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Qs Analysis (QsAnalysis.jsp?sid=aaaFOuj1h2PZo7o7VNG6wSun Jan 12 00:07:51 IST 2020&qsetId=jSH/zmDayFk=&qsetName=All India CAT Open Mock - 2 2019)

Booster Analysis (BoosterAnalysis.jsp?sid=aaaFOuj1h2PZo7o7VNG6wSun Jan 12 00:07:51 IST 2020&qsetId=jSH/zmDayFk=&qsetName=All India CAT Open Mock - 2 2019)

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VARC

DILR

QA

Sec 1

Direction for questions (1-5): Read the given passage and answer the questions that follow.

Bad behaviour at work can have very real consequences. People who experience workplace rudeness, for example, report lower engagement, suffer more mental and physical health problems, and are more likely to burn out and quit their jobs. And nearly all of us are affected by rudeness and other types of workplace misbehaviour, like interrupting and exclusion: Estimates suggest 98% of employees are on the receiving end over the course of a year.

Given bad behaviour's prevalence and impact, surely leaders take reports of it seriously, get the facts, and punish offenders, right? Some scholars have noted that, when information about misbehaviour surfaces, savvy leaders know better than to blame the messenger. Unfortunately, our research paints a picture that is much bleaker.

We set out to investigate how people in positions of power view victims and perpetrators of workplace misbehaviour. […] The two studies were telling, but they had an important limitation: Because employees who experience rudeness may also be rude themselves, as our earlier research has shown, bosses who blame victims might actually be evaluating these employees accurately. That is, these victims might also be perpetrators. If so, leaders' evaluations might not be biased after all. […]

When we crunched the numbers, we found that participants perceived victims as having engaged in misbehaviour. And by presenting participants with clear information that some employees did *not* behave rudely, we were able to demonstrate that victims are blamed for their mistreatment *even when they've done nothing wrong*.

It gets worse: We also wanted to see if leaders' bias toward victims extended to their assessments of the victims' job performance, even when we provided concrete information about whether the employee was a high performer or a low performer. It does: Victims of rudeness were perceived as performing considerably worse on the job than employees who hadn't been mistreated, regardless of the employees' *actual* performance. As performance ratings often have a substantial impact on compensation and promotion decisions, our results show that victims of workplace mistreatment can be adversely impacted in several other important ways, adding insult to injury.

So, how can leaders combat bias when evaluating employees? We recommend leaders receive training similar to that undergone by judges and arbitrators, who are taught to distinguish between relevant and irrelevant information. Homing in on job-relevant behaviours, whether
during interviews or performance appraisals, can effectively reduce subjectivity and enhance decision accuracy. But because unrelated contextual and personal factors can influence the outcome — even among highly skilled judicial decision makers — training should also increase leaders' awareness of the forces that may be influencing their decisions. Organizations might take a page from the Federal Judicial Centre, which runs a program that does just that: It trains new judicial appointees to become more aware of their biases and prevent those biases from affecting their decision making.
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Q.1
The main advice of the author for decision makers in workplace is:

1 **to not be biased in their outlook towards low performing employees.**

2 **to be just and accurate in their assessment of employee behaviour.**

3 **to not punish the messenger for delivering a complaint.**

4 **to be critical yet fair while conducting performance appraisal.**

FeedBack

Bookmark

Answer key/Solution

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Q.2
Why does the author mention the program run by the Federal Judicial Centre?

1 **To show how decision makers are trained in the judicial world.**

2 To highlight the importance of training in the making of judges.

3 To show how decision makers can be trained to be impartial.

4 To highlight a parallel problem in the world of judges.

FeedBack

Bookmark

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Q.3

Which of the following has not been cited as a consequence for people who face workplace rudeness?

1 **Suffer emotional and bodily challenges**

2 **Feel demotivated to participate in the workplace**

3 **Not encouraged to prolong one's association with the company**

4 **Are negatively assessed by the management**

FeedBack

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Answer key/Solution

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Q.4
How were the victims of rudeness perceived by their superiors in the study?

1 **As being ungrateful**

2 **As being biased**

3 **As being subpar performers**

4 **As being low wage earners**

FeedBack

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Answer key/Solution

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Q.5
The tone of the author can best be described as:

1 **explanatory**

2 cautious

3 ambiguous

4 fastidious

FeedBack

Bookmark

Answer key/Solution

Direction for questions (6-10): Read the given passage and answer the questions that follow.

What colour were the dinosaurs? If you have a picture in your head, fresh studies suggest you may need to revise it. New fossil research also suggests that pigment-producing structures go beyond how the dinosaurs looked and may have played a fundamental role inside their bodies too. The latest findings have also paved the way for a more accurate reconstruction of the internal anatomy of extinct animals, and insight into the origins of features such as feathers and flight.

Much of this stems from investigations into melanin, a pigment found in structures called melanosomes inside cells that gives external features including hair, feather, skin and eyes their colour—and which, it now turns out, is abundant inside animals' bodies too. "We've found it in places where we didn't think it existed," said Maria McNamara, a paleobiologist at University College Cork, in Ireland.

The discoveries in her team's newest research, published in mid-August, were made using advanced microscopy and synchrotron X-ray techniques, which harness the energy of fast-moving electrons to help examine fossils in minute detail. Using these, the researchers found that melanin was widespread in the internal organs of both modern and fossil amphibians, reptiles, birds, and mammals—following up a finding they made last year that melanosomes in the body of existing and fossil frogs in fact vastly outnumbered those found externally. What's more, they were surprised to discover that the chemical make-up and shape of the melanosomes varied between organ types, thus opening up exciting opportunities to use them to map the soft tissues of ancient animals.

These studies also have further implications. For one, the finding that melanosomes are so common inside animals' bodies may overhaul our very understanding of melanin's function, says McNamara. "There's the potential that melanin didn't evolve for colour at all," she said. "That role may actually be secondary to much more important physiological functions." Her research indicates that it may have an important role in homeostasis, or regulation of the internal chemical and physical state of the body, and the balance of its metallic elements. "A big question now is does this apply to the first, most primitive vertebrates?" said McNamara. "Can we find fossil evidence of this? Which function of melanin is evolutionarily primitive—production of colour or homeostasis?"

At the same time, the findings imply that we may need to review our understanding of the colours of ancient animals. That's because fossil melanosomes previously assumed to represent external hues may in fact be from internal tissues, especially if the fossil has been disturbed over time. McNamara says her research has also shown that melanosomes can change shape and shrink over the course of millions of years, potentially affecting colour reconstructions.
Further complicating the picture is that animals contain additional non-melanin pigments such as carotenoids and what is known as structural colour, which was only recently identified in fossils. In 2016, a study by McNamara's team on the skin of a 10-million-year-old snake found that these could be preserved in certain mineralized remains. "These have the potential to preserve all aspects of the colour-producing gamut that vertebrates have," she said. She hopes over time that these findings and techniques will together help us to much more accurately interpret the colours of ancient organisms—though in these early days, she doesn't have examples of animals for which this has already changed. […]

Q.6

As per the passage, which of the following can be inferred about melanin?

1 **Its evolutionary role has changed over the course of history.**

2 **Its impact on the internal structure of animals has now been revealed.**

3 **Its structural and evolutionary importance is now under question.**

4 **Its role in the development of colours is not very significant.**

FeedBack

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Answer key/Solution

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Q.7
Which of the following is the thematic highlight of the passage?

1 **An analysis of the reconstruction of the internal anatomy of extinct animals.**

2 **An evaluation of research done to better understand the evolutionary purpose of dinosaurs.**

3 **A description of certain internal anomalies in the structure of extinct animals.**

4 **An analysis of certain new findings regarding the structural makeup of dinosaurs.**

FeedBack

Bookmark

Answer key/Solution

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Q.8
Why does the author say that we need to revise our mental image of dinosaurs?

1 **Because a new research has disputed the perceived belief that dinosaurs had any colour.**

2 **Because researchers have found evidence that dinosaurs may have looked different from what we thought.**

3 **Because researchers now speculate that the internal structure of dinosaurs might be more complicated than previously thought.**

4 **Because a new research has raised new questions about pigment producing structures in animals.**

FeedBack

Bookmark

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Q.9
Which of the following is not true regarding the research cited in the passage?

1 **It used techniques to examine fossils in a more detailed manner.**

2 **It expanded upon the finding of a previous related study.**

3 **Some of the researchers found an exciting way to recreate soft tissues of animals.**

4 **Some findings of the research surprised the researchers.**

FeedBack

Bookmark

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These studies also have further implications. For one, the finding that melanosomes are so common inside animals' bodies may overhaul our very understanding of melanin's function, says McNamara. "There's the potential that melanin didn't evolve for colour at all," she said. "That role may actually be secondary to much more important physiological functions." Her research indicates that it may have an important role in homeostasis, or regulation of the internal chemical and physical state of the body, and the balance of its metallic elements. "A big question now is does this apply to the first, most primitive vertebrates?" said McNamara. "Can we find fossil evidence of this? Which function of melanin is evolutionarily primitive—production of colour or homeostasis?"

At the same time, the findings imply that we may need to review our understanding of the colours of ancient animals. That's because fossil melanosomes previously assumed to represent external hues may in fact be from internal tissues, especially if the fossil has been disturbed over time. McNamara says her research has also shown that melanosomes can change shape and shrink over the course of millions of years, potentially affecting colour reconstructions.
Further complicating the picture is that animals contain additional non-melanin pigments such as carotenoids and what is known as structural colour, which was only recently identified in fossils. In 2016, a study by McNamara's team on the skin of a 10-million-year-old snake found that these could be preserved in certain mineralized remains. "These have the potential to preserve all aspects of the colour-producing gamut that vertebrates have," she said. She hopes over time that these findings and techniques will together help us to much more accurately interpret the colours of ancient organisms—though in these early days, she doesn't have examples of animals for which this has already changed. […]

Q.10
As per the passage, the result of the study cited can:

1 **change our comprehension of melanin's function.**

2 **make melanin an obsolete element in terms of colour studies.**

3 **dispute the role of homeostasis or regulation of internal chemical.**

4 **implicate the primitive role attached to evolution.**

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Answer key/Solution

Direction for questions (11-14): Read the given passage and answer the questions that follow.

In 70,000 years, Homo sapiens have grown from thousands of hunter-gatherers teetering on the brink of extinction to a global population of 7.7 billion. In *Growth*, Vaclav Smil explains how we have peopled the planet through our growing capacity for harvesting energy from our environment: food from plants, labour from animals and energy from fossil fuels. Civilization has developed by dominating Earth's resources. Smil, whose research spans energy, population and environmental change, drives home the cost of growth on a finite planet. It is high: polluted land, air and water, lost wilderness and rising levels of atmospheric carbon dioxide.

He argues that most economic projections predict growth by ignoring the biophysical reality of limited resources. Economists emphasize that efficient use enables growth without pumping up energy consumption. Smil does not deny that energy efficiency has increased. For example, he details how agriculture now extracts ten times as much food energy from each parcel of land as it did a century ago. But the 10-fold increase in yield has been driven by a 90-fold boost in energetic inputs — caused by fossil-fuelled farm machinery, and electricity for irrigation and fertilizer production. When this complexity is accounted for, the story of efficiency is turned on its head: we now put more fossil-fuel energy in for each unit of food we get out.

On a crowded Earth, we mostly address this challenge by eating up more land. As grasslands and forests are converted to agriculture, the land is no longer available for carbon storage or biodiversity-sustaining wilderness. Human history is a story of innovation and increased efficiency, but also of relentless depletion of Earth's resources. Is there a path to prosperity and well-being that does not rely on overconsumption?

Smil is not optimistic. There are no solutions to reconcile our species' burgeoning consumption with a viable future. Instead, he focuses on simple equations that can be used to model (but rarely predict) growth and the energetic, physical and biological principles that are its foundations. He amasses examples of seemingly disparate systems that start small, enter a phase of exponential increase and then plateau.

In some cases, the trajectories tip into dramatic decline, as happened with video tapes and CDs. In others, a decline can rebound. US oil production, for instance, was in decline from 1970; with the expansion of hydraulic fracturing, or fracking, a decade ago, it rebounded. In 2018, it surpassed its 50-year-old peak. Smil shows repeatedly how beautifully fitting models have failed to predict the future.

As energy use has increased, per capita gross domestic product and life spans have risen while birth rates and infant mortality have fallen. Smil admits that disentangling cause from effect and fundamental drivers from correlative happenstance is enormously difficult. However, he argues that energy is essential to the growth of our immensely complex modern civilization because it is required to do work. Every baby born, bit transmitted, material moved demands energy.

Smil is sceptical of the "techno-optimists" who envision solutions to our immense challenges coming from greater efficiency, shrinking material inputs to economic production, or information technology. He looks at technologies such as smartphones, laptop batteries and supercomputers, in which growth follows Moore's Law — computing capacity doubles approximately every two years. In that exponential growth, he sees no hope of solving environmental crises.

As for the cost of computing, it has, in Smil's estimate, fallen an astonishing 100 billion times since the days of vacuum tubes. But again, he sees little evidence that the 'saving' will save us from planetary crises, quipping that social media proves "convincingly that the volume of communication must be inversely related to its quality". Our most spectacular technological achievements have, thus far, done little to abate our impact on the planet. Many have exacerbated it.

Q.11

Which of the following measures is Smil most likely to support to address the problem of over-consumption of resources?

1 **Increasing the funding for research in energy, population and environmental change**

2 **Targeted technological innovation that focuses on maximum utilization of finite agricultural land**

3 **Optimal resource utilization planning in tandem with research to predict future outcomes**

4 **Using elementary equations to model growth, and the biophysical principles it depends upon**

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Q.12

According to the author, Smil is skeptical about the "techno-optimists" because:

1 **human history is a story of innovation and increased efficiency, but also of relentless depletion of Earth's resources.**

2 **more computing capacity at lower cost and mere reduction in material inputs will not solve the environmental crises.**

3 **technological innovations often start small, enter a phase of exponential increase and then plateau.**

4 **we have increased our capacity to harvest energy from the planet using technological advancements.**

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Q.13

Smil shows repeatedly how beautifully fitting models have failed to predict the future in order to:

1 **discredit the steady growth attributed to certain industries like CDs and video tapes.**

2 **explain the benefits of adopting simple equations to model growth rather than using complex models.**

3 **argue against making economic predictions while ignoring the paucity of available resources.**

4 **show how oil production which had fallen in the US has risen again, which highlights the increase in demand for oil.**

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Q.14

Which of the following statements best expresses the overall argument of this passage?

1 **We must use simple equations to model growth for proper utilization natural resources while maintaining equilibrium in nature, .**

2 To minimize environmental degradation and to better human lives requires more than just technology and resource efficiency strategies.

3 There are no solutions to reconcile our species' excessive and increasing capacity for consumption with a viable future.

4 Using economic projections to predict and forecast growth while overlooking the biophysical reality of limited resources is unsustainable.

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Answer key/Solution

Direction for questions (15-19): Read the given passage and answer the questions that follow.

In Veronica Gonzalez Peña's fascinating new documentary about the painter Pat Steir, which premiered at the New York Jewish Film Festival earlier this year, Steir recalls an interview with the philosopher Sylvère Lotringer in which he remarked: "When I look at your work closely, I feel that your entire career has been a long effort to disappear." "It's true," Steir says in the film, adding that she has been "trying to take my ego out of the art and my body out of the art. I want the paintings to express something in the will of nature."

"In much of her work," writes Colm Tóibín, "Steir—whose latest paintings are on view in the exhibition "Pat Steir Silent Secret Waterfalls," at the Barnes Foundation in Philadelphia until mid-November—applies a mass of oil paint to the upper part of her canvases, many of which are taller than herself, then lets it drip. Or she throws paint at the surface, letting the marks happen by accident or by a process we might call random design. "My idea," she says in the documentary, "was not to touch the canvas, not to paint, but to pour the paint and let the paint itself make a picture. I set the limitations. The limitations, of course, are the color, the size, the wind in the room, and how I put the paint on. And then everything outside of me controls how that paint falls. It's a joy to let the painting make itself. It takes away all kinds of responsibility."

In the Annenberg Court of the Barnes Foundation (the large space where people line up to see the permanent collection), Steir's monumental black-and-white paintings—all seven feet tall and ranging from about five to seventeen feet wide—cover three walls. These eleven "Silent Secret Waterfalls" enact the falling of water, and the idea of water as having its own internal power; but they also enact the falling of paint—the great, luminous whiteness that Steir allows to have its own inner life. She is more concerned with essences than with experiences, more interested in what the poet Gerard Manley Hopkins called inscape than she is in landscape.

While it should be possible for someone looking at these paintings to feel that they depict or suggest the flowing of water downward over rock or stone, that is to miss the point of works that are concerned much more with the potential of paint than the need to represent something in nature. They are, to a large extent, autonomous spaces, powered by the visual possibilities of chance and flow. This may connect them to nature: they do what a waterfall does. They have some of the same force. But as paintings, they are dynamic rather than completed; they happened by an arranged accident, the surface is not settled, it is often fully free, moving beyond the natural phenomenon of the exhibition's title and reaching into the realm of the visionary.

Q.15

Lotringer's observation that Steir's entire career has been a long effort to disappear is best explained by:

1 Steir 'paints' but without touching the canvas, she pours the paint to allow it to make the picture.

2 Steir's method is to step away physically and not let her ego have any control over the paintings.

3 Steir excluding both her ego and her body from her work allows the potential of paint to express nature's will.

4 Steir paints by disassociating herself from her canvas by throwing paint at its surface, or by allowing applied paint to drip.

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Q.16

According to the author, Steir's works move beyond the exhibitions title "Pat Steir Silent Secret Waterfalls" because:

1 they enact the falling of water, and the idea of water as having its own internal power; but they also enact the falling of paint.

2 in them the paint takes over, thus creating a work that depicts nature but is also both subjected to and created by nature itself.

3 they depict nature without merely mimicking it, which allows the viewer to go beyond and experience even the sounds of the waterfall.

4 they are interpretative, evocative and dynamic and have 'some of the same force as the waterfall' and are hence more than just 'silent'.

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Q.17

The author mentions 'inscape' to refer to:

1 the paintings of Steir which enact the falling of water and are accurate representations of waterfalls.

2 Steir's concern for essence rather than expression which shines through her works.

3 the luminous whiteness in Steir's paintings that focuses on the true essence of things.

4 ideas like that of water having its own internal power, that allow Steir to create works that are based in essence.

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Q.18

Steir's process of painting can most accurately be described as:

1 **applying or throwing paint on a large canvas, and letting the paint tell its own story, such that it takes away all kinds of responsibility.**

2 **setting limitations, and allowing the thrown or applied paint to paint itself a picture to express something in the will of nature.**

3 **not touching the canvas, not painting but rather pouring paint, so that everything outside of Steir controls how the painting forms.**

4 applying or throwing a mass of oil paint onto the upper part of her canvases, many of which are taller than herself, and then channeling the drip.

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In Veronica Gonzalez Peña's fascinating new documentary about the painter Pat Steir, which premiered at the New York Jewish Film Festival earlier this year, Steir recalls an interview with the philosopher Sylvère Lotringer in which he remarked: "When I look at your work closely, I feel that your entire career has been a long effort to disappear." "It's true," Steir says in the film, adding that she has been "trying to take my ego out of the art and my body out of the art. I want the paintings to express something in the will of nature."

"In much of her work," writes Colm Tóibín, "Steir—whose latest paintings are on view in the exhibition "Pat Steir Silent Secret Waterfalls," at the Barnes Foundation in Philadelphia until mid-November—applies a mass of oil paint to the upper part of her canvases, many of which are taller than herself, then lets it drip. Or she throws paint at the surface, letting the marks happen by accident or by a process we might call random design. "My idea," she says in the documentary, "was not to touch the canvas, not to paint, but to pour the paint and let the paint itself make a picture. I set the limitations. The limitations, of course, are the color, the size, the wind in the room, and how I put the paint on. And then everything outside of me controls how that paint falls. It's a joy to let the painting make itself. It takes away all kinds of responsibility."

In the Annenberg Court of the Barnes Foundation (the large space where people line up to see the permanent collection), Steir's monumental black-and-white paintings—all seven feet tall and ranging from about five to seventeen feet wide—cover three walls. These eleven "Silent Secret Waterfalls" enact the falling of water, and the idea of water as having its own internal power; but they also enact the falling of paint—the great, luminous whiteness that Steir allows to have its own inner life. She is more concerned with essences than with experiences, more interested in what the poet Gerard Manley Hopkins called inscape than she is in landscape.

While it should be possible for someone looking at these paintings to feel that they depict or suggest the flowing of water downward over rock or stone, that is to miss the point of works that are concerned much more with the potential of paint than the need to represent something in nature. They are, to a large extent, autonomous spaces, powered by the visual possibilities of chance and flow. This may connect them to nature: they do what a waterfall does. They have some of the same force. But as paintings, they are dynamic rather than completed; they happened by an arranged accident, the surface is not settled, it is often fully free, moving beyond the natural phenomenon of the exhibition's title and reaching into the realm of the visionary.

Q.19

Looking at Steir's paintings to feel that they depict flowing water over stone, is to miss the point of the works because:

1 they are more like literal depictions of the force of waterfalls and they seek to communicate the true essence of experiencing a waterfall.

2 unlike photos or other paintings, they are more than basic copies of waterfalls, they communicate the true essence of waterfalls.

3 they are not literal depictions, but they are autonomous spaces that explore the potential of paint and flow to communicate essence.

4 Steir paints to communicate the true essence of things and to express the true reality of nature.

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Answer key/Solution

Direction for questions (20-24): Read the given passage and answer the questions that follow.

On November 16th 1949, Nash sent a note barely longer than a page to the Proceedings of the National Academy of Sciences, in which he laid out the concept that has since become known as the "Nash equilibrium". This concept describes a stable outcome that results from people or institutions making rational choices based on what they think others will do. In a Nash equilibrium, no one is able to improve their own situation by changing strategy: each person is doing as well as they possibly can, even if that does not mean the optimal outcome for society. With a flourish of elegant mathematics, Nash showed that every "game" with a finite number of players, each with a finite number of options to choose from, would have at least one such equilibrium.

His insights expanded the scope of economics. In perfectly competitive markets, where there are no barriers to entry and everyone's products are identical, no individual buyer or seller can influence the market: none need pay close attention to what the others are up to. But most markets are not like this: the decisions of rivals and customers matter. From auctions to labour markets, the Nash equilibrium gave the dismal science a way to make real-world predictions based on information about each person's incentives.

One example in particular has come to symbolise the equilibrium: the prisoner's dilemma. Nash used algebra and numbers to set out this situation in an expanded paper published in 1951, but the version familiar to economics students is altogether more gripping.

It involves two mobsters sweating in separate prison cells, each contemplating the same deal offered by the district attorney. If they both confess to a bloody murder, they each face ten years in jail. If one stays quiet while the other confesses, then the confessor will get a reward, while the other will face a lifetime in jail. And if both hold their tongue, then they each face a minor charge, and only a year in the clink.

There is only one Nash-equilibrium solution to the prisoner's dilemma: both confess. Each is a best response to the other's strategy; since the other might have spilled the beans, confessing avoids a lifetime in jail. The tragedy is that if only they could work out some way of coordinating, they could both make themselves better off.

The example illustrates that crowds can be foolish as well as wise; what is best for the individual can be disastrous for the group. This tragic outcome is all too common in the real world. Left freely to plunder the sea, individuals will fish more than is best for the group, depleting fish stocks. Employees competing to impress their boss by staying longest in the office will encourage workforce exhaustion. Banks have an incentive to lend more rather than sit things out when house prices shoot up.

The Nash equilibrium thus helped economists to understand how self-improving individuals could lead to self-harming crowds. Better still, it helped them to tackle the problem: they just had to make sure that every individual faced the best incentives possible. If things still went wrong—parents failing to vaccinate their children against measles, say—then it must be because people were not acting in their own self-interest. In such cases, the public-policy challenge would be one of information.

Q.20

The author lists all of the following as aspects of Nash Equilibrium EXCEPT:

1 One cannot improve one's situation by changing strategy.

2 Each person doing as well as they possibly can, will not always benefit society.

3 In a perfectly competitive market, individuals and society both stand to benefit.

4 Self-improving individuals can lead to self-harming crowds.

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Q.21

Which of the following, if true, is not a valid example of what is best for the individual can be disastrous for the group?

1 **Overhunting by an individual negatively affects the ecological balance of a region.**

2 **Two competing companies dump their industrial waste underground which contaminates groundwater.**

3 **A person misses their job interview in order to save the life of an accident victim.**

4 **All countries will benefit from a stable climate, but any single country is hesitant to curb CO_2 emissions.**

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Q.22

Based on the prisoner's dilemma as explained in the passage, which of the following is correct?

1 **It assumes that the prisoners are not rational individuals.**

2 **If one prisoner betrays the other by confessing, he is rewarded for that decision.**

3 **If the prisoners had each taken the decision to not confess, they'd be free to go.**

4 **If the prisoners could coordinate with each other they would still confess.**

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Q.23

Based on the information provided in the last paragraph, which of the following statements can be inferred:

1 **Despite a massive campaign highlighting the benefits of online banking, most people still prefer the traditional form as there are several benefits that are given to customers that come to the bank.**

2 After intensive campaign and outreach programs, the people are aware of the benefits of vaccination.

3 Fishing of endangered species has increased even after severe penalties.

4 Instances of crime have gone down in the capital.

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Answer key/Solution

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Q.24

The author lists all of the following as impacts of the Nash Equilibrium EXCEPT:

1 **It helped economists to understand how self-improving individuals could lead to self-harming crowds.**

2 **It gave science the ability to make real-world predictions based on information about each person's incentives.**

3 **It extended the scope of economics.**

4 **It gave science the ability to understand decisions made by individual not acting in self-interest.**

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Answer key/Solution

Q.25

Directions for question (25): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. The horns of cattle, the high, long-napped hats of wealthy peasants, the headdresses of the women came to the surface of that sea.
2. Above it occasionally rose a huge burst of laughter from the sturdy lungs of a merry peasant or a prolonged bellow from a tied cow.
3. In the market-place at Goderville was a great crowd, a mingled multitude of men and beasts. 4. And the sharp, shrill, barking voices made a continuous, wild din.

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Answer key/Solution

Q.26

Directions for question (26): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. Fewer than a dozen years passed between the founding of NASA and the Apollo 11 Moon landing on July 20, 1969.
2. It has stuck with us, because the human imagination is puny compared with the vastness of our experience and our potential.
3. The triumphs of the Space Age are perhaps the greatest illustrations of this gap.
4. "Seeing is believing" is such a truism that it was already a cliché in the second century BCE, when the Roman playwright Titus Maccius Plautus planted those words in his comedy Truculentus.

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Answer key/Solution

Q.27

Directions for question (27): The passage given below is followed by four summaries. Choose the option that best captures the author's position.

The connection of philosophy with politics has been less evident in Britain than in Continental countries. Empiricism, broadly speaking, is connected with liberalism, but Hume was a Tory; what philosophers call 'idealism' has, in general, a similar connection with conservatism, but T. H. Green was a Liberal. On the Continent distinctions have been more clear-cut, and there has been a greater readiness to accept or reject a block of doctrines as a whole, without critical scrutiny of each separate part.

1 **On the Continent, unlike in Britain, the connection between politics and philosophy is significantly stronger, thus there has been a greater readiness to accept a block of doctrines as whole.**

2 **In Britain, as compared to the Continent, the connection between philosophy and politics was less apparent as was evinced by the fact that there was a greater readiness to reject doctrines on the Continent.**

3 **If the relationship between philosophy and politics is too strong it can lead to important works and doctrines being rejected as a whole due to the inherent bias of such a connection.**

4 **On the Continent, unlike in Britain, the connection between politics and philosophy is clearer, thus leading to blocks of doctrines being accepted and rejected without scrutiny.**

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Answer key/Solution

Q.28

Directions for question (28): Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. Kerala received over two and a half times more rainfall over the average for August.
2. The unprecedented rainfall was caused by a spell of low pressure over the region.
3. This was 42% more than during the entire monsoon season.
4. The Indian state of Kerala receives some of India's highest rainfall during the monsoon season.
5. Between August 1 and 19, the state received 758.6 mm of rainfall, compared to the average of 287.6 mm, or 164% more.

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Answer key/Solution

Q.29

Directions for question (29): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. Not only had Europeans fought many wars with North Africans over the centuries, they had established factories, churches and even cemeteries at all the major ports.
2. North Africa, just across the Mediterranean from Europe, was terra incognita.
3. Three centuries after Christopher Columbus landed in the Americas, Europeans had sailed to the farthest reaches of the Earth, trading in markets as far away as the Americas, Africa and Asia.
4. Still, they were surprisingly unclear about who the North Africans were and how the names they gave them related to those that the people gave themselves.

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Answer key/Solution

Q.30

Directions for question (30): Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. We have had the potential for total annihilation since 1945, and the capacity for localized mayhem for as long as societies have existed.
2. We are, I promise you, not doomed, no matter what Jonathan Franzen says.
3. As the average temperature warms, the abnormal becomes the new normal, and the new abnormal becomes the unprecedented.
4. Climate change offers the easy choice of a slow destruction through inaction like the proverbial frog in the slowly boiling pot.
5. We could be, of course, if we decided we really wanted to.

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Answer key/Solution

Q.31

Directions for question (31): The passage given below is followed by four summaries. Choose the option that best captures the author's position.

It would be foolish to deny that there are any skeletons in IQ-testing's closet. Many, though by no means all, of the originators of the tests were involved with the eugenics movement in the early 20th century, and it's reasonable to be appalled at some of the uses to which IQ tests were originally put. But these concerns are irrelevant to the main question of whether an IQ score, taken today, can tell you anything about a person. Facts are facts, and the validity of intelligence test scores is amply backed by voluminous evidence.

1 **IQ tests, despite some controversies, remain a trustworthy indicator of one's intelligence.**

2 **Though IQ tests have many secrets, their overall impact on eugenics can't be denied.**

3 **IQ tests owe their origin and related controversies to the eugenics movement of the early 20th century.**

4 **Despite widespread criticism, IQ tests remain a valid indicator of one's intelligence.**

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Answer key/Solution

Q.32

Directions for question (32): The four sentences (labelled 1, 2, 3, and 4) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentences and key in this sequence of four numbers as your answer.

1. All three of these 1948 anniversaries are linked.
2. The NHS was one of its key pillars.
3. And mass migration, which began in earnest that year has been intrinsically linked with its development.
4. The human rights framework, with its attention to socioeconomic rights such as healthcare and housing, provided a language for the vision of fairness implicit in Britain's postwar welfare state.

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Answer key/Solution

Q.33

Directions for question (33): Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out.

1. They'll climb to an exposed point, raise their abdomens to the sky, extrude strands of silk, and float away.
2. But that doesn't entirely make sense, especially since spiders only balloon during light winds.
3. It might carry spiders away from predators and competitors, or toward new lands with abundant resources.
4. Spiders have no wings, but they can take to the air nonetheless.
5. This behaviour is called ballooning.

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Answer key/Solution

Q.34

Directions for question (34): The passage given below is followed by four summaries. Choose the option that best captures the author's position.

The saints should always be judged guilty until they are proven innocent, but the tests that have to be applied to them are not, of course, the same in all cases. In Gandhi's case the questions one feels inclined to ask are: to what extent was Gandhi moved by vanity — by the consciousness of himself as a humble, naked old man, sitting on a praying-mat and shaking empires by sheer spiritual power — and to what extent did he compromise his own principles by entering politics, which by their nature are inseparable from coercion and fraud? To give a definite answer one would have to study Gandhi's acts and writings in immense detail, for his whole life was a sort of pilgrimage in which every act was significant.

1 **Whether or not Gandhi was saint, he must be guilty and for one to declare it otherwise, one needs to study the life and actions of Gandhi in detail as his entire life was shaped by significant events.**

2 **Whether Gandhi's actions were based in vanity, and to what extent he compromised his own principles by entering politics, can be answered only if one was to study his life and his works in immense detail.**

3 **Only by studying Gandhi's actions and writings in detail can one judge his guilt about entering politics and whether or not he was motivated by vanity.**

4 **Vanity, coercion and fraud are tags that can only be attached to Gandhi if his life and writings justified it.**

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Answer key/Solution

Sec 2

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

Based on the types of intelligence, described by American developmental psychologist Howard Gardener, a recruitment firm has designed a new testing mechanism for fresh graduates who are aspiring for jobs. Further, the different types of intelligence are grouped under four broad skill sets - L (Linguistic and Kinesthetic intelligence), M (Mathematical and Logical intelligence), P (Interpersonal and Intrapersonal intelligence) and S (Spatial and Existential intelligence). Also, each of these skill sets are further divided based on four possible grades - E(excellent - 10 points), G(good - 8 points), F(fair - 6 points) and S (satisfactory - 4 points).
Four candidates - W, X, Y and Z - aspiring for job are given the following grades, as shown in the below given table, in those four skill sets.

Skill set / Person	L	M	P	S
W	E	S	G	F
X	G	G	F	E
Y	F	G	E	G
Z	E	E	G	F

Jobs, available for the fresh graduates, are in three departments - HR, Data Science, and Administration - in a company. The weightage of the different skills required for each of these departments is given in the table shown below.

Weight / Department	0.4	0.3	0.2	0.1
HR	p	s	l	m
Data Science	m	l	s	p
Administration	s	m	p	l

where, p : the point value of the grade obtained in P
s : the point value of the grade obtained in S
l : the point value of the grade obtained in L
m : the point value of the grade obtained in M

A candidate is considered to be eligible for the job in a particular department, if his score is at least 8 where the score of any candidate is his weighted average.
{For example, the score for a job in HR department will be (0.4 × p) + (0.3 × s) + (0.2 × l) + (0.1 × m).}

Q.35
A candidate is considered as an all rounder if he is eligible for a job in all the three departments. Who among the four candidates is an all rounder?

1 **W**

2 **X**

3 **Y**

4 **Z**

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Answer key/Solution

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X	G	G	F	E
Y	F	G	E	G
Z	E	E	G	F

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where, p : the point value of the grade obtained in P
s : the point value of the grade obtained in S
l : the point value of the grade obtained in L
m : the point value of the grade obtained in M

A candidate is considered to be eligible for the job in a particular department, if his score is at least 8 where the score of any candidate is his weighted average.
{For example, the score for a job in HR department will be (0.4 × p) + (0.3 × s) + (0.2 × l) + (0.1 × m).}

Q.36
Which candidate is eligible for exactly two out of the three jobs available?

1 **Only X**

2 **Both Y and Z**

3 **Both X and Y**

4 Only Y

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Answer key/Solution

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

Based on the types of intelligence, described by American developmental psychologist Howard Gardener, a recruitment firm has designed a new testing mechanism for fresh graduates who are aspiring for jobs. Further, the different types of intelligence are grouped under four broad skill sets - L (Linguistic and Kinesthetic intelligence), M (Mathematical and Logical intelligence), P (Interpersonal and Intrapersonal intelligence) and S (Spatial and Existential intelligence). Also, each of these skill sets are further divided based on four possible grades - E(excellent - 10 points), G(good - 8 points), F(fair - 6 points) and S (satisfactory - 4 points).
Four candidates - W, X, Y and Z - aspiring for job are given the following grades, as shown in the below given table, in those four skill sets.

Skill set / Person	L	M	P	S
W	E	S	G	F
X	G	G	F	E
Y	F	G	E	G
Z	E	E	G	F

Jobs, available for the fresh graduates, are in three departments - HR, Data Science, and Administration - in a company. The weightage of the different skills required for each of these departments is given in the table shown below.

Weight / Department	0.4	0.3	0.2	0.1
HR	p	s	l	m
Data Science	m	l	s	p
Administration	s	m	p	l

where, p : the point value of the grade obtained in P
s : the point value of the grade obtained in S
l : the point value of the grade obtained in L
m : the point value of the grade obtained in M

A candidate is considered to be eligible for the job in a particular department, if his score is at least 8 where the score of any candidate is his weighted average.
{For example, the score for a job in HR department will be $(0.4 \times p) + (0.3 \times s) + (0.2 \times l) + (0.1 \times m)$.}

Q.37
What is the maximum score obtained by any of these candidates for any of the available jobs?

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Answer key/Solution

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{For example, the score for a job in HR department will be $(0.4 \times p) + (0.3 \times s) + (0.2 \times l) + (0.1 \times m)$.}

Q.38

If W is given a chance to reappear for the test after a month and he can improve one of his skill sets by upgrading the grade got in that skill set by one. For example, he initially got grade S in skill set M, so after upgrading it by one, his new grade becomes F. Then which of the following will get him a job?

1 **By improving P**

2 **By improving M**

3 Either (1) or (2)

4 None of these

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Answer key/Solution

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

At ZPS international school, nine different subjects – English, Hindi, Sanskrit, History, Geography, Physics, Chemistry, Biology and Mathematics - were taught during nine different periods in a day to the 8th class students. Duration of each period is of 30 minutes and the time gap between any two classes is negligible. The first period of the day begins at 8 a.m. and the last period ends at 1:00 p.m. with a 30 minutes recess period in between. Each subject is taught by a different teacher – Mrs. Chopra, Mrs. Sharma, Mrs. Pandey, Mrs. Gupta, Mrs. Joshi, Mrs. Das, Mrs. Ghosh, Mrs. Khan and Mrs. Singh – not necessarily in that order.

Some additional information about these periods routine is also known which is as follows:
(i) Mrs. Gupta's class begins at 9.30 a.m. and is not immediately preceded by Biology or Physics class.
(ii) The Mathematics class begins at 8 a.m. and Hindi class ends at noon.
(iii) Chemistry is taught by Mrs. Sharma which is held some time after the break.
(iv) Mrs. Joshi's class starts exactly three and a half hours after the end of Mrs. Singh's class and neither of them teaches Physics.
(v) The Geography period starts exactly one hour before the English period starts and neither of them is taken by Mrs. Chopra or Mrs. Khan.
(vi) There are exactly three periods between the English period and the Physics period.
(vii) The Biology period is neither immediately preceded nor immediately followed by the Hindi period.
(viii) There are exactly five periods between Mrs. Chopra's class and Mrs. Joshi's class.
(ix) Mrs. Khan's class ends at 9 a.m. and the recess is immediately after the Geography class.
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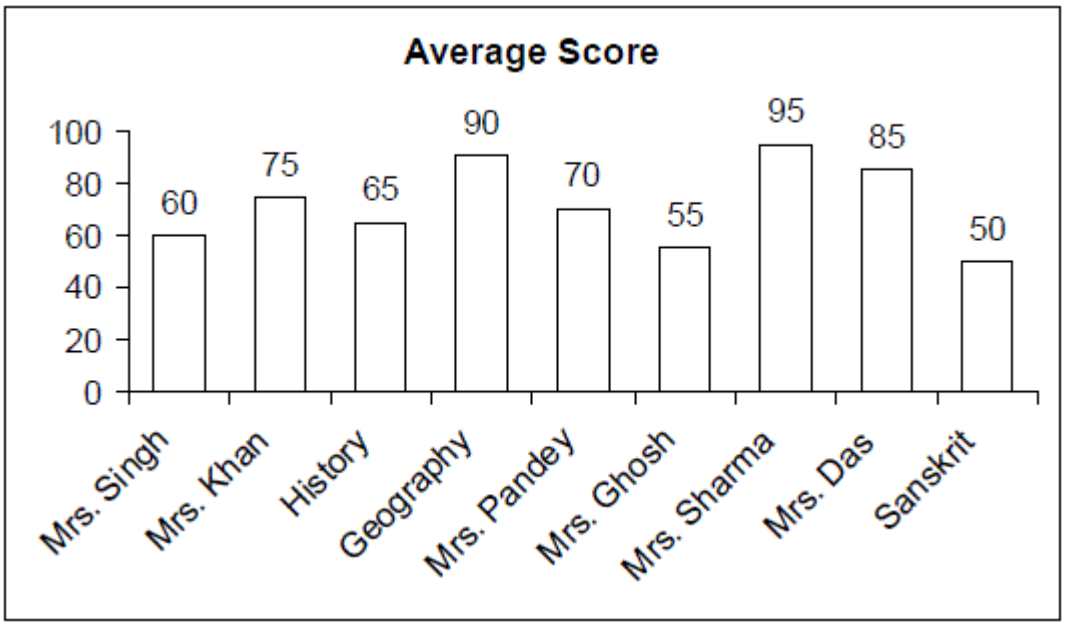
The bar graph given below shows the average score of the students in the respective subjects or teacher's classes:



Q.39

If the average score of Mrs. Chopra's class is more than the average score of Mrs. Singh's class, then which of the following subjects does Mrs. Chopra teach?

1 **History**

2 **Sanskrit**

3 **Hindi**

4 **Cannot be determined**

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Answer key/Solution

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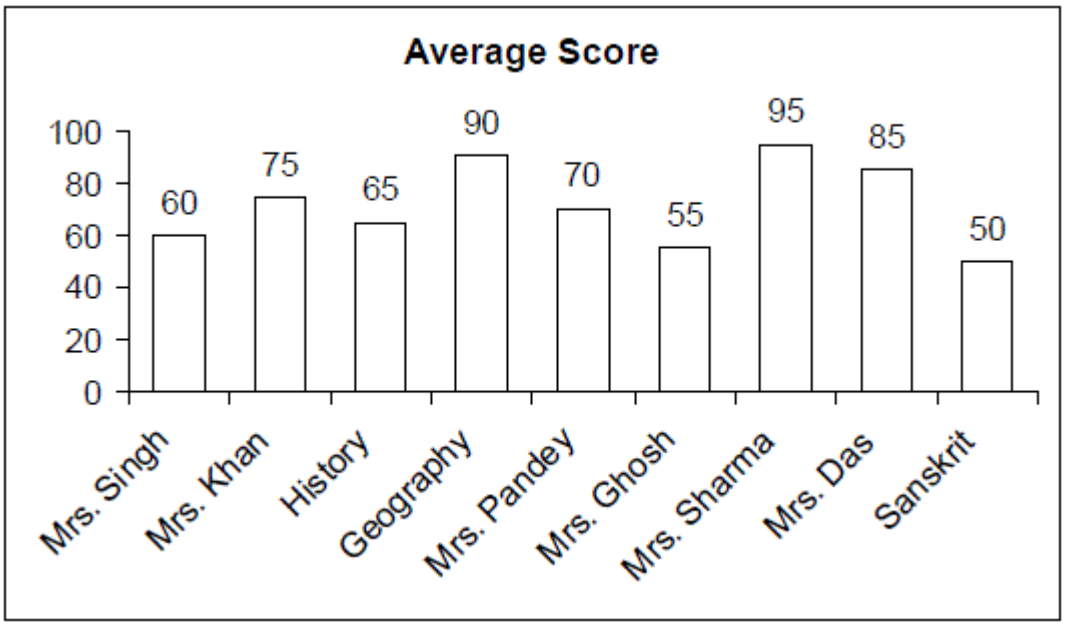

Q.40

If the average score of the English class is the mean of the average scores of Mrs. Sharma's class and the Physics class, then who teaches English?

1 **Mrs. Pandey**

2 **Mrs. Das**

3 **Mrs. Ghosh**

4 **Mrs. Gupta**

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Answer key/Solution

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

At ZPS international school, nine different subjects – English, Hindi, Sanskrit, History, Geography, Physics, Chemistry, Biology and Mathematics - were taught during nine different periods in a day to the 8th class students. Duration of each period is of 30 minutes and the time gap between any two classes is negligible. The first period of the day begins at 8 a.m. and the last period ends at 1:00 p.m. with a 30 minutes recess period in between. Each subject is taught by a different teacher – Mrs. Chopra, Mrs. Sharma, Mrs. Pandey, Mrs. Gupta, Mrs. Joshi, Mrs. Das, Mrs. Ghosh, Mrs. Khan and Mrs. Singh – not necessarily in that order.

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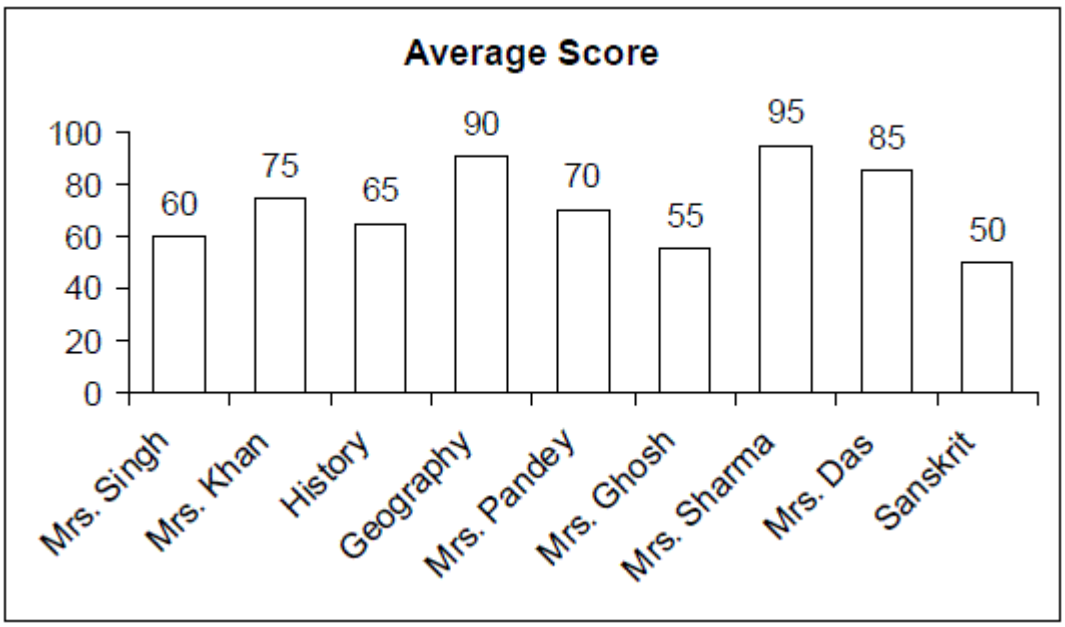

Q.41
If the mean of average score of Mathematics, Physics, Chemistry and Biology is 75, then which of the following is definitely true?

1 **Mrs. Ghosh teaches Hindi**

2 **Mrs. Das teaches English**

3 **Mrs.Pandey teaches Biology**

4 **Either Mrs. Ghosh or Mrs. Das teaches Biology**

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Answer key/Solution

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

At ZPS international school, nine different subjects – English, Hindi, Sanskrit, History, Geography, Physics, Chemistry, Biology and Mathematics - were taught during nine different periods in a day to the 8th class students. Duration of each period is of 30 minutes and the time gap between any two classes is negligible. The first period of the day begins at 8 a.m. and the last period ends at 1:00 p.m. with a 30 minutes recess period in between. Each subject is taught by a different teacher – Mrs. Chopra, Mrs. Sharma, Mrs. Pandey, Mrs. Gupta, Mrs. Joshi, Mrs. Das, Mrs. Ghosh, Mrs. Khan and Mrs. Singh – not necessarily in that order.

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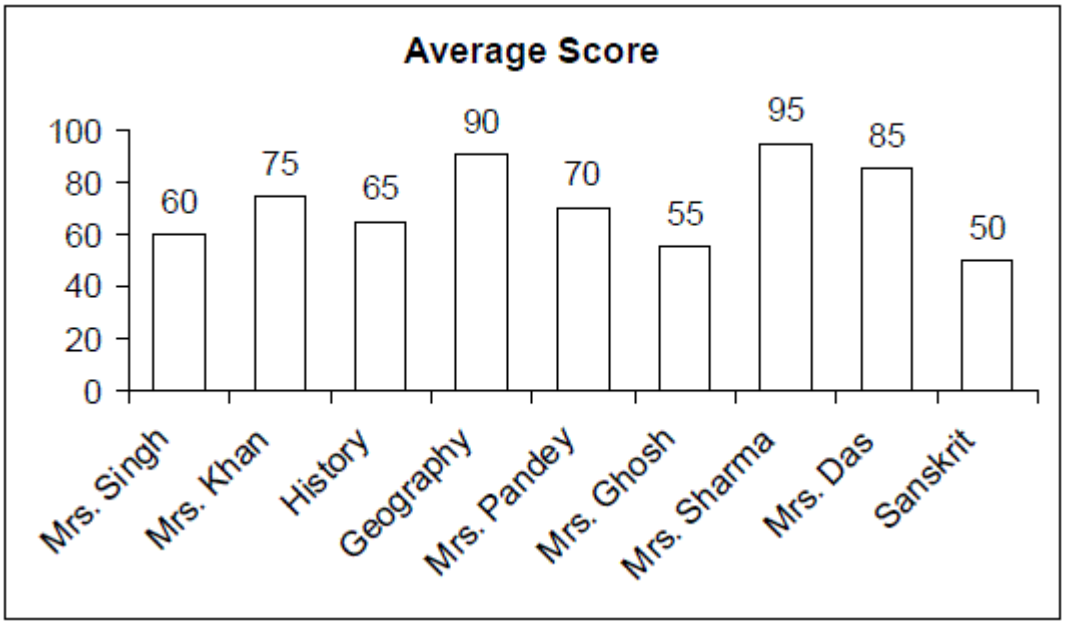

Q.42

If Mrs. Joshi takes the subject which has an average score of 50, then which of the following periods do not held before the recess?

1 Mathematics

2 Sanskrit

3 History

4 Geography

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Answer key/Solution

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

Eight friends - Mohan, Mohit, Mandeep, Mandar, Mukesh, Manish, Manoj and Vinod - each ordered a food item among Idli, Dosa, Kulcha, Veg thali, Burger, Baby corn, Veg roll and Malai Chap from a food delivery App, not necessarily in that order. The actual cost (in Rupees) of these items were 30, 40, 50, 60, 70, 80, 90 and 100, in any order. But when these friends went on payment page of the App and made payment, the amount deducted from their bank accounts were Rs. 50, 60, 70, 90, 100 and 110, in any order due to high demand of food. It means same amount might be deducted from more than one friend's bank account. It was also known that:

(i) The price of no item was increased by more than Rs. 20, due to high demand. Mohit's bank account had been debited by the highest possible amount among them and he had ordered Veg thali that had actual cost of Rs. 90.
(ii) The amount debited from Mukesh's bank account was less than Rs. 70 but more than that from the amount that debited from the friend's account who had ordered Burger. The actual cost of Malai Chap was Rs. 30.
(iii) A friend whose bank account was debited by Rs. 50 had ordered the item whose actual cost was more than that of the item ordered by the friend whose bank account was debited by Rs. 60.
(iv) Both, amount deducted and actual cost, were same for four food items. Mandeep's account was debited by Rs. 100 who had ordered Kulcha. The actual price of the items ordered by Manish and Manoj were Rs. 40 and Rs. 80 respectively.
(v) The actual cost of item ordered by Mandar was less than that ordered by Manish. The bank account of the person who had ordered Idli was deducted by higher amount than that of the friend who had ordered Dosa but by lesser amount than that of the friend who had ordered Veg roll.

Q.43

The actual price of Dosa was

1 Rs. 40

2 Rs. 60

3 Rs. 70

4 Either (1) or (2)

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Answer key/Solution

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(v) The actual cost of item ordered by Mandar was less than that ordered by Manish. The bank account of the person who had ordered Idli was deducted by higher amount than that of the friend who had ordered Dosa but by lesser amount than that of the friend who had ordered Veg roll.

Q.44
Who had ordered Veg roll?

1 **Manish**

2 **Manoj**

3 **Vinod**

4 **Mohan**

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Answer key/Solution

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

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(v) The actual cost of item ordered by Mandar was less than that ordered by Manish. The bank account of the person who had ordered Idli was deducted by higher amount than that of the friend who had ordered Dosa but by lesser amount than that of the friend who had ordered Veg roll.

Q.45
The actual price (in Rs.) of Burger and Idli together was

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Answer key/Solution

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

Eight friends - Mohan, Mohit, Mandeep, Mandar, Mukesh, Manish, Manoj and Vinod - each ordered a food item among Idli, Dosa, Kulcha, Veg thali, Burger, Baby corn, Veg roll and Malai Chap from a food delivery App, not necessarily in that order. The actual cost (in Rupees) of these items were 30, 40, 50, 60, 70, 80, 90 and 100, in any order. But when these friends went on payment page of the App and made payment, the amount deducted from their bank accounts were Rs. 50, 60, 70, 90, 100 and 110, in any order due to high demand of food. It means same amount might be deducted from more than one friend's bank account. It was also known that:

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(v) The actual cost of item ordered by Mandar was less than that ordered by Manish. The bank account of the person who had ordered Idli was deducted by higher amount than that of the friend who had ordered Dosa but by lesser amount than that of the friend who had ordered Veg roll.

Q.46

The amount (in Rs.) debited from Mandar's account was

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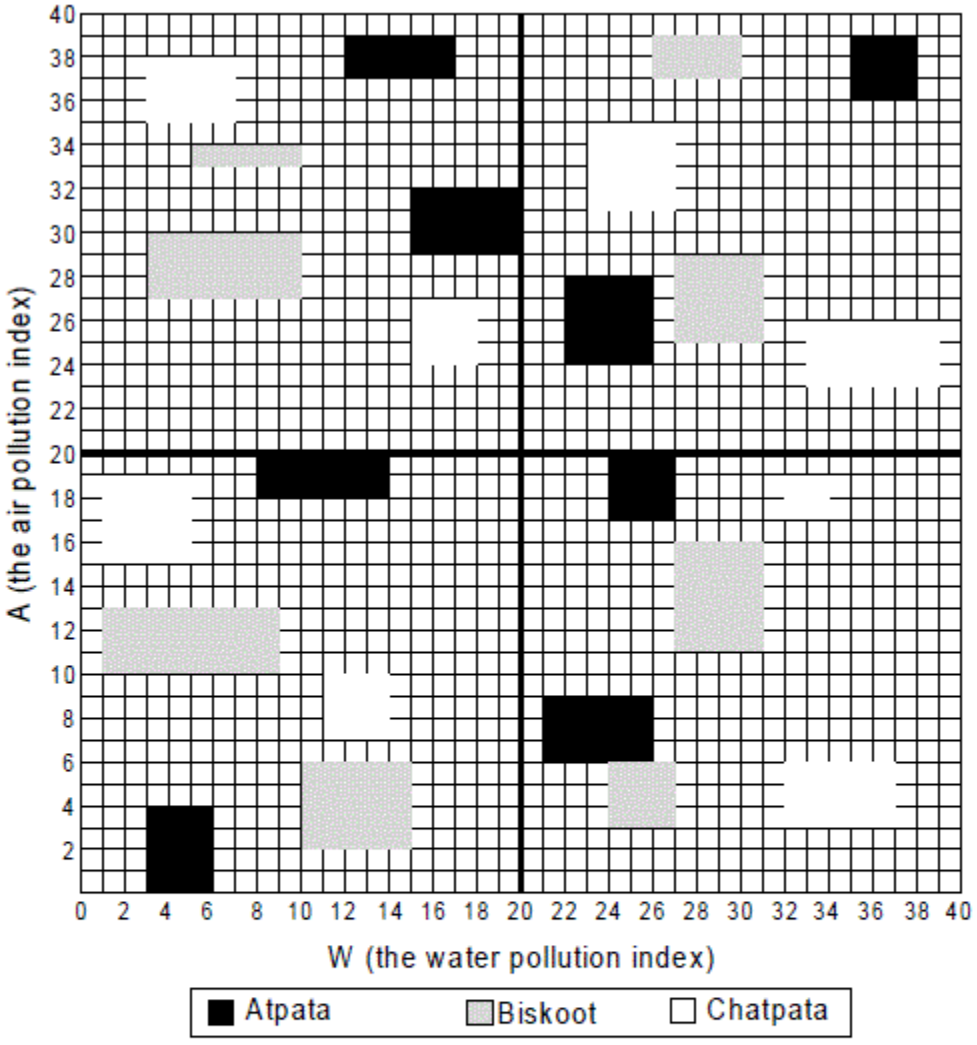
Answer key/Solution

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

Each of the boxes in the picture given below represents a product manufactured by one of the three snack manufacturing companies- Atpata, Biskoot and Chatpata. The area of a box is equal to the revenue, R (in Rs. crores), earned from the corresponding product. Along the axes, the x and y values represent W (the water pollution index) and A (the air pollution index). W and A for each product is the minimum value of x coordinate and minimum value of y coordinate respectively for the box it is represented by. For e.g. for the left upper corner box manufactured by Chatpata company, the value of W and A are 3 and 35 respectively. The fine charged for polluting the environment is Rs. (A + W) lakh.



Based on these indices, these products of the three companies are divided into four categories - Green, Blue, Yellow and Red. The criteria of division of companies are given in the table below.

Blue	Red
$A > 20, W \leq 20$	$A > 20, W > 20$
Green	**Yellow**
$A \leq 20, W < 20$	$A \leq 20, W > 20$

Q.47

Which company pays the maximum percentage of its total revenue as fine?

1 **Atpata**

2 **Biskoot**

3 **Chatpata**

4 **Either (1) or (2)**

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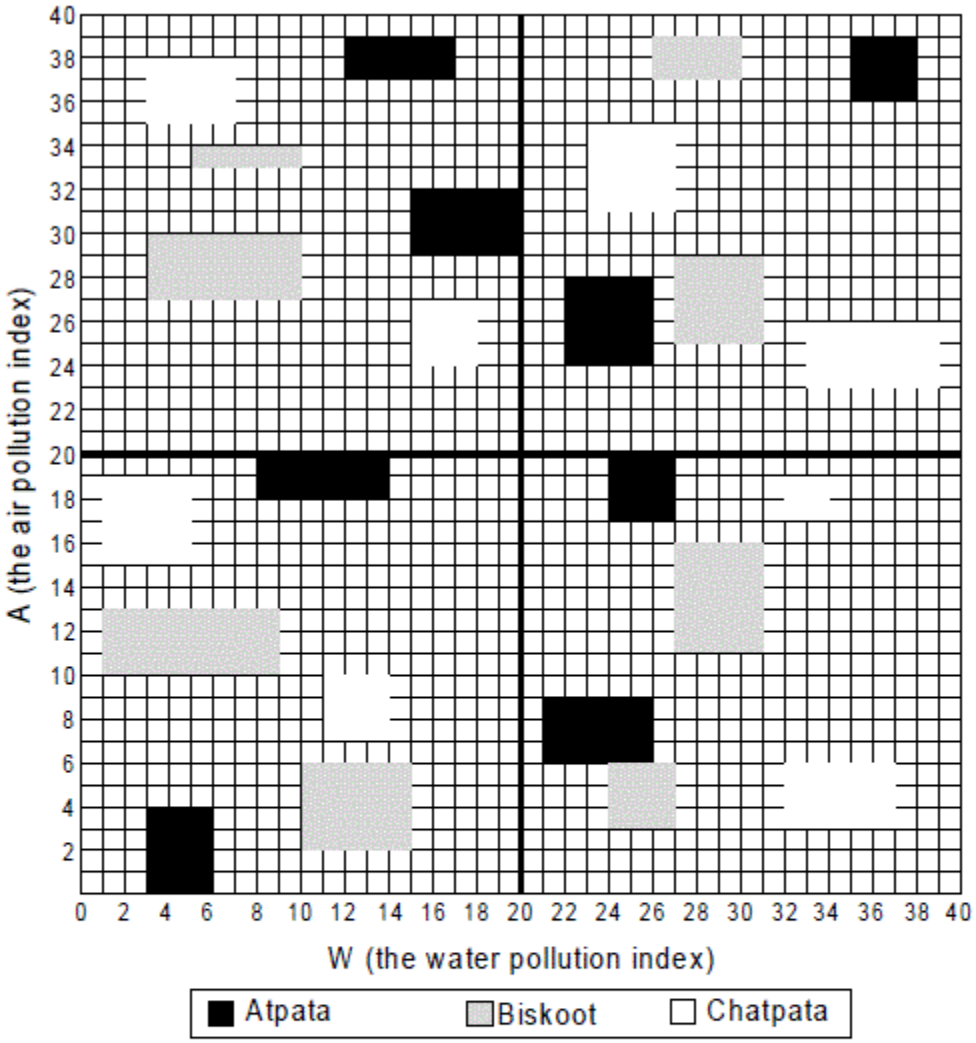
Answer key/Solution

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

Each of the boxes in the picture given below represents a product manufactured by one of the three snack manufacturing companies- Atpata, Biskoot and Chatpata. The area of a box is equal to the revenue, R (in Rs. crores), earned from the corresponding product. Along the axes, the x and y values represent W (the water pollution index) and A (the air pollution index). W and A for each product is the minimum value of x coordinate and minimum value of y coordinate respectively for the box it is represented by. For e.g. for the left upper corner box manufactured by Chatpata company, the value of W and A are 3 and 35 respectively. The fine charged for polluting the environment is Rs. (A + W) lakh.



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Blue	Red
$A > 20, W \leq 20$	$A > 20, W > 20$
Green	**Yellow**
$A \leq 20, W < 20$	$A \leq 20, W > 20$

Q.48

What approximate percentage of the total fine collected from the Red and Blue categories was paid by the company Biskoot?

1 **15%**

2 **48%**

3 **29%**

4 **32%**

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Answer key/Solution

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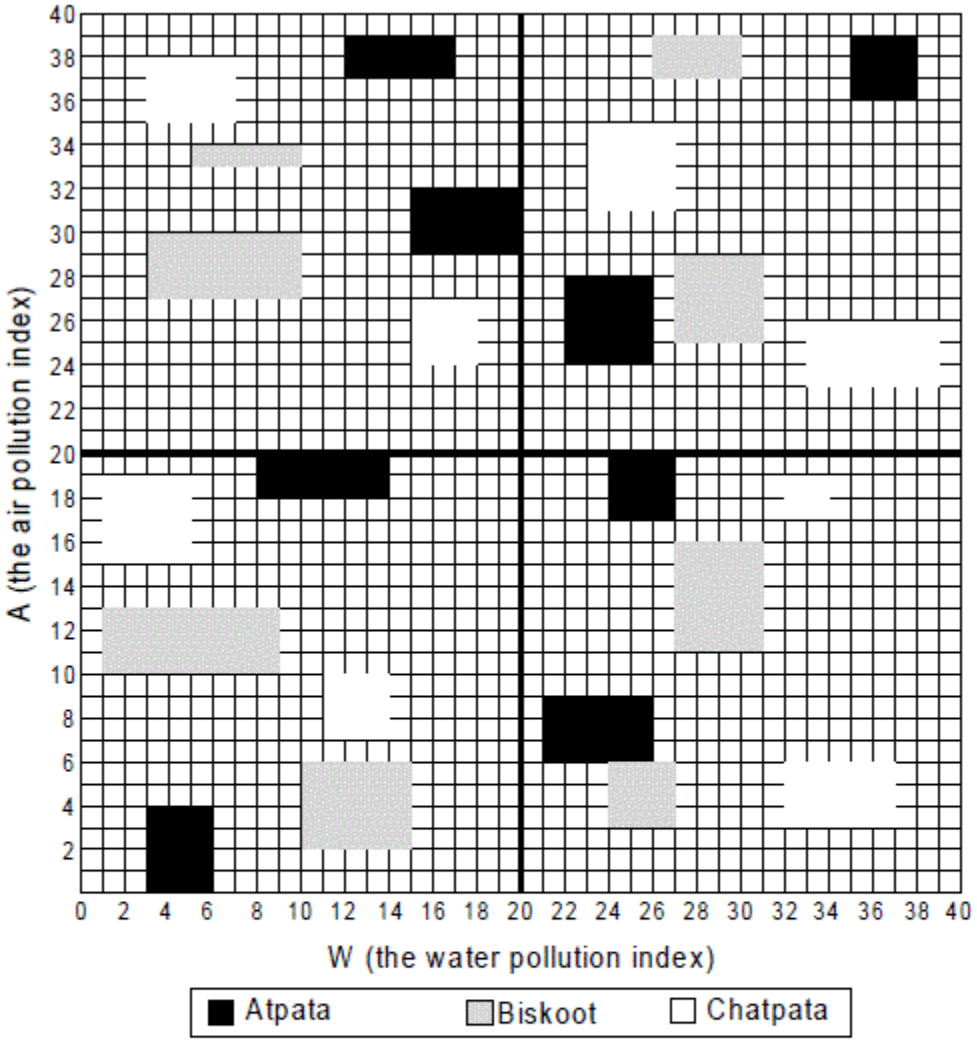

Based on these indices, these products of the three companies are divided into four categories - Green, Blue, Yellow and Red. The criteria of division of companies are given in the table below.

Blue	Red
$A > 20, W \leq 20$	$A > 20, W > 20$
Green	**Yellow**
$A \leq 20, W < 20$	$A \leq 20, W > 20$

Q.49

If $X = \frac{\text{R from Green category}}{\text{Sum of R from Red, Blue and Yellow categories}}$, then for which company is X more than 50%?

1 **Only Biskoot**

2 **Both Atpata and Biskoot**

3 **Only Atpata**

4 **Both Biskoot and Chatpata**

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Answer key/Solution

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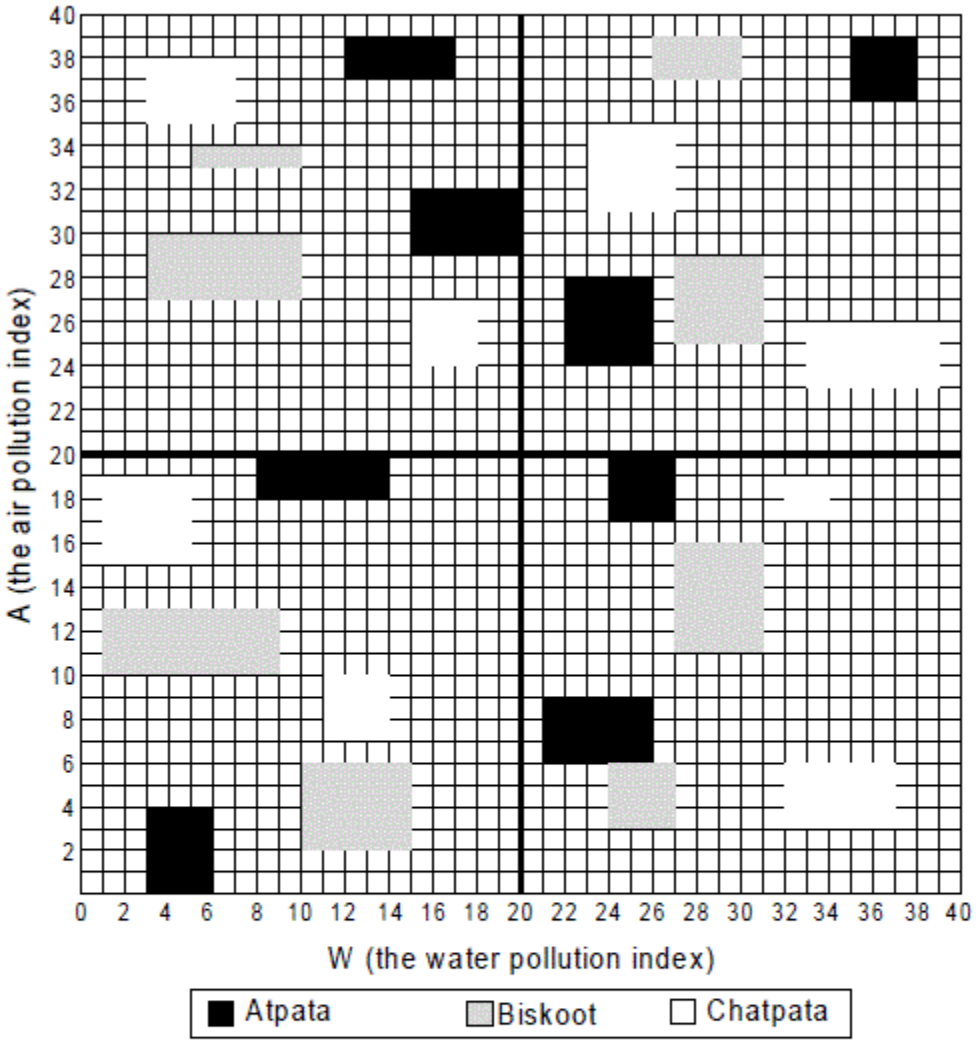

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$A \leq 20, W < 20$	$A \leq 20, W > 20$

Q.50

Among all the 24 products of the three companies if the fine paid as a percentage of its revenue is calculated, then what is its maximum value and for which company?

1 **13.5%, Biskoot**

2 **12.25%, Chatpata**

3 **11.2%, Atpata**

4 **9.5%, Biskoot**

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Answer key/Solution

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

Arun has rented out his four storey building i.e, ground, 1st, 2nd and 3rd floor, to ten tenants - Prakash, Gautam, Ankit, Upendra, Samar, Tarun, Saral, Manoj, Sandeep and Ajit. There are 12 flats, named from O to Z, such that the number of flats on ground, 1st, 2nd and 3rd floor are three, four, two and three respectively. Each flat is occupied by one tenant only. The rents paid by these tenants are between Rs. 6k and Rs. 12k (both including). Rent of a flat at any end, either left or right, i.e., corner flat of any floor is not less than that of flat(s) which is/are not at the end i.e., non-corner flats. The maximum rent paid for any flat at a lower floor is less than or equal to that for any flat at upper floor.
Some additional information is as given below:

(i) Flat 'S' and 'R' are left and right end corner flats respectively. Total rent collected from these twelve flats was Rs. 88k.
(ii) Sandeep lives exactly between Prakash and Gautam on the same floor, and Saral, Manoj and Ajit live on different floors. Flat T and W are not occupied by anyone.
(iii) Tarun lives in a right end corner flat 'V' on the ground floor and pays rent of Rs. 7k which is equal to the rent paid by Gautam who lives on the 1st floor. Total rent collected from any floor was not less than Rs. 10k.
(iv) Flat P, U and Q are on the same floor from left to right in that order but are below to the floor on which flats O, W and Z (in that order from left to right) are located.
(v) Total rent collected from the flats at ground floor and at 1st floor are Rs. 20k and Rs. 24k respectively.
Manoj, who pays rent of Rs. 9k, lives in a left end corner flat 'X' on the 2nd floor.
(vi) Upendra lives to the left of Saral and pays more rent than that paid by Samar. The flats of Ankit and Ajit are adjacent to each other and Ajit does not pay the least rent among all ten tenants.
(vii) The rents paid by all the tenants are multiple of 1000.

[Note:- Flats on each floor are in a row facing north direction]

Q.51
Find the total sum of the rents paid by Sandeep, Samar and Saral.

1 **30k**

2 **31k**

3 **32k**

4 **None of these**

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Answer key/Solution

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

Arun has rented out his four storey building i.e, ground, 1st, 2nd and 3rd floor, to ten tenants - Prakash, Gautam, Ankit, Upendra, Samar, Tarun, Saral, Manoj, Sandeep and Ajit. There are 12 flats, named from O to Z, such that the number of flats on ground, 1st, 2nd and 3rd floor are three, four, two and three respectively. Each flat is occupied by one tenant only. The rents paid by these tenants are between Rs. 6k and Rs. 12k (both including). Rent of a flat at any end, either left or right, i.e., corner flat of any floor is not less than that of flat(s) which is/are not at the end i.e., non-corner flats. The maximum rent paid for any flat at a lower floor is less than or equal to that for any flat at upper floor.
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(i) Flat 'S' and 'R' are left and right end corner flats respectively. Total rent collected from these twelve flats was Rs. 88k.
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(iv) Flat P, U and Q are on the same floor from left to right in that order but are below to the floor on which flats O, W and Z (in that order from left to right) are located.
(v) Total rent collected from the flats at ground floor and at 1st floor are Rs. 20k and Rs. 24k respectively.
Manoj, who pays rent of Rs. 9k, lives in a left end corner flat 'X' on the 2nd floor.
(vi) Upendra lives to the left of Saral and pays more rent than that paid by Samar. The flats of Ankit and Ajit are adjacent to each other and Ajit does not pay the least rent among all ten tenants.
(vii) The rents paid by all the tenants are multiple of 1000.

[Note:- Flats on each floor are in a row facing north direction]

Q.52
Saral lives in flat named

1 **Z**

2 **O**

3 **R**

4 **S**

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Answer key/Solution

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

Arun has rented out his four storey building i.e, ground, 1st, 2nd and 3rd floor, to ten tenants - Prakash, Gautam, Ankit, Upendra, Samar, Tarun, Saral, Manoj, Sandeep and Ajit. There are 12 flats, named from O to Z, such that the number of flats on ground, 1st, 2nd and 3rd floor are three, four, two and three respectively. Each flat is occupied by one tenant only. The rents paid by these tenants are between Rs. 6k and Rs. 12k (both including). Rent of a flat at any end, either left or right, i.e., corner flat of any floor is not less than that of flat(s) which is/are not at the end i.e., non-corner flats. The maximum rent paid for any flat at a lower floor is less than or equal to that for any flat at upper floor.
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(ii) Sandeep lives exactly between Prakash and Gautam on the same floor, and Saral, Manoj and Ajit live on different floors. Flat T and W are not occupied by anyone.
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(v) Total rent collected from the flats at ground floor and at 1st floor are Rs. 20k and Rs. 24k respectively.
Manoj, who pays rent of Rs. 9k, lives in a left end corner flat 'X' on the 2nd floor.
(vi) Upendra lives to the left of Saral and pays more rent than that paid by Samar. The flats of Ankit and Ajit are adjacent to each other and Ajit does not pay the least rent among all ten tenants.
(vii) The rents paid by all the tenants are multiple of 1000.

[Note:- Flats on each floor are in a row facing north direction]

Q.53
Who among the following can live in the left end corner flats?

1 **Saral, Manoj, Ajit**

2 **Upendra, Manoj, Prakash and Ajit**

3 **Saral, Manoj, Prakash and Ajit.**

4 **Upendra, Manoj, Ajit, Samar**

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Answer key/Solution

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

Arun has rented out his four storey building i.e, ground, 1st, 2nd and 3rd floor, to ten tenants - Prakash, Gautam, Ankit, Upendra, Samar, Tarun, Saral, Manoj, Sandeep and Ajit. There are 12 flats, named from O to Z, such that the number of flats on ground, 1st, 2nd and 3rd floor are three, four, two and three respectively. Each flat is occupied by one tenant only. The rents paid by these tenants are between Rs. 6k and Rs. 12k (both including). Rent of a flat at any end, either left or right, i.e., corner flat of any floor is not less than that of flat(s) which is/are not at the end i.e., non-corner flats. The maximum rent paid for any flat at a lower floor is less than or equal to that for any flat at upper floor.
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Manoj, who pays rent of Rs. 9k, lives in a left end corner flat 'X' on the 2nd floor.
(vi) Upendra lives to the left of Saral and pays more rent than that paid by Samar. The flats of Ankit and Ajit are adjacent to each other and Ajit does not pay the least rent among all ten tenants.
(vii) The rents paid by all the tenants are multiple of 1000.

[Note:- Flats on each floor are in a row facing north direction]

Q.54
Among the following flats, which one has the least rent?

1 **O**

2 **R**

3 **U**

4 **S**

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Answer key/Solution

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

Pramod Gautam, Sachin Kale, Harish Dhandev, Vishwanath Bobade and Rajiv Bittu - are five farmers each having some cattle with him. The total number of cattle with five of them taken together is 249. It is also known that:
(i) The number of cattle with Pramod Gautam is the square of a natural number.
(ii) Each of them has at least 21 cattle.
(iii) The number of cattle with Harish Dhandev is 6 more than the square of a natural number.
(iv) The ratio of the number of cattle with Vishwanath Bobade and Rajiv Bittu is 4 : 5 respectively.
(v) Sachin Kale has an even number of cattle.
(vi) The sum of the number of cattle with Vishwanath Bobade and Rajiv Bittu is equal to the number of cattle with Pramod Gautam.

Q.55
Which among the following can be the possible absolute difference between the number of cattle with Sachin Kale and Harish Dhandev?

1 **21**

2 **23**

3 **25**

4 **Either (2) or (3)**

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Answer key/Solution

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

Pramod Gautam, Sachin Kale, Harish Dhandev, Vishwanath Bobade and Rajiv Bittu - are five farmers each having some cattle with him. The total number of cattle with five of them taken together is 249. It is also known that:
(i) The number of cattle with Pramod Gautam is the square of a natural number.
(ii) Each of them has at least 21 cattle.
(iii) The number of cattle with Harish Dhandev is 6 more than the square of a natural number.
(iv) The ratio of the number of cattle with Vishwanath Bobade and Rajiv Bittu is 4 : 5 respectively.
(v) Sachin Kale has an even number of cattle.
(vi) The sum of the number of cattle with Vishwanath Bobade and Rajiv Bittu is equal to the number of cattle with Pramod Gautam.

Q.56
The sum of the number of cattle with Pramod Gautam and Vishwanath Bobade is

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Answer key/Solution

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

Pramod Gautam, Sachin Kale, Harish Dhandev, Vishwanath Bobade and Rajiv Bittu - are five farmers each having some cattle with him. The total number of cattle with five of them taken together is 249. It is also known that:
(i) The number of cattle with Pramod Gautam is the square of a natural number.
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(iii) The number of cattle with Harish Dhandev is 6 more than the square of a natural number.
(iv) The ratio of the number of cattle with Vishwanath Bobade and Rajiv Bittu is 4 : 5 respectively.
(v) Sachin Kale has an even number of cattle.
(vi) The sum of the number of cattle with Vishwanath Bobade and Rajiv Bittu is equal to the number of cattle with Pramod Gautam.

Q.57
Who among the five farmers has the second lowest number of cattle?

1 **Vishwanath Bobade**

2 **Sachin Kale**

3 **Harish Dhandev**

4 **Cannot be determined**

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Answer key/Solution

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

Pramod Gautam, Sachin Kale, Harish Dhandev, Vishwanath Bobade and Rajiv Bittu - are five farmers each having some cattle with him. The total number of cattle with five of them taken together is 249. It is also known that:
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(iii) The number of cattle with Harish Dhandev is 6 more than the square of a natural number.
(iv) The ratio of the number of cattle with Vishwanath Bobade and Rajiv Bittu is 4 : 5 respectively.
(v) Sachin Kale has an even number of cattle.
(vi) The sum of the number of cattle with Vishwanath Bobade and Rajiv Bittu is equal to the number of cattle with Pramod Gautam.

Q.58
How many farmers have an odd number of cattle?

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Answer key/Solution

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

Each of the three rivers - Krishna, Kaveri and Tapi - flows through three cities - Maularampur, Kualalampur and Jholapur. These rivers are flowing above danger mark in these cities. It is known that if all the three rivers, in a city, flow at more than 5 cm above danger mark, then the city becomes flooded and if any two rivers in a city flow at more than 5 cm above danger mark, then the city becomes semi-flooded. It is also known that one of these three cities is flooded and another one is semi-flooded. Total 200 cusecs (cubic feet per second) of water was released from a dam into the three rivers in three cities. Before that release of water each river was exactly at the danger mark. The table given below shows the increase in water level (in cm) above the danger mark in a river on releasing 1 cusec of water from the dam.

River	Increase in water level
Krishna	0.2 cm
Kaveri	0.3 cm
Tapi	0.4 cm

It is also known that :-
(i) The level of the river increased above danger mark in all the three cities taken together is same for any two rivers out of the three. One river flows 11 cm above danger mark in a city.
(ii) Krishna flows at a level above danger mark in cities Maularampur, Kualalampur and Jholapur in the ratio of 3 : 9 : 7. All the three rivers flow at more than 1 cm above its danger mark in each city.
(iii) Amount of water released in Kaveri in Kualalampur and that in Tapi in Maularampur is in the ratio of 2 : 3.

[Note:- All rivers must flow at a level above danger mark in each city in integer value of cm only.]

Q.59
The maximum level (in cm) above danger mark at which Tapi can flow in any city is

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Answer key/Solution

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

Each of the three rivers - Krishna, Kaveri and Tapi - flows through three cities - Maularampur, Kualalampur and Jholapur. These rivers are flowing above danger mark in these cities. It is known that if all the three rivers, in a city, flow at more than 5 cm above danger mark, then the city becomes flooded and if any two rivers in a city flow at more than 5 cm above danger mark, then the city becomes semi-flooded. It is also known that one of these three cities is flooded and another one is semi-flooded. Total 200 cusecs (cubic feet per second) of water was released from a dam into the three rivers in three cities. Before that release of water each river was exactly at the danger mark. The table given below shows the increase in water level (in cm) above the danger mark in a river on releasing 1 cusec of water from the dam.

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(iii) Amount of water released in Kaveri in Kualalampur and that in Tapi in Maularampur is in the ratio of 2 : 3.

[Note:- All rivers must flow at a level above danger mark in each city in integer value of cm only.]

Q.60
The minimum water (in cusecs) that can be released in the city 'Maularampur'?

1 **40 cusecs**

2 **125/3 cusecs**

3 **130/3 cusecs**

4 **50 cusecs.**

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Answer key/Solution

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

Each of the three rivers - Krishna, Kaveri and Tapi - flows through three cities - Maularampur, Kualalampur and Jholapur. These rivers are flowing above danger mark in these cities. It is known that if all the three rivers, in a city, flow at more than 5 cm above danger mark, then the city becomes flooded and if any two rivers in a city flow at more than 5 cm above danger mark, then the city becomes semi-flooded. It is also known that one of these three cities is flooded and another one is semi-flooded. Total 200 cusecs (cubic feet per second) of water was released from a dam into the three rivers in three cities. Before that release of water each river was exactly at the danger mark. The table given below shows the increase in water level (in cm) above the danger mark in a river on releasing 1 cusec of water from the dam.

River	Increase in water level
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(iii) Amount of water released in Kaveri in Kualalampur and that in Tapi in Maularampur is in the ratio of 2 : 3.

[Note:- All rivers must flow at a level above danger mark in each city in integer value of cm only.]

Q.61
What percentage of total water was released in Kaveri?

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Answer key/Solution

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

Each of the three rivers - Krishna, Kaveri and Tapi - flows through three cities - Maularampur, Kualalampur and Jholapur. These rivers are flowing above danger mark in these cities. It is known that if all the three rivers, in a city, flow at more than 5 cm above danger mark, then the city becomes flooded and if any two rivers in a city flow at more than 5 cm above danger mark, then the city becomes semi-flooded. It is also known that one of these three cities is flooded and another one is semi-flooded. Total 200 cusecs (cubic feet per second) of water was released from a dam into the three rivers in three cities. Before that release of water each river was exactly at the danger mark. The table given below shows the increase in water level (in cm) above the danger mark in a river on releasing 1 cusec of water from the dam.

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(iii) Amount of water released in Kaveri in Kualalampur and that in Tapi in Maularampur is in the ratio of 2 : 3.

[Note:- All rivers must flow at a level above danger mark in each city in integer value of cm only.]

Q.62
Which of the following city was semi flooded?

1 **Maularampur**

2 **Kualalampur**

3 **Jholapur**

4 **Either (1) or (2)**

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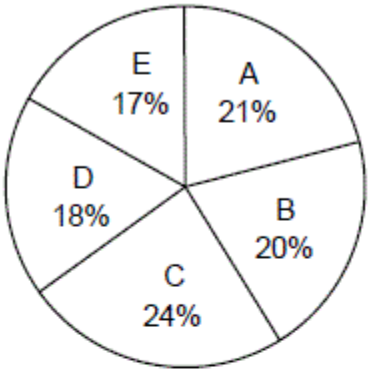
Answer key/Solution

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

The pie chart given below shows the percentage break-up of the number of competitors who participated from five different countries A, B, C, D and E in Asian Games 2018.



The partially filled-in table given below shows the number of competitors who participated from the five countries in the six sports conducted during the Asian Games 2018.

Sport \ Country	A	B	C	D	E
Boxing	24		32	40	18
Badminton	36	29		20	24
Kabaddi	28		35	26	46
Shooting	38	32	52	26	
Wrestling	44	46	34		30
Athletics		23	42	33	20

Note:
(i) Each competitor who came to the Asian Games participated in exactly one of the six sports.
(ii) At least one competitor from each country participated in each of the six sports.
(iii) Six cells in the table are left blank and the sum of that six missing values is 222.

Q.63

The number of competitors who participated from the country C in Badminton is what percentage more/less than that from country D in Wrestling?

1 **28.57% more**

2 **22.22% more**

3 **28.57% less**

4 **22.22% less**

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Answer key/Solution

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

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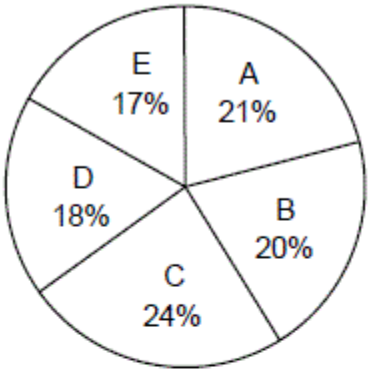

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Note:
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(iii) Six cells in the table are left blank and the sum of that six missing values is 222.

Q.64

Which of the following is not a possible ratio of the number of competitors who participated from the country B in Boxing and Kabaddi respectively?

1 **3 : 4**

2 **2 : 5**

3 **5 : 3**

4 **11 : 3**

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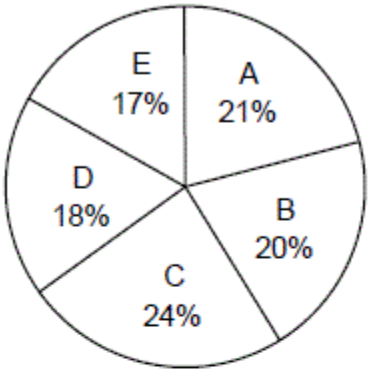
Answer key/Solution

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

The pie chart given below shows the percentage break-up of the number of competitors who participated from five different countries A, B, C, D and E in Asian Games 2018.



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Note:
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(ii) At least one competitor from each country participated in each of the six sports.
(iii) Six cells in the table are left blank and the sum of that six missing values is 222.

Q.65

Which of the six sports witnessed the highest participation of the competitors from the five countries put together?

1 **Wrestling**

2 **Kabaddi**

3 **Boxing**

4 **Cannot be determined**

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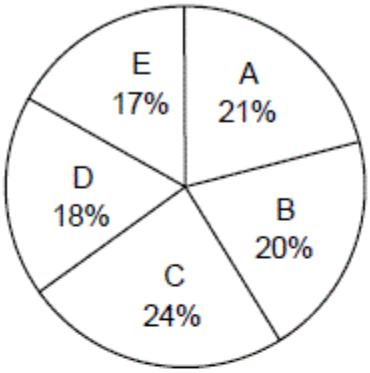
Answer key/Solution

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

The pie chart given below shows the percentage break-up of the number of competitors who participated from five different countries A, B, C, D and E in Asian Games 2018.



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Note:
(i) Each competitor who came to the Asian Games participated in exactly one of the six sports.
(ii) At least one competitor from each country participated in each of the six sports.
(iii) Six cells in the table are left blank and the sum of that six missing values is 222.

Q.66

Find the absolute difference between the number of competitors who participated from country A in Athletics and that from country E in Shooting.

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Answer key/Solution

Sec 3

Q.67

If Rahul sells 88 trays of 12 eggs each at a 28% discount on the marked price, then he makes 22% profit. The eggs of eight of these trays are destroyed in transportation. While selling the rest, how much discount should be given on the marked price so that he can make the same amount of profit?

1 **24%**

2 **20.8%**

3 **18.6%**

4 **19.2%**

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Answer key/Solution

Q.68

State buses run continuously between two cities, A and B, from 6 a.m. to 10 p.m. such that every 30 minutes a bus leaves city A towards B and another bus leaves city B towards A. All buses travel at a uniform speed 'U_1'. Prajnan, by his car, started moving from A towards B at 2 p.m. at a speed of 'U_2'. He observed that every t_1 minutes, he crossed a bus coming in the opposite direction and every t_2 minutes, he overtook a bus moving in the same direction. If $U_1 : U_2 = 2 : 3$, then find $t_1 : t_2$.

1 **3 : 2**

2 **1 : 5**

3 **4 : 9**

4 **Cannot be determined**

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Answer key/Solution

Q.69

If the area of a circle, in which a chord of length $6\sqrt{3}$ units subtends an angle of 120 degrees at the centre of the circle, is $k\pi$ sq. units, then find k.

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Answer key/Solution

Q.70

Find the number of integer values of z such that $0.0625 = 4^z = 1050$, and $4^z + 4$ is perfectly divisible by either 5 or 8.

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Answer key/Solution

Q.71

There were 4 cards A, B, C and D. Two different numbers were written, one on each side such that one of these is a prime number on each card. The other numbers on those four cards in that order were 39, 24, 34 and 12 respectively. If the sum of the two numbers on each of these cards was the same, then the difference between the second smallest and the second largest numbers on these cards is

1 **27**

2 **5**

3 **12**

4 **17**

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Answer key/Solution

Q.72

Sumanta said to Tamal, "When I was half as old as you are today, you were one-sixth as old as I am now". If Sumanta is eight years older than Tamal, then what is the sum of their present ages?

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Answer key/Solution

Q.73

A can complete a work in 12 days. A started the job on September 1. B joined him on September 4. C joined them on September 5. A quit the job after September 6. B quit the job after September 7. C worked alone thereafter. The job was completed at the end of September 9. They were paid Rs. 10000 for completing the job, whereas the share of B out of it was Rs. 3000. Find the number of days, C would take to do the job all by himself.

1 **30 days**

2 $13\frac{1}{3}$ days

3 **25 days**

4 **15 days**

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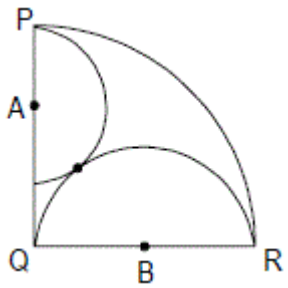
Answer key/Solution

Q.74

In a quadrant of a circle, two semicircles are drawn as shown in the figure. The radius of the quadrant PQR is 12 cm. Then AB (in cm) is equal to



1 $6\sqrt{2}$

2 $8\sqrt{2}$

3 **10**

4 **8**

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Answer key/Solution

Q.75

If the rate of simple interest on a certain sum becomes one and a half times of what it is originally, then what would be the percentage reduction in the time taken for the sum to become three times itself?

1 **20**

2 $33\frac{1}{3}$

3 $66\frac{2}{3}$

4 **50**

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Answer key/Solution

Q.76

If $f(x) + f(3 - x) = 20$, then find the value of $f\left(\frac{1}{10}\right)+f\left(\frac{2}{10}\right)+f\left(\frac{3}{10}\right)+\ldots+f\left(\frac{29}{10}\right)$.

1 **270**

2 **290**

3 **310**

4 **350**

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Answer key/Solution

Q.77

The food available for a garrison of 240 men is sufficient to last for exactly 120 days. If after the first 40 days, a re-enforcement of 60 men joins the garrison and every men decreases his daily consumption by 20%, then for how many days more or less than the scheduled time will the food last?

1 **10 days less**

2 **12 days more**

3 **40 days more**

4 **None of the above**

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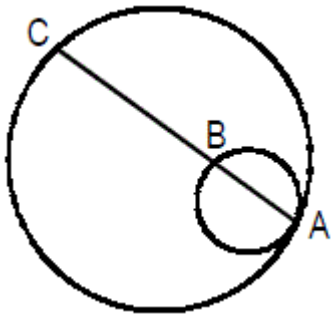
Answer key/Solution

Q.78

In the figure shown below, the smaller circle touches the larger circle internally at the point A and AB is a chord of the smaller circle. If AB, when extended, intersects the larger circle at C such that AB/ BC = 1/2, then what fraction of the area of the outer circle is not included in the inner circle?



1 **3/4**

2 **2/3**

3 **8/9**

4 **7/9**

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Answer key/Solution

Q.79

How many distinct four-tuples (p, q, r, s) of integers are there with $p \log_{10} 2 + q \log_{10} 3 + r \log_{10} 5 + s \log_{10} 7 = 2149$?

1 **0**

2 **1**

3 **2148**

4 **Infinitely Many**

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Answer key/Solution

Q.80

If an article is sold at a discount of p/2%, a profit of p/2% is realized. But if it is sold at a discount of p%, a loss of p/4% is incurred. If it is known that p is positive, then find the percentage of profit made on the article when it is sold at the discount of p/4%.

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Answer key/Solution

Q.81

Find the remainder we get on dividing 3^{352} by 11.

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Answer key/Solution

Q.82

The number of ways in which 12 squares can be selected from a 5 × 5 chess board such that no two squares have a common side is

1 **13**

2 **15**

3 **20**

4 **14**

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Answer key/Solution

Q.83

For how many integral values of x will the function f(x) = |x − 1!| + |x − 2!| + |x − 3!| + |x − 4!| assumes the minimum value?

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Answer key/Solution

Q.84

If 6 inlet pipes and 4 outlet pipes are opened simultaneously, the tank gets filled at 6 p.m. If 12 inlet pipes and 4 outlet pipes are opened simultaneously, and at the same time as before, the tank gets filled at 2 p.m. on the same day such that the time taken is 1/3rd of the earlier time. At what time would the tank be filled if only 3 inlet pipes are opened at the same time as before?

1 **6 p.m.**

2 **5 p.m.**

3 **3 p.m.**

4 **7 : 30 p.m.**

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Answer key/Solution

Q.85

In a triangle ABC, right-angled at B, E and F are points on AC such that E is the midpoint of AC and BF is perpendicular to AC. If $\frac{BF}{AE}=\frac{24}{25}$, then find $\frac{AB}{BC}+\frac{BC}{BA}$.

1 $2\frac{5}{9}$

2 $3\frac{1}{10}$

3 $2\frac{1}{12}$

4 **2**

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Answer key/Solution

Q.86

If 2a + 3b + 6c = 66, where a, b and c are positive real numbers, then find the maximum value of $a^6 b^2 c^3$.

1 **$2^{15} \times 3^{12}$**

2 **$2^{14} \times 3^8 \times 1^{12}$**

3 $2^{12} \times 3^{14}$

4 $2^{10} \times 3^{15}$

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Answer key/Solution

Q.87

Set A has 'a' elements and set B has 'b' elements. If the sum of the number of proper subsets of A and that of B is 142, then find the value of (a + b).

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Answer key/Solution

Q.88

A cake is cut into three pieces, whose weights are in the ratio 1 : 2 : 3. The heaviest of these three pieces is then further cut into four pieces with their weights in the ratio 1 : 2 : 3 : 4. If at the end of this process, the lightest piece obtained weights 24 grams, then find the weight (in grams) of the original cake.

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Answer key/Solution

Q.89

If in an infinite Geometric Progression, the sum of the squares of all the terms equals twice the square of sum of all the terms, then find the common ratio of the progression.

1 **−1/3**

2 **−1/2**

3 **3**

4 **1/2**

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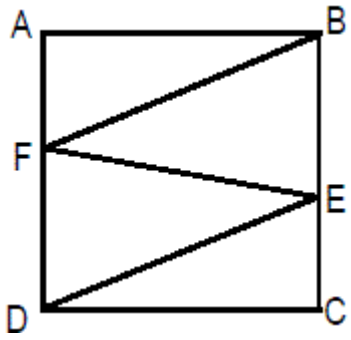
Answer key/Solution

Q.90

In the figure given below, ABCD is a square. If BF = FE = ED = 20 cm, then find the area (in sq.cm) of the square.



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Answer key/Solution

Q.91

Find the ratio in which water should be mixed with a Pepsi concentrate costing Rs. 16/litre to make a profit of 40% by selling the resultant drink at Rs. 20/litre.

1 **3 : 25**

2 **1 : 8**

3 **23 : 3**

4 **25 : 3**

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Answer key/Solution

Q.92

If the two quadratic equations, $x^2 - ax + 3 = 0$ and $x^2 + ax - 5 = 0$, have one positive root in common, then find the value of a.

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Answer key/Solution

Q.93

A person, "A" starts descending from the first floor of a building to the ground floor on a descending escalator, while another person, B simultaneously starts ascending from the ground floor of the building to the first floor, using the same escalator. If the speed of B is twice that of A, and A and B take 30 steps and 120 steps to reach their respective destinations, then find the possible number of steps that are visible on the escalator when it is stationary.

1 **50**

2 **60**

3 **70**

4 **80**

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Answer key/Solution

Q.94

A and B are two points with coordinates (0, 0) and (16, 64) respectively. M_1 is the midpoint of the line joining A and B, M_2 is the midpoint of that joining M_1 and A, M_3 is the midpoint of that line joining M_2 and A, and so on. If the coordinates of M_{10} are (h, k), then find the value of (1/h + 1/k).

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Answer key/Solution

Q.95

If it takes 50% more time to row a boat upstream, over a certain distance, than what it takes to row the boat downstream over the same distance, then how many times the speed of the stream is the speed of the boat upstream?

1 **3**

2 **4**

3 **5/2**

4 **7**

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Answer key/Solution

Q.96

Find the range of x that satisfies the inequality $\frac{1}{x-2} > \frac{3}{x-3}$.

1 **(1, 4) - {2, 3}**

2 **(2, 3)**

3 $\left(-\infty, \frac{3}{2}\right) \cup (2,3)$

4 $(-\infty, 1) \cup (1, 4)$

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Answer key/Solution

Q.97

The value of $\log_{0.0256}\sqrt{2.5} + \log_{\sqrt{\frac{2}{3}}}\frac{16}{81} - \frac{15}{2}$ is equal to

1 $-\frac{1}{2}$

2 **5/8**

3 **3/2**

4 **3/8**

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Answer key/Solution

Q.98

All the students in a QA class took a 100-point mock test. Six students scored 99, each student scored at least 65, and the average score was 78. Find the smallest possible number of students in the class.

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Answer key/Solution

Q.99

P = {1, 2, 3, 4, 5, ..., 24}. N proper disjoint subsets are made out of this such that their union is P. If the sum of the elements in each of these subsets is same, then find the number of values that N can take.

1 **18**

2 **7**

3 **17**

4 **8**

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Answer key/Solution

Q.100

A boy, while reading a story book, realized that a certain number of consecutive leaves were missing from the book. Each leaf is numbered on both sides and is considered as two pages. When he added all the page numbers, that were missing, he got a sum of 180. The number of leaves that were missing from the book was

1 3

2 4

3 5

4 6

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Answer key/Solution