a 100 meter race at a uniform speed in which Ashwin beats Bharat by 10 meters and Chetan by 20 meters. By how much distance (in meters) does Bharat beat Chetan in the same race? (Approximate the answer rounded to two decimal digits)

1 ☐ 10.00

2 ☐ 11.11

3 ☐ 12.11

4 ☐ 10.50



**Solution:**

**Correct Answer : 2**

**Your Answer : 2**

Ashwin : Bharat = 100 : 90 = 10 : 9

Ashwin : Chetan = 100 : 80 = 10 : 8

$\Rightarrow$  Bharat : Chetan = 9 : 8

$\therefore$  The distance covered by Chetan in the time Bharat

$$\text{covered } 100\text{m} = \frac{100 \times 8}{9} = 88.89$$

Thus, Bharat will beat Chetan by  $100 - 88.89$

= 11.11 meters.

FeedBack

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Answer key/Solution

**Q.72**

The average weight of a class of 15 students is 21 kg. Eight students joined this group but the average remains the same. Each of these eight students was heavier than 10 kg and exactly half of them weigh less than 16 kg. If the weights of all the students, who joined later, were distinct natural numbers, the heaviest among the new entrants cannot be more than

1 ☐ 70 kg

2 ☐ 64 kg

3 ☐ 67 kg

4 ☐ 77 kg**Solution:****Correct Answer : 3****Your Answer : 3**

Since the average weight of 8 new students must also be 21 kg, the total weight of the 8 new students =  $21 \times 8 = 168$  kg

The sum of smallest weight of the 7 of them would be  $11 + 12 + 13 + 14 + 16 + 17 + 18 = 101$

(In this case the 8th student would take the highest possible weight).

Hence, the heaviest cannot be heavier than  $168 - 101 = 67$  kg.

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Answer key/Solution

**Q.73****What is the square root of  $597^2 + 2985 + 606$ ?****Solution:****Correct Answer : 600****Your Answer : 600**

$$= 597^2 + 2985 + 606$$

$$= 597^2 + 597 \times 5 + 597 + 9$$

$$= 597^2 + 597 \times 6 + 9 = (597 + 3)^2 = 600^2.$$

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Answer key/Solution

**Q.74**

Rohan has three cards, one side of which have numbers 46, 91 and 64. And on the other side are prime numbers that make the sum of the two numbers on both the sides of each card the same. What is the sum of the largest and the second largest of these prime numbers?

1 ☐ 762 ☐ 603 ☐ 544 ☐ 89**Solution:****Correct Answer : 1****Your Answer : 1**

The numbers are 46, 91 and 64, two of them are even the other is odd.

The sum of these numbers must be odd. Since the sum of the even numbers with the prime numbers must make them odd.

So 91 must be added to 2, which is the only even prime.

So the sum is  $91 + 2 = 93$ .

Hence, the other prime numbers are

$$93 - 46 = 47$$

$$93 - 64 = 29$$

$\therefore$  Required number is  $47 + 29 = 76$ .

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Answer key/Solution

**Q.75**

The word MISSISSIPI is written repeatedly as a strings of words i.e., MISSISSIPIMISSISSIPI....


The number of S's, and the number of I's are same till the nth letter. Then n cannot be

1 ☐ 1432 ☐ 225

3 ☐ 3724 ☐ 443**Solution:****Correct Answer : 3****Your Answer : 3**

The number of letters in MISSISSIPPI is 10.  
 So, the number of S's will be same as number of I's as long as n is of the form  $10k$  or  $10k + 3$  or  $10k + 5$ .  
 $\therefore$  Only 372 cannot take any of these forms.

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 **Answer key/Solution**
**Q.76**

If  $|x - y| = 7.5$ , then  $|\{x\} - \{y\}|$ , where  $\{.\}$  denotes the greatest integer function, is equals to

1 ☐ 62 ☐ 73 ☐ 6 or 74 ☐ 7 or 8**Solution:****Correct Answer : 4****Your Answer : 4**

The value will be either 8 or 7 depending in the fractional parts of  $x$  and  $y$ . Since we are finding the integer values, the difference must be either the integer less than 7.5 or the integer more than 7.5  
 For example,  
 if  $y = 1$ ,  $x = 8.5$  then  $|\{x\} - \{y\}| = 7$   
 if  $y = 0.5$ ,  $x = 8$  then  $|\{x\} - \{y\}| = 8$   
 if  $y = 0.3$ ,  $x = 7.8$  then  $|\{x\} - \{y\}| = 7$   
 and there is no any other possibility.

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 **Answer key/Solution**
**Q.77**

The level of water in a cylindrical vessel of radius  $R$  cm is 12 cm from its bottom. A small vertical solid cylindrical piece of iron of radius  $r$  cm and height 16 cm is placed upright inside the vessel. The water level now is 20 cm, then the ratio  $r/R$  is

1 ☐  $\frac{1}{2}$ 2 ☐  $\frac{4}{\sqrt{26}}$ 3 ☐  $\frac{1}{\sqrt{2}}$ 4 ☐  $\frac{\sqrt{3}}{2}$ **Solution:****Correct Answer : 3****Your Answer : 3**

Since volume of water remains the same,  
 $\pi R^2 \times 12 = \pi R^2 \times 20 - \pi r^2 \times 16$   
 Therefore,  $8R^2 = 16r^2$

So,  $\frac{r}{R} = \frac{1}{\sqrt{2}}$

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 **Answer key/Solution**

## Q.78

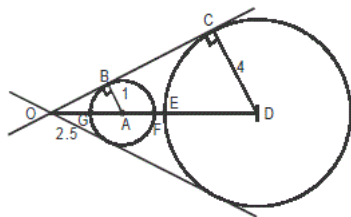
From a point whose closest distance from a circle of radius 1 cm is 1.5 cm, two tangents are drawn. These tangents are also tangential to a circle of radius cm. What is the shortest distance (upto one decimal place ,in cm) between two circles?

**Solution:**

**Correct Answer : 2.5**

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🔍 Answer key/Solution



As  $AG = 1$  cm and  $OG = 1.5$  cm (given)  
 $OA = 2.5$  cm ;  
 From Similarity of triangles,  $OAB \sim ODC$ ,

$$\frac{OA}{OD} = \frac{AB}{CD}$$

So, we can conclude that  $OD = 10$  cm.  
 Since  $OF = 3.5$  cm;  $ED = 4$  cm  
 So,  $EF = 2.5$  cm.

FeedBack

## Q.79

A and B are racing on a circular track. They start simultaneously and it is known that A meets B for the first time after he finishes his 5th round and before he finishes his 6th round. If it is known that there are 4 unique points where they can meet which of the following cannot be the ratio of their speeds.

1 ☐ 21 : 25

2 ☐ 21 : 17

3 ☐ 23 : 19

4 ☐ 27 : 23

**Solution:**

**Correct Answer : 4**

If there are 4 points on the circle, it must be at every quarter of the circle. So there are two possibilities:

I. A is faster :

$$\text{Ratio can be } 5\frac{1}{4} : 4\frac{1}{4}, 5\frac{3}{4} : 4\frac{3}{4}$$

or 21 : 17, 23 : 19

II. B is faster :

$$\text{Ratio can be } 5\frac{1}{4} : 6\frac{1}{4}, 5\frac{3}{4} : 6\frac{3}{4}$$

or 21 : 25, 23 : 17.

Therefore, (4) cannot be true.

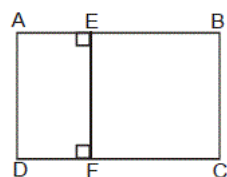
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🔍 Answer key/Solution

## Q.80

The perimeter of rectangle ABCD = 40 cm. The sum of the perimeters of rectangle AEFD and rectangle BEFC is 20% more than that of ABCD. The area (in cm<sup>2</sup>) of the rectangle ABCD is



1 ☐ 32

2 ☐ 96

3 ☐ 484 ☐ 64**Solution:****Correct Answer : 4****Your Answer : 4**

Perimeter of AEFD + BEFC = Perimeter of ABCD + 2EF

So,  $EF = 10\%$  of  $ABCD = 4$ Hence,  $AB = 16$ Area of rectangle ABCD =  $16 \times 4 = 64$ .


**Q.81**

There are two series S1 and S2 given as 3, 7, 11, 15, ... 50 terms and 194, 189, 184, ... 30 terms respectively. If D be the least absolute difference between any two terms one from S1 and other from S2, how many pairs of terms one from each sequence, have their absolute difference as D?

1 ☐ 02 ☐ 63 ☐ 74 ☐ None of these**Solution:****Correct Answer : 3**

There are many common terms in the series.

These terms would have the minimum difference between them which = 0.

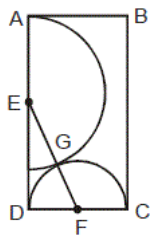
The first common term is 59. The subsequent terms move in steps of 20.

The last term is 179. Hence there are 7 common terms.

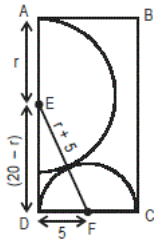


**Q.82**

In the given figure below, ABCD is a rectangle such that  $AB = 10$  cm and  $AD = 20$  cm. If E and F be the centers of the semicircles touching each other, find the area occupied by the semicircles.

1 ☐  $37.5 \pi$ 2 ☐  $44.5 \pi$ 3 ☐  $49 \pi$ 4 ☐  $54.5 \pi$ **Solution:****Correct Answer : 2**





$$(20-r)^2 + 5^2 = (r+5)^2$$

$$\Rightarrow r = 8$$

So, Areas of the two semi circles

$$= \frac{\pi(5)^2}{2} + \frac{\pi(8)^2}{2}$$

$$= \frac{25\pi}{2} + 32\pi = 44.5\pi$$

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**Q.83**

For positive real numbers a, b and c,  $\frac{abc}{(a+b+c)(ab+bc+ac)} = k$ .

Which of the following can be the value of  $1/k$ ?

1 ☐ -3

2 ☐ 6

3 ☐ 8

4 ☐ 10

**Solution:**

**Correct Answer : 4**

$$\frac{1}{k} = \frac{(a+b+c)(ab+bc+ac)}{abc}$$

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

$$= 3 + \left( \frac{a}{b} + \frac{b}{a} \right) + \left( \frac{b}{c} + \frac{c}{b} \right) + \left( \frac{a}{c} + \frac{c}{a} \right)$$

Since a, b and c are positive real numbers,

$$\frac{a}{b} + \frac{b}{a} \geq 2, \frac{b}{c} + \frac{c}{b} \geq 2, \frac{a}{c} + \frac{c}{a} \geq 2$$

$$\text{So, } \frac{1}{k} \geq 3 + 6.$$

Thus out of the given options only possible value of  $1/k$  is 10.

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Answer key/Solution

**Q.84**

One saree was purchased for Rs. 564 after getting a discount of 6% and another saree was purchased for Rs. 396 after getting a discount of 1%. Taking both the items as a single transaction, what is the percentage of discount?



**Solution:**

**Correct Answer : 4**

**Your Answer : 4**

Actual price of the saree which was bought for Rs. 564 after getting a discount of 6%

$$= 564 \times \frac{100}{94} = \text{Rs. } 600.$$

Similarly, actual price of the saree which was bought for Rs. 396 after getting a discount of 1%

$$= 396 \times \frac{100}{99} = \text{Rs. } 400.$$

Total discount = 36 + 4 = Rs. 40

$$\text{Hence, percentage of discount} = \frac{40}{1000} \times 100 = 4\%.$$

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Answer key/Solution

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### Q.85

Three machines A, B, C are employed to do a job. A and B together are thrice as efficient as C alone, A and C together are seven times as efficient as B alone. Then A alone is how much percent as efficient as B and C together.

1 ☐ 166.67%

2 ☐ 120%

3 ☐ 137.5%

4 ☐ 133.33%



#### Solution:

**Correct Answer : 1**

**Your Answer : 1**

A, B are thrice as efficient. This means C does 25% of the total Work.

A, C are 7 times as efficient as B.

So, B does 12.5% of the work.

So, A does 62.5% of work

Work done by A is  $\frac{62.5}{37.5}$  or  $\frac{5}{3}$  times that of B, C together

as C.

So, A is 166.67% as efficient B, C.

#### Alternate method:

$A + B = 3C$ ,  $A + C = 7B$

So,  $C = 2B$  and  $A = 5B$

If A is x times (B + C)

Or  $5B = x$  times (B + 2B)

So,  $x = \frac{5}{3}$ , so, A is 166.67% as efficient B, C.

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🔍 Answer key/Solution

### Q.86

The 2017th term in the sequence 1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 4, 4, ... is

1 ☐ 9

2 ☐ 10

3 ☐ 11

4 ☐ 12

#### Solution:

**Correct Answer : 3**

The number of same terms in the given sequence forms a G.P., with first term 1 and common ratio 2

$T_n = 2^{n-1}$

$S_n$  has to be greater than 2017 and  $S_{n-1} < 2017$

Therefore,  $2^n - 1 > 2017$ ,  $2^{n-1} - 1 < 2017$

So, required number is 11.

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### Q.87

The six faces of a cube are numbered 1 to 6 such that the sum of numbers on each pair of opposite faces is seven.

Two faces are painted blue.

Two faces are painted Red.

Two faces are painted Green.

If no two adjacent faces of any edge are of the same colours, then the number of ways in which the cube can be painted is

1 ☐ 3

2 ☐ 63 ☐ 184 ☐ 40**Solution:****Correct Answer : 2**

The condition at the edges mean, opposite faces must have the same colour.

Case 1: Blue on faces 1, 6 (say opp.)

The rest can be arranged in 2 ways.

There are 2 other cases Blue on 2, 5 or 3, 4 and similarly will be corresponding two subcases for each case.

Hence, total number of arrangements = 6.



**Q.88**

Five trucks, numbered 1 to 5, are carrying salt packets, each of which weights 99 grams or 100 grams. All the packets in a particular truck have the same weight. The combined weight of 1 packet from truck 1, 2 from truck 2, 4 from truck 3, 8 from truck 4 and so on is 3080. Which numbered trucks have the 9 grams packets?

1 ☐ 1, 2, 42 ☐ 3, 43 ☐ 1, 2, 54 ☐ 3, 5**Solution:****Correct Answer : 4****Your Answer : 4**

Number of packets =  $2^5 - 1 = 31$

Has all packets been of 100 grams, then sum would have been 3100 grams.

Difference in weight =  $3100 - 3080 = 20$

20 packets =  $16 + 4$  packets

Therefore, 3rd and 5th trucks.



**Q.89**

In an examination 70% of the candidates passed in English, 65% passed in Mathematics, 27% failed in both the subjects and 248 passed in both the subject The total number of candidates is

**Solution:****Correct Answer : 400****Your Answer : 400**

Let the total number of candidates be 'n'. The total

number of candidates passed in English (E) =  $0.7n$

Number of candidate passed in Maths (M) =  $0.65n$

Number of candidates passed neither in Maths nor in English =  $0.27n$

Number of candidates passed in both = 248.

$(E) + (M) - (E \cap M)$  passed in at least one subject which is  $n - 0.27n$  since  $0.27n$  passed in no subject.

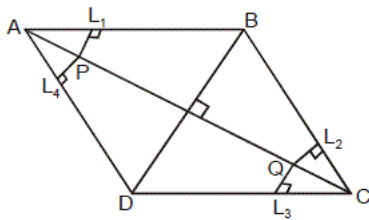
Therefore,  $n - 0.27n = 0.7n + 0.65n - 248$

Therefore,  $n = 400$ .



**Q.90**

ABCD is a rhombus of side length 1, and  $\angle ADC = 120^\circ$ .



$PQ \perp BD$ .  $PL_1 \perp AB$ ,  $QL_2 \perp BC$ ,  $QL_3 \perp CD$  and  $PL_4 \perp AD$ . If  $PQ = \frac{3\sqrt{3}}{5}$ , what is the value of  $(PL_1 + PL_4 + QL_2 + QL_3)$ ?

1 ☐  $\frac{\sqrt{3}}{5}$

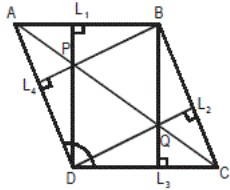
2 ☐  $\frac{3\sqrt{3}}{5}$

3 ☐  $\frac{2\sqrt{3}}{5}$

4 ☐ Data Insufficient

**Solution:**

**Correct Answer : 3**



As ABCD is a rhombus

$$AC = \sqrt{1^2 + 1^2 - 2 \times 1 \times 1 \times \cos 120^\circ} = \sqrt{3}$$

$$\text{Area of Quadrilateral PBQD} = \frac{3}{5} (\text{Area of ABCD})$$

$$[\because PQ = \frac{3}{5} \times AC]$$

$$\text{So, Area APB} = \frac{1}{2} \times PL_1 \times 1$$

+

$$\text{Area BQC} = \frac{1}{2} \times QL_2 \times 1$$

+

$$\text{Area DQC} = \frac{1}{2} \times QL_3 \times 1$$

+

$$\text{Area APD} = \frac{1}{2} \times PL_4 \times 1$$

$$\text{Total area} = \frac{1}{2} (PL_1 + PL_4 + QL_2 + QL_3) + \frac{3}{5} A = A$$

$$\Rightarrow PL_1 + PL_4 + QL_2 + QL_3 = \frac{4}{5} A = \frac{4}{5} \times \frac{\sqrt{3}}{2} = \frac{2\sqrt{3}}{5}$$

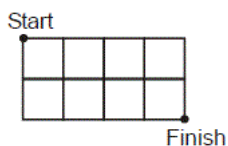
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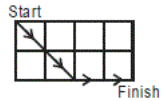
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[Answer key/Solution](#)

**Q.91**

In the following figure what is the shortest distance between the start and the finish point if one can travel along the sides or diagonally across of the smaller squares only, if the side of each of the smaller squares is 10 m?



1 ☐ 60 m2 ☐  $20\sqrt{5}$  m3 ☐  $20(\sqrt{2} + 1)$ 4 ☐ None of these**Solution:****Correct Answer : 3****Your Answer : 3**

Smallest path is diagonal but only 2 smaller squares can be crossed diagonally.

Therefore, smallest length of the path =  $20 + 20\sqrt{2}$ .



**Q.92**

A soccer coach is selecting a team amongst players who are aged from 20 to 35 years in integral number of years. At least how many players should be selected for the team so that, for certain, two players are of the same age?

1 ☐ 142 ☐ 153 ☐ 164 ☐ 17**Solution:****Correct Answer : 4****Your Answer : 4**

There are 16 different ages from 20 to 35  
Therefore, minimum 17 players needed.



**Q.93****Is X positive ?****(i)  $X > X^2$** **(ii)  $X^3 - X^2 - 2 > 0$** **Mark (1) if exactly one statement can answer the question****Mark (2) if each statement Independently can answer the question****Mark (3) if both the statements are needed to answer the question****Mark (4) if both the statements together are not sufficient to answer the question****Solution:****Correct Answer : 2****Your Answer : 2**

In first statement  $X > X^2$ . Therefore X is always positive, as  $X^2 \geq 0$ .

In second statement  $X^3 > X^2 + 2$ , therefore  $X^3$  is always positive. So X is always positive.

Q.94

What is the cost price of the item?

- (i) Had the shopkeeper sold the item for Rs. 100 more, he would have made a 20% profit.  
 (ii) Had the shopkeeper sold the item for Rs. 100 more, he would have made 20% more profit.

Mark (1) if exactly one statement can answer the question

Mark (2) if each statement independently can answer the question

Mark (3) if both the statements are needed to answer the question

Mark (4) if both the statements together are not sufficient to answer the question

✕

Solution:

Correct Answer : 1

Your Answer : 3

Cannot find the cost price from first statement.

From second statement, Rs. 100 more means 20%

more profit. Therefore, CP =  $\frac{100}{20\%}$  = Rs. 500.

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Answer key/Solution

Q.95

A solid metallic cylinder, whose radius and height are equal, is to be melted and 48 identical solid balls are to be recast from the liquid metal so obtained.  
 What is the ratio of the radius of the ball to the radius of the cylinder?

1 ☐ 1 : 162 ☐ 1 : 123 ☐ 1 : 84 ☐ 1 : 4

✕

Solution:

Correct Answer : 4

Your Answer : 1

Volume of cylinder =  $\pi r_1^2 h$ Volume of sphere =  $\frac{4}{3} \pi r_2^3$ 

Number of spheres = 48

$$\therefore \frac{\text{Volume of cylinder}}{\text{Volume of sphere}} = \frac{\pi r_1^2 h}{\frac{4}{3} \pi r_2^3}$$

$$\Rightarrow \frac{\pi r_1^2 h}{\frac{4}{3} \pi r_2^3} = 48$$

$$\Rightarrow \frac{\pi r_1^3}{\frac{4}{3} \pi r_2^3} = 48 \quad (\because r_1 = h)$$

$$\Rightarrow \frac{3}{4} \left( \frac{r_1}{r_2} \right)^3 = 48$$

$$\Rightarrow \left( \frac{r_1}{r_2} \right)^3 = \frac{48 \times 4}{3}$$

$$\Rightarrow \frac{r_1}{r_2} = (16 \times 4)^{1/3}$$

$$\Rightarrow \frac{r_2}{r_1} = \frac{1}{4}$$

Hence, ratio of the radius of the ball to that of the cylinder is 1 : 4.

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Answer key/Solution

Q.96

The roots of the quadratic equation  $2x^2 - Kx + 78 = 0$  are integers. The number of values that K can take if both the roots are more than 1 is

1 ☐ 1

2 ☐ 2

3 ☐ 4

4 ☐ 8



**Solution:**

**Correct Answer : 1**

**Your Answer : 1**

Sum of roots =  $k/2$

Product of roots =  $78/2 = 39$

Since roots > 1, and integers

Therefore, roots are 3, 13

So,  $k = 32$ .

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Answer key/Solution

**Q.97**

How many points on or inside the circle  $x^2 + y^2 - 2x - 2y - 23 = 0$  have integral coordinates?

**Solution:**

**Correct Answer : 81**

$(x - 1)^2 + (y - 1)^2 = 5^2$

It is a circle centred at (1, 1)

For points on or inside the circle  $(x - 1)^2 + (y - 1)^2 \leq 5^2$

It is symmetrical at  $x = 1$

x	1	2	3	4	5	6
Number of values of y	11	9	9	9	7	1

Number of integer values of y for integer values of x  
=  $11 + 2(9 + 9 + 9 + 7 + 1) = 81$ .

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Answer key/Solution

**Q.98**

Two different families of three persons each – father, mother and child – are standing in a queue to get into the cricket stadium. In how many ways can the enter the stadium such that for each person the following is true : the wife is ahead of the husband, the child is behind the father?

1 ☐ 720

2 ☐ 36

3 ☐ 20

4 ☐ 360

**Solution:**

**Correct Answer : 3**

The total number of ways of arranging 6 people in a queue without any restrictions is  $6! = 720$

When the given restrictions are imposed there is only one way for arranging each family.

However they would have been counted  $3!$  times.

So, total number of ways is  $\frac{720}{6 \times 6} = 20$ .

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Answer key/Solution

**Q.99**

The costs of two articles are in the ratio 3 : 5. If there is 30% loss on the first article and 20% gain on the second article, what is the overall percentage of loss or gain?

1 ☐ 2.25% gain

2 ☐ 5.25% loss



3 ☐ 2% loss

4 ☐ None of these



**Solution:**

**Correct Answer : 4**

**Your Answer : 4**

Let the cost price of two articles be  $3x$  and  $5x$  respectively. Then, total cost price =  $8x$   
Total selling price of two articles =  $0.7 \times 3x + 1.2 \times 5x$   
=  $8.1x$

$$\text{Profit percentage} = \frac{8.1x - 8x}{8x} \times 100 = 1.25\%$$

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🔍 Answer key/Solution

**Q.100**

A ten litre solution of 20% milk and water is added to twenty litres of a 50% milk solution which also contains water and honey. The resultant solution is mixed with 30 L of 30% honey and water solution. If the concentration of honey in the final resultant mixture is 20%, then find the percentage of water in final mixture.



**Solution:**

**Correct Answer : 60**

**Your Answer : 60**

	Milk	Water	Honey
1st solution	2	8	0
2nd solution	10	x	10 - x
3rd solution	0	21	9
Total	12	29 + x	19 - x

Honey is 20%

$$\Rightarrow x = 7$$

Also, milk is 12 out of 60 which is 20% of the solution.

Therefore, water is  $(100 - 20 - 20)\% = 60\%$ .

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🔍 Answer key/Solution