

# IIFT 2017 Question Paper

## Section 1

### Instructions [1 - 2]

Read the paragraphs carefully and identify the factual mistakes.

1. **News Item Dated 22 Jan 2017: Saina Nehwal's Triumph at Malaysia Masters Final**

Days after recovering from knee injury during Rio Olympics, Saina Nehwal is back with a bang as this Indian badminton ace thrashes Pompawee Chochuwong of Thailand by 22-20 and 22-20, thereby claiming the Malaysia Masters Grand title.

Quashing the air about her ability to win titles, the world No 10 Nehwal clinched her first Masters within five months since knee injury. Nehwal had to undergo surgery after an early exit from the Rio Olympics where her fellow citizen PV Sindhu created history by claiming the first silver medal for Indian badminton.

Silencing the critiques, Saina returned to action within a quarter of her surgery setback. Once the absolute queen of Indian badminton, she faced early exits and missed the qualification mark for Sharjah World Super Series Finals. Also, she lost to Sindhu in the Premier Badminton League. However, Malaysia Masters Grand title has been her winning start to 2017.

- A Saina received a knee injury during Rio Olympics
- B Pompawee Chochuwong is from Thailand
- C Saina missed her qualification mark for Sharjah World Super Series Finals
- D None of the above

**Answer: C**

### Explanation:

Saina did not miss out her chance to qualify for the Sharjah World Super Series Finals on 22nd January 2017 (Date of the News). She lost her chance to qualify by the end of November. Therefore, option C is incorrect and therefore, it is the right answer.

2. **News Item dated, April 2017: West Bengal Won the Santosh Trophy**

West Bengal won the Santosh Trophy for the 32nd time after a 1-0 win over Goa, extending their domination in the premier domestic football tournament. Playing in front of a vociferous home crowd, five-time winners Goa tried their best and controlled the match, but ran out of steam in the extra time. The hosts had their chances to score but the rival keeper pulled off some great saves. West Bengal, thus, ended a six-year wait having last won the title in 2011. Goa last won it in 2010. Goa, who had hosted the tournament thrice, lost to West Bengal in the semi-final in 1972 and the final in 1996, while winning against Kerala in 1990.

- A West Bengal won the Santosh Trophy for the 32nd time after a 1-0 win over Goa
- B Goa tried their best and controlled the match, but ran out of steam in the extra time.
- C West Bengal, thus, ended a six-year wait having last won the title in 2011
- D Goa last won it in 2010.

**Answer: D**

### Explanation:

Goa last won Santosh trophy in the year 2009, not 2010. Therefore, option D is the right answer.

3. **'Soulmate' is a famous Indian music band: Identify the genre of music for which they are famous. Also, name the place from where the music band comes from.**

- A Blues Rock, Shillong

- B** Hard Rock, Goa
- C** Punk Rock, Puducherry
- D** Psychedelic, Mumbai

**Answer: A**

**Explanation:**

Soulmate is a blues rock band from Shillong in Meghalaya. Therefore, option A is the right answer.

4. **XYZ is an Indian English-language broadsheet daily Newspaper founded in 1875 and published simultaneously in various cities of India. It is a direct descendant of two newspapers, The Englishman (1821) and The Friend of India (1818) which later merged with XYZ. It was managed by a British corporate group until it transferred ownership to the Tata Group, with JRd: Tata as Chairman in the mid-1960s. It is currently owned by Nachikcta Publications, Kolkata. Identify XYZ out of the following:**

- A** Times of India
- B** Business Standard
- C** The Statesman
- D** Tribune

**Answer: C**

**Explanation:**

The Statesman is a newspaper founded in 1875. It descended from the paper the friend of India. It is headquartered in Kolkata and is one of the leading dailies in Kolkata. It is published simultaneously from Delhi, Kolkata, Siliguri, and Bhubaneswar. Therefore, option C is the right answer.

5. **Which London-based Group founded in mid-1910, started out as a moneylender before expanding the business to include imports of dried fruit, jute, textiles and tea. The business grew steadily under the late Shah of Iran as they were having large presence in Iran and continued to flourish even after Islamic Revolution forced it to move to Europe. It is now a multi billion-dollar energy, transport, media and agriculture conglomerate. The company had been in a bidding war to acquire the Express News papers group, and was one of several bidders for Go Fly, British Airways' low-cost airline. This famous conglomerate has a large presence in India also. Identify the Group.**

- A** Ruia Group
- B** Mittal Group
- C** Oswal Group
- D** Hinduja Group

**Answer: D**

**Explanation:**

The Hinduja Group was founded by Parmanand Deepchandh Hinduja in the year 1914. It had strong ties with Iran. The Islamic revolution forced the company to move to London. The group has businesses across diverse sectors such as transport (Ashok Leyland), Energy (Ashok Leyland wind energy), Banking (IndusInd) etc. As of 2017, the Hinduja Brothers are among the richest persons in the UK. Therefore, option D is the right answer.

6. Match the companies with their CEOs of Indian origin (either in the past or present).

a) Adobe	i) George Kurian
b) Cognizant	ii) Sanjay Mehrotra
c) Micron	iii) Rajeev Suri
d) NetApp	iv) Francisco D' Souza
e) Nokia	v) Sanjay Kumar Jha
f) Global foundries	vi) Shantanu Narayen

A a-iii, b-i, c-ii, d-vi, ~e-iv, f-v

B a-i, b-iv, c-v, d-ii, e-vi, f-iii

C a-vi, b-iv, c-ii, d-i, e-iii, f-v

D a-vi, b-iii, c-iv, d-v, e-i, f-ii

**Answer: C**

**Explanation:**

Shantanu Narayen is the CEO of Adobe systems.

Francisco D' Souza is the CEO of Cognizant.

Sanjay Mehrotra is the CEO of Micron.

George Kurian is the CEO of NetApp.

Rajeev Suri is the CEO of Nokia.

Sanjay Kumar Jha is the CEO of global foundries.

7. Choose the odd match from the following Fortune 500 Companies with their respective sector/ industry and headquarters:

Name of the Company	Sector / Industry	Head Quarter
(a) Berkshire Hathaway	(i) Financial	1. New York, NY
(b) Walgreens Boots Alliance	(ii) Wholesalers: Health Care	2. Deerfield, IL
(c) Verizon	(iii) Telecommunications	3. New York, NY
(d) Amazon.com	(iv) Technology	4. Seattle, WA

A (a) - (i) - 1

B (b) - (ii) - 2

C (c) - (iii) - 3

D (d) - (iv) - 4

**Answer: A**

**Explanation:**

Berkshire Hathaway is a financial services company headquartered in Omaha, Nebraska.

Walgreens Boots Alliance is a health care company headquartered in Deerfield, Illinois.

Verizon is a telecommunications giant headquartered in New York.

Amazon is a technology based e-commerce company headquartered in Seattle.

As we can see, the headquarters of Berkshire Hathaway is not New York. Therefore, option A is the right answer.

8. Match the name of the famous conglomerate / company with its particular tagline:

Tagline	Name of Conglomerate / Company
(a) Growth is life	(i) General Electric
(b) Imagination at work	(ii) Reliance Industries Limited
(c) High performance. Delivered	(iii) Accenture
(d) Because you're worth it	(iv) L'oreal

A a-(i), b-(iii), c-(iv), d-(ii)

B a-(i), b-(ii), c-(iii), d-(iv)

C a-(i), b-(ii), c-(iv), d-(iii)

D a-(ii), b-(i), c-(iii), d-(iv)

**Answer: D**

**Explanation:**

'Growth is life' is the tag line of Reliance industries.

'Imagination at work' is the tag line of General Electric.

'High performance. Delivered' is the tag line of Accenture.

'Because you're worth it' is the tag line of L'oreal.

Therefore, option D is the right answer.

9. Method to safeguard against losses due to currency fluctuations is popularly known as:

A Risk Premium

B Hedging

C Rounr' Tripping

D Bond Indexation

**Answer: B**

**Explanation:**

Hedging means to offset your ways, that could minimize your losses during volatile periods. So the method to safeguard against losses due to currency fluctuations is popularly known as Hedging.

Hence, the correct answer is Option B

10. Which of the following is not correct about Regional Comprehensive Economic Partnership (RCEP)?

A It is a Free Trade Agreement of 16 countries of Asia Pacific Region including India.

B Member states account for a population of 3.4 billion people with a total Gross Domestic Product (GDP) of \$49.5 trillion (at PPP).

C RCEP potentially includes more than 3 billion people or 45% of the world's population.

D Combined GDP of negotiating member states is about \$21.3 trillion, accounting for about 40 percent of world trade.

**Answer: A**

**Explanation:**

The RCEP is a proposed free trade agreement. It has not been ratified yet. Option A states that RCEP 'is' a free trade agreement. Therefore, option A is the right answer.

11. **Which of the following is not correct for Government of India's initiative "Make in India"?**

- A** It is launched by Prime Minister of India in 2014
- B** It aims to attract Foreign Investment for faster industrial development of India
- C** It aims to substitute the imports of India
- D** It focuses on the twenty-five sectors of the economy for faster economic growth, export promotion and employment generation

**Answer: C**

**Explanation:**

The Make in India initiative, launched by the Prime Minister of India in 2014, aims to promote India as a global manufacturing hub. It does not aim to substitute the imports of India. The intention is to make India a global behemoth in manufacturing like China. Therefore, option C is the right answer.

12. **The 'Ease of Doing Business Index' is an index created by the World Bank Group. Which of the following is not correct about 'Ease of Doing Business Index'?**

- A** Economies are ranked on their ease of doing business, from 1-190.
- B** A high Base of Doing Business ranking means the regulatory environment is more conducive to the starting and operation of a local firm.
- C** Regulations covering financial markets, levels of employment and intellectual property are an important parameter in determining the country rankings.
- D** The rankings are determined by sorting the aggregate distance to frontier scores on 10 topics, each consisting of several indicators, giving equal weight to each topic

**Answer: C**

**Explanation:**

Ease of doing Business Index was created by the world bank group. The ranking is done based on 10 parameters. They are

1. Starting a business
2. Dealing with construction permits
3. Getting electricity
4. Registering property
5. Getting credit
6. Protecting Investors
7. Paying taxes
8. Trading across borders
9. Enforcing contracts
10. Resolving insolvency

As we can see, levels of employment and intellectual property are not considered while determining the rank. Option C is incorrect and hence, option C is the right answer.

13. Given as under, are part logo of different Organizations. Match the part logo of each with their type of Organization:

Type of Organisation	Part Logo
i. Multilateral Organisation	
ii. International Airlines	
iii. Sports Goods Manufacturers	
iv. Media Production House	
v. Japanese Conglomerate	

**A** i-a, ii-e, iii-b, iv-d, v-c

**B** i-d, ii-c, iii-a, iv-b, v-e

**C** i-d, ii-c, iii-b, iv-e, v-a

**D** i-e, ii-a, iii-c, iv-b, v-d

**Answer: C**

**Explanation:**

The first logo is of Mitsubishi, a Japanese conglomerate.

The second logo is the old logo of Adidas, a sport brand.

The third logo is of Lufthansa, German airlines.

The fourth logo is of World Bank, a multilateral organization.

The fifth logo is of Dream Works, a media production house.

Therefore, option C is the right answer.

14. Who among the following cricketers has highest individual score in Women's One Day International Cricket?

**A** Belinda Clark

**B** Harmanpreet Kaur

**C** Chaman' Atapattu

**D** Charlotte Edwards

**Answer: A**

**Explanation:**

Belinda Clarke had the highest individual score in the international women's cricket. She scored 229\* against Denmark's women's team in the 1997 world cup. Her record was broken recently by Amelia Kerr of New Zealand who scored 232\* against Ireland. Therefore, option A is the right answer.

15. India is building which of the following port in Iran in order to improve the trade connectivity with Iran, Afghanistan and Central Asian countries.

- A Chabahar Port
- B Bandar Khomeini
- C Bandar Abbas
- D Bandar Mahshahr

**Answer:** A

**Explanation:**

India is building Chabahar port in Iran to improve the connectivity in Iran and Afghanistan region. Therefore, option A is the correct answer.

16. Which of the following stock market index is not correctly matched with the country'?

- A Japan- Nikkei
- B South Korea- KOSPI
- C France -CAC
- D United Kingdom-M135

**Answer:** D

17. Which of the following pair of country - present currency is not correctly matched?

- A Tunisia- Dinar
- B Israel-Israeli Lira
- C Syria- Syrian Pound
- D Qatar- Riyal

**Answer:** B

18. Megastar Amitabh Bachchan is one of the most popular actors of Bollywood: It is said that the advertisers line up to rope him in as their brand ambador. Which of the ffollowing brands has not been endorsed by Amitabh Bachchan till date ?

- A Everest Masala
- B TATA SKY
- C ICICI Bank
- D Rasna

**Answer:** D

**Explanation:**

Amitabh has endorsed Tata Sky, Everest Masala, and ICICI bank. Amitabh Bachchan has not endorsed Rasna. Therefore, option D is the right answer.

## Section 2

### Instructions [19 - 23]

Read the sentences below carefully and identify the nature of phrase/clause used in the underlined section of the sentences.

19. He failed in spite of his best efforts

- A Adjective phrase
- B Adverb phrase
- C Noun Phrase
- D Adverb clause

**Answer:** B

### Explanation:

The first step is to analyze whether the underlined portion is a phrase or clause. The underlined portion does not have any verb. Therefore, the underlined portion is a phrase. The underlined portion explains how the person failed (despite his best efforts). Since the underlined portion acts as an attribute to the verb, the underlined portion is an adverb phrase. Therefore, option B is the right answer.

20. How to find way to the ruins is the question.

- A Adjective phrase
- B Adverb phrase
- C Noun Phrase
- D Adverb clause

**Answer:** C

### Explanation:

The underlined portion acts as the subject of the sentence. Therefore, the underlined portion acts as a noun. No verb is present in the underlined portion. Therefore, the underlined portion is a noun phrase and hence, option C is the right answer.

21. Since you have already decided, why do you ask my opinion?

- A Adjective phrase
- B Adverb phrase
- C Noun Phrase
- D Adverb clause

**Answer:** D

### Explanation:

The underlined portion contains a verb. Therefore, the underlined portion is a clause. The clause describes the action (the act of asking). Therefore, the underlined portion acts as an adverb. Therefore, the underlined portion is an adverb clause and hence, option D is the right answer.

22. The Poor debtor intended to pay back every penny of the money.



- A Adjective phrase
- B Adverb phrase
- C Noun Phrase
- D Adverb clause

**Answer:** C

**Explanation:**

The underlined portion does not have any verb. Therefore, the underlined portion is a phrase. The underlined portion acts as the object of the sentence. Therefore, the underlined portion is a noun phrase.

23. **The Plan has the virtue of committing us to nothing.**

- A Adjective phrase
- B Adverb phrase
- C Noun Phrase
- D Adverb clause

**Answer:** A

**Explanation:**

The underlined portion does not have a verb. Therefore, the underlined portion is a phrase. The phrase describes the virtue. The virtue is a noun. Therefore, the underlined portion acts as an adjective and hence, option A is the right answer.

**Instructions [24 - 26 ]**

Insert commas wherever necessary in the following sentences and identify the words sequentially after which commas will be inserted

24. **In the old Persian stories Turan the land of darkness is opposed to Iran in the land of light.**

- A Turan, darkness, Iran
- B stories, Turan, darkness, opposed, Iran
- C stories, Turan, darkness, Iran
- D stories, darkness, opposed

**Answer:** C

**Explanation:**

Here, Turan and Iran are two cities which have been labelled as the land of darkness and the land of light. Hence, we would have commas after stories, the cities in question and the labels.

25. **A letter from a young lady written in most passionate terms wherein she laments the misfortune of a gentleman her lover who was lately wounded in a duel has turned my thoughts to that subject and inclined me to examine into the causes which precipitate men into so fatal a folly.**

- A terms, lover, wounded, subject,
- B lady, terms, gentleman, lover, duel
- C lady, terms, gentleman, lover, causes

**D** lady. terms, lover, duel, men

**Answer: B**

**Explanation:**

Remember that all additional information in the sentence has to be within commas - in this case 'written in most passionate terms', 'wherein she laments the misfortune of a gentleman', 'her lover' and 'who was wounded in a duel'

26. **When he was a boy Franklin who afterward became a distinguished statesman and philosopher learned his trade in the printing office of his brother who published a paper in Boston.**

**A** boy. Franklin, philosopher, brother

**B** boy. Franklin, afterward, philosopher, brother

**C** boy. Franklin, afterward, office, paper

**D** boy, Franklin, philosopher, paper

**Answer: A**

**Explanation:**

The additional information in the sentence would, of course, feature with commas - 'who afterward became a distinguished statesman and philosopher'. 'Franklin', as the name, would feature within commas. More information is given about the brother too, so there would be a comma after 'brother' as well.

27. **Match the prefix and suffix with its meaning**

<b>Prefix / Suffix</b>	<b>Meaning</b>
(a) ation	(i) State or process of
(b) trans	(ii) Position held
(c) ship	(iii) across
(d) ambi	(iv) full of
(e) ose	(v) both

**A** a)-(i), b)-(iii), c)-(ii). d)-(v), e)-(iv)

**B** a)-(i), b)-(ii), c)-(iii), d)-(v), e)-(iv)

**C** a)-(iv), b)-(v), c)-(iii). d)-(ii), e)-(i)

**D** None of the above

**Answer: A**

**Explanation:**

'ation' is a suffix used to describe a process.

Eg) Participation

'Trans' is a prefix which means across.

Eg) Trans-boundary railway

'ship' is a suffix used to indicate the position held.

Eg) Ownership

'Ambi' is a prefix which means both

Eg) Ambidextrous

'ose' is a suffix which means full of.

Eg) Verbose

Therefore, option A is the right answer.

**Instructions [28 - 30 ]**

Follow the analogy between the given pair of words in the question (in Capital) and identify the most suitable pair which can represent almost similar relationship

28. **FRET: DISQUIETUDE**

- A Indulge: Vacillation
- B Inspirit: Confidence
- C Avian: Fish
- D Corporeal: Heaven

**Answer: B**

**Explanation:**

Fret and disquietude are synonyms meaning restless. Similarly, inspirit and confidence mean encouraging circumstances.

29. **COFFER: VALUABLES**

- A Mountain: Avalanche
- B Book: Paper
- C Sea: Waves
- D Sanctuary: Refuge

**Answer: D**

**Explanation:**

A coffer is a place where valuables are kept safely, just as a sanctuary provides refuge from danger.

30. **APOCRYPHAL: CORROBORATION**

- A Sacrilegious: Piety
- B Tyrannical: Poise
- C Esoteric: Commonality
- D Fraudulent: Forgery

**Answer: C**

**Explanation:**

Something apocryphal cannot be corroborated or substantiated. Similarly, something 'esoteric' lacks commonality.

**Instructions [31 - 33 ]**

Create a word using all the given letters from the jumbled letters and identify its appropriate meaning.

E	T	E
I	H	R
M	C	

31.

- A Embarrassing Situation

- B** An official license
- C** Charming, pleasant
- D** Completely sealed: isolated

**Answer:** D

**Explanation:**

The scrambled word is 'Hermetic'. Hermit is a term used to describe someone who leads an isolated life. Therefore, option D is the right answer.

32.

L	I	T
U	C	E
D	A	E

- A** Denounce
- B** Sincere
- C** Enlighten
- D** Confound

**Answer:** C

**Explanation:**

The word that has been scrambled is ELUCIDATE. Elucidate means to explain something. Enlighten is the word synonymous to elucidate and hence, option C is the right answer.

33.

A	I	
	T	Q
P	U	N

- A** Doubtful
- B** Interesting
- C** Haughty
- D** Foremost

**Answer:** B

**Explanation:**

The scrambled word is Piquant. To pique means to increase the interest of someone. 'Piquant' means interesting and hence, option B is the right answer.

**Instructions [34 - 38 ]**

**Passage below is accompanied by a number of questions.**

For some questions, consider how the passage might be revised to improve the expression of ideas. For other questions, consider how the passage might be edited to correct errors in sentence structure, usage or punctuation.

After reading the passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English.

The underlined areas in the passage along with the [number] direct you to the question concerned

If you've ever been to an art museum, you know the basic layout: long hallways and large rooms with paintings hung a few feet apart

You know how the paintings are [34] by certain means are marked and you know that the paintings have been arranged chronologically or thematically.

There's one thing, however, which you've definitely noticed even if you can't quite articulate it- Particularly when looking at old paintings. [35] paintings all have that vividly new look, Whether they were painted in 1950 or 1450. Even where the subject matter is older, the colors are vibrant, and you're never forced to wonder exactly what the painting must have looked like in its original state.

[36] The history of painting is nearly as long as the history of mankind. The incredible feat is the work of a highly specialized group: art restorers. Despite this specialization, the profession has exploded in recent years. Art restoration has been growing steadily since 1930. While the job of an art restorer may seem fairly straight forward [37] When looking, the job is in fact quite complicated: Sometimes, as in the case of Michelangelo's famous sculpture David, the cleaning and restoration of art works is a simple matter: applying chemicals, washing away grime and scrubbing of the dirt.

[38] With most paintings however, the process is a good deal more involved because it is not necessarily, just a matter of 'cleaning' the older paintings. One cannot merely take a scrub brush to centuries - old great work, Because of the wide range of restoration techniques, art restoration itself can be controversial business.

34. [34] Identify the best possible change in the underlined area

- A Marked
- B being marked in a way
- C by so means of marking
- D no change

**Answer: A**

**Explanation:**

The author is stating that the paintings will be marked to denote the chronological order in the museums. The underlined portion should be replaced by 'marked'. Therefore, option A is the right answer.

35. [35] Identify the best possible change in the underlined area

- A No change
- B You've surely noticed how new all the paintings look
- C noticing the new look of all the paintings is something you can do,
- D the paintings always strike you as very new looking,

E Most of the sentences refer to the reader's impression - 'you've definitely noticed' etc., so it is in order that the perception of 'you' should figure in the underlined part of the sentence. Besides, of course, the grammatical rules regarding modifiers mandate that the subject which does the 'looking' should feature in the sentence immediately after the comma.

**Answer: B**

**Explanation:**

Most of the sentences in the given passage refers to the reader's impression. This can be inferred from the usage of 'you' in the passage. Therefore, option B is the appropriate one.

36. [36] The writer is considering deleting the underlined sentence. Should the sentence be kept or deleted?

- A Kept, because it is useful introduction to the topic of this paragraph
- B Deleted, because it restates a historical detail that is provided in a later paragraph.
- C Delete because it strays from the paragraph's major focus by introducing an irrelevant fact

**D** Kept, because it provides a humorous anecdote regarding the work of an restorers

**Answer: C**

**Explanation:**

In the preceding paragraph, the author is describing the work of the restorers. In the paragraph that contains the given sentence, the author is continuing his description of the work of the restorers. The given sentence is irrelevant to the topic of discussion. Therefore, the author should consider deleting the sentence since it strays away from the main topic of the paragraph. Therefore, option C is the right answer.

37. **[37] Identify the best possible change in the underlined area**

**A** at first glance,

**B** beholden,

**C** under your gaze,

**D** No Change

**Answer: A**

**Explanation:**

We have to bear in mind that the sentence introduces conflicting perspectives to art restoration - 'straightforward' and 'complicated'. Hence, we need a suitable expression to act as a foil for 'in fact'. 'When looking' is not compelling enough. But 'at first glance' introduces this dramatic element.

38. **[38] Identify the best possible change in the underlined area**

**A** Anyway.

**B** In this sense,

**C** Alongside cleaning,

**D** No change

**Answer: D**

**Explanation:**

The word 'however' in D shows the contrast between how simple the cleaning is in some cases (as mentioned in the previous sentence), and how it is an involved process with most others.

## Section 3

**Instructions [39 - 42 ]**

Read the following passages carefully and identify most appropriate answer to the questions given at the end of each passage.

Groupon is one of the fastest-growing companies of all time. Its name comes from "group coupons," an ingenious idea that has spawned an entire industry of social commerce imitators. However, it didn't start out successful. When customers took Groupon up on its first deal, a whopping twenty people bought two-for-one pizza in a restaurant on the first floor of the company's Chicago offices—hardly a world-changing event. In fact, Groupon wasn't originally meant to be about commerce at all. The founder, Andrew Mason, intended his company to become a "collective activism platform" called The Point. Its goal was to bring people together to solve problems they couldn't solve on their own, such as fund-raising for a cause or boycotting a certain retailer. The Point's early results

were disappointing, however, and at the end of 2008 the founders decided to try something new. Although they still had grand ambitions, they were determined to keep the new product simple. They built a minimum viable product. Does this sound like a billion-dollar company to you? Mason tells the story: "We took a Word Press Blog and we skinned it to say Groupon and then every day we would do a new post. It was totally ghetto. We would sell T-shirts on the first version of Groupon. We'd say in the write-up, "This T-shirt will come in the colour red, size large. If you want a different colour or size, e-mail that to us." We didn't have a form to add that stuff. It was just so cobbled together. It was enough to prove the concept and show that it was something that people really liked: The actual coupon generation that we were doing was all File Maker. We would run a script that would e-mail the coupon PDF to people. It got to the point where we'd sell 500 sushi coupons in a day, and we'd send 500 PDFs to people with Apple Mail at the same time. Really until July of the first year it was just a scrambling to grab the tiger by the tail. It was trying to catch up and reasonably piece together a product. "Handmade PDFs, a pizza coupon, and simple blog were enough to launch Groupon into-breaking success; it is on pace to become the fastest company in history to achieve \$1 billion in sales. It is revolutionizing the way local businesses find new customers, offering special deals to consumers in more than 375 cities worldwide. A minimum viable product (MVP) helps entrepreneurs start the process of learning as quickly as possible. "It is not necessarily the smallest product imaginable, though; it is simply the fastest way to get through the Build-Measure-Learn feedback loop with the minimum amount of effort. Contrary to traditional product development, which usually involves a long, thoughtful incubation period and strives for product perfection, the goal of the MVP is to begin the process of learning, not end it, Unlike a prototype or concept test, an MVP is designed not just to answer product design or technical questions. Its goal is to test fundamental business hypotheses.

Early adopters use their imagination to fill in what a product is missing. They prefer that state of affairs, because what they care about above all is being the first one to use or adopt a new product or technology. In consumer products, it's often the thrill of being the first one on the block to show off a new basketball shoe, music player, or cool phone. In enterprise products, it's often about gaining a competitive advantage by taking a risk with something new that competitors don't have yet. Early adopters are suspicious of something that is too polished if it's ready for everyone to adopt, how much advantage can one get by being early? As a result, additional features or polish beyond what early adopters demand is a form of wasted resources and time. This is a hard truth for many entrepreneurs to accept. After all, the vision entrepreneurs keep in their heads is of a high-quality mainstream product that will change the world, not one used by a small niche of people who are willing to give it a shot before it's ready. That world-changing product is polished, slick, and ready for prime time. It wins awards at trade shows and, most of all, is something you can proudly show Mom and Dad: An early, buggy, incomplete product feels like an unacceptable compromise. How many of us were raised with the expectation that we would put our best work forward? As one manager put it to me recently, "I know for me, the MVP feels a little dangerous in a good way-since I have always been such a perfectionist." Minimum viable products range in complexity from extremely simple smoke tests (little more than an advertisement) to actual early prototypes complete with problems and missing features. Deciding exactly how complex an MVP needs to be cannot be done using formulas. It requires judgment. Luckily, this judgment is not difficult to develop: most entrepreneurs and product development people dramatically over estimate how many features are needed in an MVP. When in doubt simplify. For example, consider a service sold with a one-month free trial. Before a customer can use the service, he or she has to sign up for the trial. One obvious assumption, then, of the business model is that customers will sign up for a free trial once they have a certain amount of information about the service. A critical question to consider is whether customers will in fact sign up for the free trial given a certain number of promised features (the value hypothesis). Somewhere in the business model, probably buried in a single cell in a spreadsheet, it specifies the "percentage of customers whose the free trial offer who then sign up." Maybe in our projections we say that this number should be 10 percent. If you think about it, this is a leap-of-faith question. It really should be represented in giant letters in a bold red font: WE ASSUME 10 PERCENT OF CUSTOMERS WILL SIGN UP.

Most entrepreneurs approach a question like this by building the product and then checking to see how customers react to it. I consider this to be exactly backward because it can lead to a lot of waste. First, if it turns out that we're building something nobody wants, the whole exercise will be an avoidable expense of time and money. If customers won't sign up for the free trial, they'll never get to experience the amazing features that await them. Even if they do sign up, there are many other opportunities for waste. For example, how many features do we really need to include to appeal to early adopters? Every extra feature is a form of waste, and if we delay the test for these extra features, it comes with a tremendous potential cost in terms of learning and cycle time. The lesson of the MVP is that any additional work beyond what was required to start learning is waste, no matter how important it might have seemed at the time.

39. What is the central idea of the passage?

- A Entrepreneurs should strive to make complete polished products ready for everyone to adopt
- B Entrepreneurs should start with a simple idea or product to avoid wastage, learn from user experience and build on it
- C Entrepreneurs should concentrate on saving cost and not spend time and energy on quality
- D Entrepreneurs should make world changing products that users want and which have many features

Answer: B

**Explanation:**

In the second paragraph, the author says, 'Early adopters are suspicious.....This is a hard truth for many entrepreneurs to accept' and hence Option A goes completely against the central idea of the passage.

In the third paragraph, the author says, 'Most entrepreneurs approach..... Every extra feature is a form of waste' we can clearly infer that author wants entrepreneurs to start with a simple idea or product to avoid wastage, learn from user experience and build on it. Nowhere in the passage, the author has talked about the cost or the quality of the product. In the passage, the author is talking the cost in terms of learning and cycle time and hence option C cannot be inferred and hence, cannot be the central idea of the passage.

In the second paragraph, the author says, 'This is a hard truth for many..... give it a shot before it's ready'. So if the author says that is a hard truth for entrepreneurs to accept because they think of making world-changing products, then the author clearly thinks that the entrepreneurs should concentrate more on making simple products and add the features afterwards. Hence, option D cannot be the central idea of the passage.

40. **According to the Author, what do early adopters want?**

- A** Early adopters want products that are readily available at low cost and big visibility
- B** Early adopters want high quality, polished products that are ready to use
- C** Early adopters want products with free trials with certain number of promised features
- D** Early adopters want products that are new, incomplete and offer competitive advantage

**Answer: D**

**Explanation:**

In the second paragraph, the author says, 'Early adopters are suspicious.....what early adopters demand is a form of wasted resources and time' from this we can clearly infer that the Early adopters want products that are new, incomplete and offer competitive advantage which is what option D states. Option A and B are contradicting this statement and hence cannot be the answer.

In the second paragraph, the author has talked about offering free trials to customers but it nowhere mentions that free trials with certain number of promised features is what 'Early adopters' want hence option C also cannot be inferred.

Option D is the correct answer.

41. **What does the author seek to imply by quoting "I know for me, the MVP feels a little dangerous-in a good way-since I have always been such a perfectionist"?**

- A** It implies more value for people as the entrepreneur works towards perfecting the quality of products which reduces the danger for the consumer
- B** It implies that there is a risk associated with the product which enables entrepreneurs to achieve perfection in the product
- C** It implies that the incomplete nature is associated with a certain amount of risk drawing entrepreneurs out of their comfort zone .
- D** It implies that if entrepreneurs make products that are less than perfect it is dangerous for the consumer

**Answer: C**

**Explanation:**

Nowhere in the passage, the author talks about dangers to the consumer and hence option A or D cannot be the answer.

We cannot infer option B since nowhere in the passage the author talks about achieving perfection in the product.

The passage talks about making incomplete products, and when the author quotes "I know for me, the MVP feels a little dangerous-in a good way-since I have always been such a perfectionist" he is talking about the risks associated with these incomplete products and hence, drawing entrepreneurs out of their comfort zone. Hence, option C is the correct answer.

42. **What is the function of MVP?**

- A** To enable entrepreneurs to reach out to as many consumers as possible in the fastest possible time with their product



- B** To enable entrepreneurs to continuously improve their product in the fastest time with least amount of time and cost
- C** To enable entrepreneurs to develop products that are of high quality and have many features
- D** To enable entrepreneurs to create world changing products that can win awards in trade shows

**Answer: B**

**Explanation:**

In the first paragraph, the author says, 'A minimum viable product (MVP) helps entrepreneur.....the fastest way to get through the Build-Measure-Learn feedback loop with the minimum amount of effort' from this sentence we can infer that the function of MVP is to enable entrepreneurs to continuously improve their product in the fastest time with least amount of time and cost. Hence, option B is the correct answer.

**Instructions [43 - 46 ]**

Read the following passages carefully and identify most appropriate answer to the questions given at the end of each passage:

I wear a variety of professional hats- university professor, literacy consultant to districts, author of several books related to comprehension. To keep myself honest (and humble); I spend a lot of time in classrooms watching kids and teachers at work. During the past decade, I've observed a transformation in the teaching of reading from an approved: h that measured readers' successful understanding of the text through lengthy packets of comprehension questions to one that requires students to think about their thinking, activating their "good reader" strategies. Close reading is a deep analysis of how a literary text works; it is both a reading process and something you include in a literary analysis paper, though in a refined form. Fiction writers and poets build texts out of many central components, including subject, form, and specific word choices. Essentially, close reading means reading to uncover layers of meaning that lead to deep comprehension. "Close, analytic reading stresses engaging with a text of sufficient complexity directly and examining meaning thoroughly and methodically, encouraging students to read and reread deliberately. Directing student attention on the text itself empowers students to understand the central ideas and key supporting details. It also enables students to reflect on the meanings of individual words and sentences; the order in which sentences unfold; and the development of ideas over the course of the text, which ultimately leads students to arrive at an understanding of the text as a whole." Reread the definition of close reading closely to extract key concepts. You might identify these ideas: examining meaning thoroughly and analytically; directing attention to the text, central ideas, and supporting details; reflecting on meanings of individual words and sentences; and developing ideas over the course of the text. Notice that reader reflection is still integral to the process. But close reading goes beyond that: The best thinkers do monitor and assess their thinking, but in the context of processing the thinking of others (Paul & Elder, 2008).

When you close read, you observe facts and details about the text. You may focus on a particular passage, or on the text as a whole. Your aim may be notice all striking features of the text, including rhetorical features, structural elements and cultural references; or, your aim may be to notice only selected features of the text- for instance, oppositions and correspondences, or particular historical references. Either way, making these observations constitutes the first step in the process of close reading. The second step is interpreting your observations. What we're basically talking about here is inductive reasoning: moving from the observation of particular facts and details to a conclusion, or interpretation, based on those observations. And, as with inductive reasoning, close reading requires the careful gathering of data (your observations) and careful thinking about what these data add up to. The literary analysis involves examining these components, which still allows us to find in small parts of the text clues to help us understand the whole. For example, if an author writes a novel in the form of a personal journal about a character's daily life, but that journal reads like a series of lab reports, what do we learn about that character? What is the effect of picking a word like "tome" instead of "book"? In effect, you are putting the author's choices under a microscope. The process of close reading should produce a lot of questions. It is when you begin to answer these questions that you are ready to participate thoughtfully in class discussion or write a literary analysis paper that makes the most of your close reading work. Close reading sometimes feels like over-analysing, but don't worry. Close reading is a process of finding as much information as you can in order to form as many questions as you can. When it is time to write your paper and formalize your close reading, you'll sort through your work to figure out what is most convincing and helpful to the argument you hope to make and, conversely, what seems like a stretch. It's our responsibility as educators to build students' capacity for independently comprehending a text through close reading. Teaching is about the transfer. The goal is for students is to take what they learn from the study of one text and apply it to the next text they read: How can we ensure that students both reap the requisite knowledge from each text they read and acquire skills to pursue the meaning of other texts independently? I suggest we coach students to ask themselves four basic questions as they reflect on a specific portion of any text, even the shortest: What is the author telling me here? Are there any hard or important words? What does the author want me to understand? How does the author play with language to add to meaning? If students take time to ask themselves these questions while reading and become skilful at answering them, there'll be less need for the teacher to doll the asking. For this to happen, we must develop students' capacity to observe and analyse. First things first: See whether students have noticed the details of a passage and can recount those details in their own words. Note that the challenge here isn't to be brief (as in a summary); it's to be accurate, precise, and clear.

The recent focus on finding evidence in a text has sent students (even in primary grades) scurrying back to their books to retrieve a quote that validates their opinion. But to paraphrase what that quote means in a student's own language, rather than the author's, is more difficult than you might think. Try it with any paragraph. Expressing the same meaning with different words often requires going back to that text a few times to get the details just right. Paraphrasing is pretty low on Bloom's continuum of lower- to higher-order thinking, yet many students stumble even here. This is the first stop along the journey to close reading. If students can't paraphrase the basic content of a passage, how can they dig for its deeper meaning? The second basic question about hard or important words encourages students to zoom in on precise meaning. When students are satisfied that they have a basic grasp of what the author is telling them, they're ready to move on to analysing the fine points of content. If students begin their analysis by asking themselves the third question- What does the author want me to understand in this passage?-they'll be on their way to making appropriate inferences determining what the author is trying to show without stating it directly.

We can also teach students to read carefully with the eye of a writer, which means helping them analyse craft. How a text is written is as important as the content itself in getting the author's message across. Just as a movie director focuses the camera on a particular detail to get you to view the scene the way he or she wants you to, authors play with words to get you to see a text their way. Introducing students to some of the tricks authors use opens students' minds to an entirely new realm in close reading.

43. In the above passage the author has used the term 'Rhetoric features'. What does it mean?

- A Any characteristics of a text that are repetitive in nature and is interesting
- B Any characteristics of a text that improves the grammar of the literary text
- C Any characteristic of a text that helps convince reader of a certain point of view
- D Any characteristic of the text that provides solutions to questions for the readers

**Answer: C**

**Explanation:**

Rhetoric is the art of effective or persuasive speaking or writing. Therefore, 'Rhetoric features' here should mean any characteristic of a text that helps convince reader of a certain point of view.

Hence, option C is the correct answer.

44. According to the author what is inductive reasoning with regard to Close Reading?

- A Observing the characteristics and features of the text and moving to conclusions
- B Understanding the overall theme and gathering evidence from the text to support it
- C Understanding the text and preparing lot of questions
- D Observing the nuances of the text and preparing a suitable analysis for class discussion

**Answer: A**

**Explanation:**

In the second paragraph, the author says, 'What we're basically talking.....to a conclusion, or interpretation, based on those observations' from this we can infer that inductive reasoning with regard to Close Reading is observing the characteristics and features of the text and moving to conclusions.

Hence, option A is the correct answer.

45. According to the passage, what is the importance of 'paraphrasing' for students?

- A It is part of higher order learning and improves the speed of reading of students
- B It leads to a deeper understanding of the text by improving the accuracy and clarity
- C It accelerates the understanding of the text and enables students to be brief
- D It enables students to reproduce the text exactly as it is without confusion

**Answer: B**

**Explanation:**

In the third paragraph, the author says, 'But to paraphrase what that..... how can they dig for its deeper meaning?'. From this, we can infer that Paraphrasing leads to a deeper understanding of the text by improving the accuracy and clarity. Hence, option B is the correct answer.

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46. With reference to the above passage, what responsibility, according to the author, do educators have?

- A To build skills of close reading so that students can independently improve their knowledge of English grammar and translate the meaning from one English text to another
- B To build skills of close reading so that students can by themselves apply the knowledge they have gained through analysis and understanding of one English text to another.
- C To build skills of close reading among students to improve their ability to paraphrase from one of English text to another
- D To build skills of close reading so that students can independently analyse one English text and prepare for class discussions

**Answer: B**

### Explanation:

In the second paragraph, the author says, 'It's our responsibility.....apply it to the next text they read'. From this, we can infer that according to the author the responsibility that the educators have is to build skills of close reading so that students can by themselves apply the knowledge they have gained through analysis and understanding of one English text to another. Hence, option B is the correct answer.

### Instructions [47 - 50 ]

Read the following passages carefully and identify most appropriate answer to the questions given at the end of each passage.

As someone' said, this crisis was too valuable to waste. I, for one, learnt many lessons on crisis management and leadership. By far the most important lesson I learnt is that the primary focus of a central bank during a crisis has to be on restoring confidence in the markets, and what this requires is swift, bold and decisive action. This is not as obvious'as it sounds because central banks are typically given to agonizing over every move they make out of anxiety that failure of their actions to deliver the intended impact will hurt their credibility and their policy effectiveness down the line. There is a lot to be said for such deliberative action in normal times: In crisis times though, it is important for them to take more chances without being too mindful of whether all of their actions are going to be fully effective or even mildly successful. After all, crisis management is a percentage game, and you do what you think has the best chance of reversing the momentum. Often, it is a fact of the action rather than the precise nature of the action that bolsters confidence. Take the Reserve Bank's measure I wrote about earlier of instituting exclusive lines of credit for augmenting the liquidity of NBFCs and mutual funds (MFs) which came under redemption pressure. It is simply unthinkable that the Reserve Bank would have done anything like this in normal times. In the event of a liquidity constraint in normal times, the standard response of the Reserve Bank would be to ease liquidity in the overall system and leave it to the banks to determine how to use that additional liquidity.

But here, we were targeting monetary policy at a particular class of financial institutions-the MFs &NBFCs-a; decidedly unconventional action. This departure from standard protocol pushed some of our senior staff beyond their comfort zones. Their reservations ranged from: 'this is not bowing monetary policy is done' to 'this will make the Reserve Bank vulnerable to pressures to bail out other sectors'. After hearing them out, I made the call to go ahead: Market participants applauded the new facility and saw it as the Reserve Bank's willingness to embrace unorthodox measures to address Specific areas of pressure in the system. In the event, these facilities were not significantly tapped: In normal times, that would have been seen as a failure of policy. From the crisis perspective though, it was a success in as much as the very existence of the central bank backstop restored confidence in the NBFCs and MFs and smoothed pressures in the financial system. Similarly, the cut in the repo rate of one full percentage point that I effected in October 2008 was a non-standard action from the perspective of a central bank used to cutting the interest rate by a maximum of half a percentage point (50 basis points in the jargon) when it wanted to signal strong action. Of course, we deliberated the advisability of going into uncharted waters and how it might set expectations. For the future. For example, in the future, the market may discount a 50 basis-point cut as too tame. But considering the uncertain and unpredictable global environment and the imperative to improve the flow of credit in a stressed situation, I bit the bullet again and decided on a full percentage-point cut.

Managing the tension between short-term payoffs and longer-term consequences is a constant struggle in all central bank policy choices as indeed it is in all public policy decisions. This balance between horizons shifts in crisis times, as dousing the fires becomes an overriding priority even if some of the actions taken to do that may have some longer-term costs. For example, in 2008, we saw a massive infusion of liquidity as the best bet for preserving the financial stability of our markets. Indeed, d in uncharted waters, erring on the side of caution meant providing the system with more liquidity than considered adequate. This strategy was effective in the short-

term, but with hindsight, we know that excess liquidity may have reinforced inflation pressures down the line. But remember, we were making a judgement call in real time. Analysts who are criticising us are doing so with the benefit of hindsight. Another lesson we learnt is that even in a global crisis, central banks have to adapt their responses to domestic conditions. I am saying this because of all through the crisis months. Whenever another central bank, especially an advanced economy central bank, announced any measure, there was an immediate pressure that the Reserve Bank too should institute a similar measure. Such straightforward copying of measures of other central banks without first examining their appropriateness for the domestic situation can often do more harm than good: Let me illustrate. During the depth of the crisis, fearing a run on their banks, the UK authorities had extended deposit insurance across board to all deposits in the UK banking system. Immediately, there were commentators asking that the Reserve Bank too must embrace such an all-out measure. If we had actually done that, the results would have been counterproductive if not outright harmful. First, the available premium would not have been able to support such a blanket insurance, and the markets were aware of that.

If we had glossed over that and announced a blanket cover anyway, that action would have clearly lacked credibility. Besides, any such move would be at odds with what we had been asserting that our banks and our financial systems were safe and sound: The inconsistency between our walk and talk would have confused the markets; instead of reassuring them, any blanket insurance of the UK type would have scared the public and sown seeds of doubt about the safety of their bank deposits, potentially triggering a run on some vulnerable banks. Finally, an important lesson from the crisis relates to the imperative of the government and the regulators speaking and acting in unison. It is possible to argue that public disclosure of differences within closed doors of policymaking could actually be helpful in enhancing public understanding on how policy might evolve in the future. For example, a 6-6 vote conveys a different message from a 12-0 vote. During crisis times, though, sending mixed signals to fragile markets can do huge damage. On the other hand, the demonstration of unity of purpose would reassure markets and yield great synergies. The experience of the crisis from around the world and our own experience too showed that coordination could be managed without compromising regulatory autonomy. Merely synchronizing policy announcements for exploiting the synergistic impact need not necessarily imply that regulators were being forced into actions they did not own.

47. What 'crisis' is the author referring to, in the above passage?

- A Financial crisis of 2008
- B Currency crisis of 1997
- C Balance of .Payment crisis of 1991
- D De-monetization crisis of 2016

**Answer: A**

**Explanation:**

In paragraph 2 and 3, the author talks about the actions he took in the year 2008. A person talks about an event only if the event is significant to the discussion and the measures the author took in the year 2008 will be significant only in a very close time frame, i.e. either in the immediate past or the immediate future. Other than option A, no other option seems to agree with the timeline that the author is discussing.

Hence, option A is the most probable answer among the options.

48. According to the author, what is the typical response of central banks in times of crisis? Answer with reference to the passage.

- A Central banks are proactive in their approach and are quick to respond to crisis
- B Central banks take risks and are aggressive in their response to crisis
- C Central banks are deliberate in their approach and respond cautiously to crisis
- D Central banks analyse different policy issues and then respond to crisis

**Answer: C**

**Explanation:**

In the first paragraph the author says, 'By far the most important lesson I learnt is that the primary focus of a central bank during a crisis has to be on restoring confidence in the markets, and what this requires is swift, bold and decisive action' from this we can conclude that according to the author during crisis the central bank should take swift, bold and decisive action. He then goes on and says, 'This is not as obvious as it sounds because central banks are typically given to agonizing over every move they make out of anxiety that failure of their actions to deliver the intended impact will hurt their credibility and their policy effectiveness down the line' and from this we can conclude that even though during crisis the central bank should take swift, bold and decisive action they don't. Which means that the Central banks are deliberate in their approach and respond cautiously to crisis.

Hence, option C is the correct answer.

49. **Why does the author say "...even in a global crisis, central banks have to adapt their responses to domestic conditions"?**  
**Answer with reference to passage.**

- A** Central banks do not have sufficient knowledge or expertise with regard to global conditions and cannot apply them to domestic conditions
- B** Only World bank has the information and expertise to deal with global conditions and help countries deal with domestic conditions
- C** Domestic conditions are typical to every country and applying solutions from other countries creates confusion
- D** Central bank policies are different for different countries and government permission is required to apply them in domestic conditions

**Answer: C**

**Explanation:**

In the third and fourth paragraphs, the author explains how UK authorities had extended deposit insurance across board to all deposits in the UK banking system and how those policies would have yielded counterproductive results had India adopted those policies. From this, we can conclude that Domestic conditions are typical to every country and applying solutions from other countries creates confusion.

Hence, option C is the correct answer.

50. **With reference to the above passage, what is the role of government and regulators in times of crisis? Select the most appropriate response with reference to information provided in the passage.**

- A** In times of crisis the government and regulators play the role of check and balance to provide safety to financial systems of a country
- B** In times of crisis regulators have to become more strict with government to prevent misuse of power and compromising regulatory anatomy
- C** In times of crisis the government has to exercise control on the regulators so that they do not become too powerful and exploit the financial systems
- D** In times of crisis the government and the regulators have to work on common ground and avoid any conflicts to prevent instability and confusion

**Answer: D**

**Explanation:**

In the last paragraph, the author says, 'Finally, an important lesson..... would reassure markets and yield great synergies' from this we can conclude that In times of crisis the government and the regulators have to work on common ground and avoid any conflicts to prevent instability and confusion.

Hence, option D is the correct answer.

**Instructions [51 - 54 ]**

Read the following passages carefully and identify most appropriate answer to the questions given at the end of each passage.

Any company can generate simple descriptive statistics about aspects of its business-average revenue per employee, for example, or average order size. But analytics competitors look well beyond basic statistics. These companies use predictive modelling to identify the most profitable customers-plus those with the greater profit potential and the ones most likely to cancel their accounts. They pool data generated in-house and data acquired from outside sources (which they analyze more deeply than do their less statistically savvy competitors) for a comprehensive understanding of their customers. They optimize their supply chains and can thus determine the impact of an unexpected constraint, simulate alternatives and route shipments around problems. They establish prices in real time to get the highest yield possible from each of their customer transactions. They create complex models of how their operational costs relate to their financial performance. Leaders in analytics also use sophisticated experiments to measure the overall impact or "lift" of intervention strategies and then apply the results to continuously improve subsequent analyses. Capital One, for example, conducts

more than 30,000 experiments a year, with different interest rates, incentives, direct-mail packaging, and other variables. Its goal is to maximize the likelihood both that potential customers will sign up for credit cards and that they will pay back to Capital One.

Analytics competitors understand that most business functions- even those, like marketing, that have historically depended on art rather than science can be improved with sophisticated quantitative techniques. These organizations don't gain advantage from one killer app, but rather from multiple applications supporting many parts of the business and, in a few cases, being rolled out for use by customers and suppliers. UPS embodies the evolution from targeted analytics user to comprehensive analytics competitor. Although the company is among the world's most rigorous practitioners of operations research and industrial engineering, its capabilities were, until fairly recently, narrowly focused. Today, UPS is wielding its statistical skill to track the movement of packages and to anticipate and influence the actions of people assessing the likelihood of customer attrition and identifying sources of problems. The UPS Customer Intelligence Group, for example, can accurately predict customer defections by examining usage patterns and complaints.

When the data point to a potential defector, a salesperson contacts that customer to review and resolve the problem, dramatically reducing the loss of accounts. UPS still lacks the breadth of initiatives of a full-bore analytics competitor, but it is heading in that direction. Analytics competitors treat all such activities from all provenances as a single, coherent initiative, often massed under one rubric, such as "information-based strategy" at Capital One or "information based customer management" at Barclays Bank. These programs operate not just under a common label but also under common leadership and with common technology and tools. In traditional companies, "business intelligence" (the term IT people use for analytics and reporting processes and software) is generally managed by departments; number-crunching functions select their own tools, control their own data warehouses, and train their own people. But that way, chaos lies. For one thing, the proliferation of user-developed spreadsheets and databases inevitably leads to multiple versions of key indicators within an organization.

Furthermore, research has shown that between 20% and 40% of spreadsheets contain errors; the more spreadsheets floating around a company, therefore, the more fecund the breeding ground for mistakes. Analytics competitors, by contrast, field centralized groups to ensure that critical data and other resources are well managed and that different parts of the organization can share data easily, without the impediments of inconsistent formats, definitions, and standards. Some analytics competitors apply the same enterprise approach to people as to technology. Procter & Gamble, for example, recently created a kind of uberanalytics group consisting of more than 100 analysts from such functions as operations, supply chain, sales, consumer research, and marketing. Although most of the analysts are embedded in business operating units, the group is centrally managed: As a result of this consolidation, P&G can apply a critical mass of expertise to its most pressing issues. So, for example, sales and marketing analysts supply data on opportunities for growth in existing markets to analysts who design corporate supply networks. The supply chain analysts, in turn, apply their expertise in certain decision-analysis techniques to such new areas as competitive intelligence. The group at P&G also raises the visibility of analytical and data-based decision making within the company. Previously, P&G's crack analysts had improved business processes and saved the firm money but because they were squirreled away in dispersed domains, many executives didn't know what services they offered or how effective they could be. Now those executives are more likely to tap the company's deep pool of expertise for their projects. Meanwhile, masterful number crunching has become part of the story P & G tells to investors, the press and the public .

A company wide embrace of analytics impels changes in culture, processes, behavior, and skills for many employees. And so, like any major transition, it requires leadership from executives at the very top who have a passion for the quantitative approach. Ideally, the principal advocate is the CEO. Indeed we found several chief executives who have driven the shift to analytics at their companies over the past few years, including Loveman of Harrah's, Jeff Bezos of Amazon, and Rich Fairbank of Capital One. Before he retired from the Sara Lee Balcery Group, former CEO Barry Beracha kept a sign on his desk that summed up his personal and organizational philosophy. "In God we trust. All others bring data!" We did come across some companies in which a single functional or business unit leader was trying to push analytics throughout the organization, and a few were making some progress. But we found at these lower-level people lacked the clout, perspective, and the cross-functional scope to change the culture in any meaningful way. CEO s leading the analytics charge require both an appreciation and a familiarity with the subject.

A background in statistics isn't necessary, but those leaders must understand the theory belted various quantitative methods so that they recognize those methods limitations-which factors are being weighed and which ones aren't When the CEOs need help grasping quantitative techniques, they run to experts who understand the business and how analytics can be applied to it. We interviewed several leaders who had retained such advisers, and these executives stressed the need to find someone who can explain things in plain language and be trusted not to spin the numbers. A few CEOs we spoke with had surrounded themselves with very analytical people- professors, consultants, MIT graduates and the like. But that was a personal preference rather than a necessary practice. Of course, not all decisions should be grounded in analytics - at least not wholly so. Research shows that human beings can make quick, surprisingly accurate assessments of personality and character based on simple observations. For analytics minded leaders, then, the challenge boils down to knowing when to run with the numbers and when to run with their guts.

51. **With reference to the above passage what does the phrase "uberanalytic group" mean?**

- A** A centralized homogeneous group comprising of experts in analytics within the organization who provide their expertise to all
- B** A centralized group that draws upon expertise from multi functional areas within the organization and provides their expertise to all



- C** A centralized group consisting of data analytics experts from within the organization who provide their expertise to all
- D** A powerful centralized group of crack analysts within the organisation who provide their expertise to all

**Answer: B**

**Explanation:**

In the fourth paragraph, the author says, 'uberanalytics group consisting of more than 100 analysts from such functions as operations, supply chain, sales, consumer research, and marketing. Although most of the analysts are embedded in business operating units, the group is centrally managed.' From this it is clear that uberanalytics is a centralized group that draws upon expertise from multi functional areas within the organization and provides their expertise to all.

Hence, option B is the correct answer.

52. **Replace the phrase 'more fecund the breeding ground for mistakes' from the passage by selecting the most appropriate phrase without changing the meaning.**

- A** Anunsuitable environment where mistakes are bound to happen
- B** Fructiferous environment for mistakes
- C** A highly fertile ground for producing more errors
- D** Creating a high possibility of inaccuracy

**Answer: C**

**Explanation:**

More fecund the breeding ground for mistakes means the ground is very fertile to make mistakes. Hence, option C is the correct answer.

In option D, inaccuracy is given; instead mistakes would have made a probable answer.

In option B, instead of 'errors' 'more errors' would have made a better answer and the same explanation goes for option A.

53. **According to the author, what is the leadership challenge for analytics minded leaders?**

- A** The analytics minded leader has to be well versed in statistics and quantitative analysis in order to be effective
- B** The analytics minded leader should have experts in data analysis from top institutes such as MIT etc to advise him
- C** The analytics minded leader should be able to strike a balance between data driven decisions and intuition
- D** The analytics minded leader should be able to lead teams of cross.functional experts

**Answer: C**

**Explanation:**

In the last line the author says, 'For analytics minded leaders then the challenge boils down to knowing when to run with the numbers and when to run with their guts'. From this it is clear that the leadership challenge for analytics minded leaders is that they should be able to strike a balance between data driven decisions and intuition. Hence, option C is the correct answer.

54. **In the above passage, how does the author differentiate between 'analytics competitors' and 'traditional companies' with regard to their strategy towards data management?**

- A** Analytics competitors have a centralized, multi functional approach to data management and encourage data sharing whereas traditional companies have a departmental, multiple databases approach
- B** Traditional companies surround themselves with very analytical people from academia, consultants, and pass outs from institutes like MITs but Analytics competitors hire the best analytical minds

- C** Analytics competitors use predictive modelling to identify the most profitable options whereas traditional companies use basic statistics
- D** Traditional companies appoint leaders with data management expertise but Analytics competitors train all employees in data analytics

**Answer: A**

**Explanation:**

In the third and fourth paragraph, the author explicitly mentions the difference in approach towards data management that traditional companies have in contrast to analytic competitors.

The following opinion has been presented by the author: "In traditional companies, "business intelligence" is generally managed by departments; number-crunching functions select their own tools, control their own data warehouses, and train their own people...". This points towards a decentralised system utilizing varied databases with higher possibilities of error in data.

The author goes on to add the following: "Analytics competitors, by contrast, field centralized groups to ensure that critical data and other resources are well managed and that different parts of the organization can share data easily, without the impediments of inconsistent formats, definitions, and standards..." This indicates that analytic establishments effectively utilize a multifunctional, coherent approach in handling data, often spearheaded in a unified manner. This has been pointed out in Option (A)

Option (C), although correct in a general sense, strays from the question with regard to data management.

Option (B) and (D) are incorrect and unrelated to the question that has been asked.

The above-mentioned points indicate that Option (A) is the correct answer.

## Section 4

**Instructions [55 - 59 ]**

**Read the information provided and answer the questions which follow.**

Five MBA students - Aman, Manish, Rohit, Sandeep and Vinay, specializing in sales and marketing got final campus placement in five different companies - Asian Paints, Dabur, Hindustan Unilever, ITC and L' Oreal. (though not necessarily in the same order). Their initial Job assignment has been fixed in five different cities - Bhopal, Chennai, Delhi, Mumbai, and Patna (in any order). They are avid book readers, but like different themes - business and management, classic fiction, historical fiction, mystery fiction and non-fiction (again in any order). Further, the following additional information are provided: ·

- (a) Vinay got placed in Asian Paints.
- (b) Aman is not placed in Hindustan Unilever.
- (c) Manish's job location is not in Chennai and he does not like books on mystery fiction.
- (d) Sandeep got placed at Delhi, while Vinay is not placed at Mumbai.
- (e) Aman likes reading books on historical fiction and is placed either at Chennai or Patna and the student who got placed in ITC does not like mystery fiction and his job posting. is in the other city amongst Chennai or Patna.
- (f) The student who got placed in L'Oreal likes reading non-fiction books and is not posted at Mumbai.
- (g) The student who likes reading classic fiction, is posted at Bhopal.

55. In which company has Aman got placed?

- A** Dabur
- B** Hindustan Unilever
- C** ITC
- D** L'Oreal

**Answer: A**

**Explanation:**

The given information can be translated as follows:



Company	Person	City	Theme
Asian paints	Vinay	Not Mumbai	
Dabur			
Hindustan Unilever	Not Aman		
ITC		Chennai or Patna	Not mystery fiction
L'oreal		Not Mumbai	Non-fiction

From statement e, we know that Aman is placed neither in L'oreal (as the one placed in L'oreal reads non-fiction, while Aman reads, Historical fiction) nor in ITC. Hence, Aman is placed in Dabur. Aman's assignment is in Patna or Chennai.

Now it is clear that the one whose assignment is in Mumbai got placement in Hindustan Unilever. From statement d, we know that Sandeep is placed in L'oreal.

From statement g and the above, it can be concluded that the student who likes reading classic fiction and posted in Bhopal is placed in Asian points.

Now it can be concluded that Rohit is placed in Hindustan Unilever and reads mystery fiction. Manish is placed in ITC and reads business and management, and his assignment is in Patna. Thus we get the following arrangement:

Company	Person	City	Theme
Asian paints	Vinay	Bhopal	Classic fiction
Dabur	Aman	Chennai	Historical fiction
Hindustan Unilever	Rohit	Mumbai	Mystery fiction
ITC	Manish	Patna	Business & Management
L'oreal	Sandeep	Delhi	Non-Fiction

56. Name the person who likes reading books on business and management.

- A Manish
- B Robit
- C Sandeep
- D Vinay

**Answer:** A

**Explanation:**

The given information can be translated as follows:

Company	Person	City	Theme
Asian paints	Vinay	Not Mumbai	
Dabur			
Hindustan Unilever	Not Aman		
ITC		Chennai or Patna	Not mystery fiction
L'oreal		Not Mumbai	Non-fiction

From statement e, we know that Aman is placed neither in L'oreal (as the one placed in L'oreal reads non-fiction, while Aman reads, Historical fiction) nor in ITC. Hence, Aman is placed in Dabur. Aman's assignment is in Patna or Chennai.

Now it is clear that the one whose assignment is in Mumbai got placement in Hindustan Unilever. From statement d, we know that Sandeep is placed in L'oreal.

From statement g and the above, it can be concluded that the student who likes reading classic fiction and posted in Bhopal is placed in Asian points.

Now it can be concluded that Rohit is placed in Hindustan Unilever and reads mystery fiction. Manish is placed in ITC and reads business and management, and his assignment is in Patna. Thus we get the following arrangement:

Company	Person	City	Theme
Asian paints	Vinay	Bhopal	Classic fiction
Dabur	Aman	Chennai	Historical fiction
Hindustan Unilever	Rohit	Mumbai	Mystery fiction
ITC	Manish	Patna	Business & Management
L'oreal	Sandeep	Delhi	Non-Fiction

57. Name the type of books the student who is placed in Mwnbai likes reading.

- A Business and management
- B Historical fiction
- C Mystery fiction
- D Non-fiction

**Answer: C**

**Explanation:**

The given information can be translated as follows:

Company	Person	City	Theme
Asian paints	Vinay	Not Mumbai	
Dabur			
Hindustan Unilever	Not Aman		
ITC		Chennai or Patna	Not mystery fiction
L'oreal		Not Mumbai	Non-fiction

From statement e, we know that Aman is placed neither in L'oreal (as the one placed in L'oreal reads non-fiction, while Aman reads, Historical fiction) nor in ITC. Hence, Aman is placed in Dabur. Aman's assignment is in Patna or Chennai.

Now it is clear that the one whose assignment is in Mumbai got placement in Hindustan Unilever. From statement d, we know that Sandeep is placed in L'oreal.

From statement g and the above, it can be concluded that the student who likes reading classic fiction and posted in Bhopal is placed in Asian points.

Now it can be concluded that Rohit is placed in Hindustan Unilever and reads mystery fiction. Manish is placed in ITC and reads business and management, and his assignment is in Patna. Thus we get the following arrangement:

Company	Person	City	Theme
Asian paints	Vinay	Bhopal	Classic fiction
Dabur	Aman	Chennai	Historical fiction
Hindustan Unilever	Rohit	Mumbai	Mystery fiction
ITC	Manish	Patna	Business & Management
L'oreal	Sandeep	Delhi	Non-Fiction

58. If Sandee-p is transferred to Rohit's city and Rohit is transferred to Sandeep's city, then in which city the student who likes reading mystery fictions will work?

- A Chennai
- B Delhi
- C Mumbai
- D Pama

**Answer: B**

**Explanation:**

The given information can be translated as follows:

Company	Person	City	Theme
Asian paints	Vinay	Not Mumbai	
Dabur			
Hindustan Unilever	Not Aman		
ITC		Chennai or Patna	Not mystery fiction
L'oreal		Not Mumbai	Non-fiction

From statement e, we know that Aman is placed neither in L'oreal (as the one placed in L'oreal reads non-fiction, while Aman reads, Historical fiction) nor in ITC. Hence, Aman is placed in Dabur. Aman's assignment is in Patna or Chennai.

Now it is clear that the one whose assignment is in Mumbai got placement in Hindustan Unilever. From statement d, we know that Sandeep is placed in L'oreal.

From statement g and the above, it can be concluded that the student who likes reading classic fiction and posted in Bhopal is placed in Asian points.

Now it can be concluded that Rohit is placed in Hindustan Unilever and reads mystery fiction. Manish is placed in ITC and reads business and management, and his assignment is in Patna. Thus we get the following arrangement:

Company	Person	City	Theme
Asian paints	Vinay	Bhopal	Classic fiction
Dabur	Aman	Chennai	Historical fiction
Hindustan Unilever	Rohit	Mumbai	Mystery fiction
ITC	Manish	Patna	Business & Management
L'oreal	Sandeep	Delhi	Non-Fiction

59. Who among the following is posted in Patna?

- A Manish
- B Rohit
- C Aman
- D Cannot be determined

**Answer:** A

**Explanation:**

The given information can be translated as follows:

Company	Person	City	Theme
Asian paints	Vinay	Not Mumbai	
Dabur			
Hindustan Unilever	Not Aman		
ITC		Chennai or Patna	Not mystery fiction
L'oreal		Not Mumbai	Non-fiction

From statement e, we know that Aman is placed neither in L'oreal (as the one placed in L'oreal reads non-fiction, while Aman reads, Historical fiction) nor in ITC. Hence, Aman is placed in Dabur. Aman's assignment is in Patna or Chennai.

Now it is clear that the one whose assignment is in Mumbai got placement in Hindustan Unilever. From statement d, we know that Sandeep is placed in L'oreal.

From statement g and the above, it can be concluded that the student who likes reading classic fiction and posted in Bhopal is placed in Asian points.

Now it can be concluded that Rohit is placed in Hindustan Unilever and reads mystery fiction. Manish is placed in ITC and reads business and management, and his assignment is in Patna. Thus we get the following arrangement:

Company	Person	City	Theme
Asian paints	Vinay	Bhopal	Classic fiction
Dabur	Aman	Chennai	Historical fiction
Hindustan Unilever	Rohit	Mumbai	Mystery fiction
ITC	Manish	Patna	Business & Management
L'oreal	Sandeep	Delhi	Non-Fiction

### Instructions [60 - 61 ]

Read the information provided and answer the questions which follow.

In ISL football competition, eight football teams - Atletico De Kolkata, Chennaiyan FC, Delhi Dynamos, FC Goa, FC Pune City, Kerala Blasters, Mumbai City FC and North-East United FC-participated where each team played against every other team exactly once. Every win earned three points for the teams and a loss earned 0. If there was a draw, each team was rewarded one point. Now, as per the fixtures, following are some of the observations:

- (a) Out of the seven matches played by Chennaiyan FC, it won five and the other two matches were drawn.
- (b) FC Pune City won the match against FC Goa and Kerala Blasters but lost the match against Delhi Dynamos and Chennaiyan FC.
- (c) Atletico De Kolkata drew a match against FC Goa, Chennaiyan FC and FC Pune City.
- (d) None of the teams lost all the matches.

60. If Chennaiyan FC won the match against FC Goa, what could have been the maximum score of FC Goa?

- A 11
- B 12
- C 13
- D 14

**Answer: C**

#### Explanation:

We know that out of the seven matches

Goa drew against Kolkata and lost against Chennaiyan and Pune Blasters

Now to maximize the score of Goa we will assume it won the remaining four matches and hence

The maximum score will be :  $3+3+3+3+1 = 13$

61. What could be the minimum absolute difference between the scores of FC Pune City and Chennaiyan FC?

- A 0
- B 1
- C 3
- D 4

**Answer: D**

#### Explanation:

Chennaiyan FC won 5 matches-  $5*3= 15$  points.

Chennaiyan FC drawn 2 matches-  $2*1=2$  points.

Total points for Chennaiyan FC-  $15+2= 17$  points.

FC Pune City-

FC Pune City won against FC Goa and Kerala Blasters. So, they have-  $3*2=6$  points.

FC Pune City lost against Delhi Dynamos and Chennaiyan FC. So for these 2 matches they will get 0 points.

FC Pune City played a draw against Atletico Kolkata. So, they will get 1 point for that match.

Now as we have to find the minimum difference between Chennaiyan FC and FC

Pune City we assume they won there last 2 matches hence giving them

$3*2=6$  points.

Total Points for FC Pune City-  $6+1+6=13$  points.

Difference-  $17-13= 4$  points.

**Instructions [62 - 63]**

Read the information provided and answer the questions which follow.

On a cricket ground, five players - A, B, C and E are standing as described below facing the North

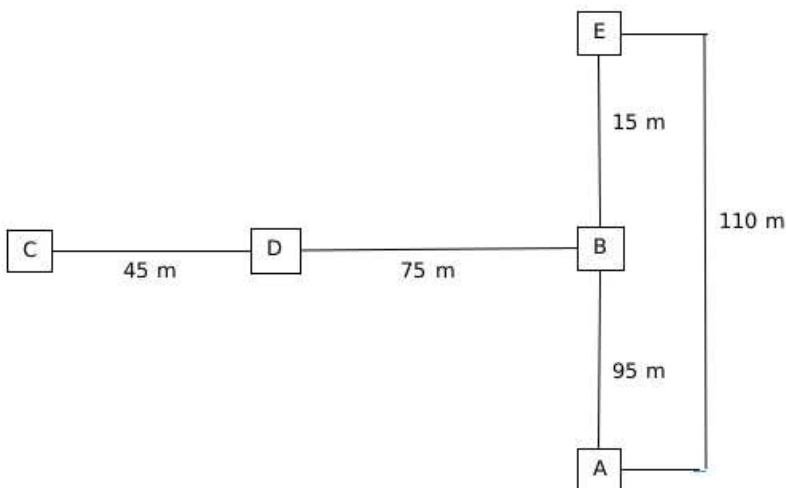
- (a) B is 75 metres to the right of D
- (b) A is 95 metres to the south of B
- (c) C is 45 metres to the west of D
- (d) E is 110 metres to the north of A

62. Who is to the north-east of the player who is to the left of B?

- A** A
- B** C
- C** Either A or C
- D** None of the above

**Answer: D**

**Explanation:**



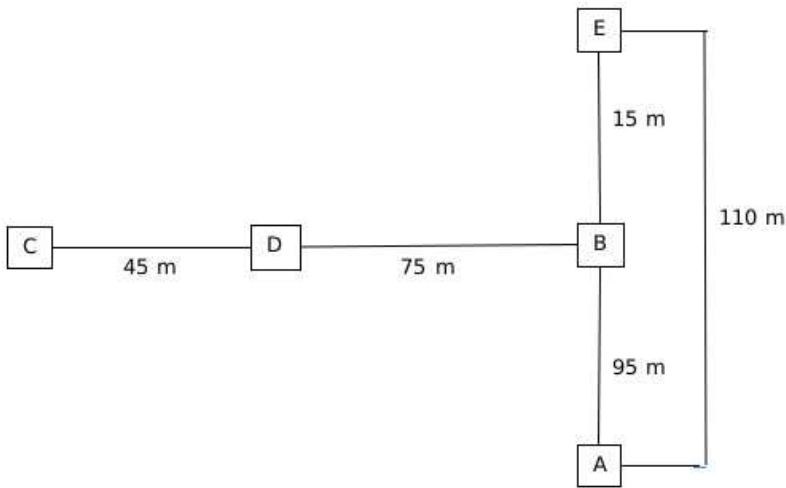
Only E is to the north-east of the player who is to the left of B, that is D.

63. If a player walks from C, meets D followed by B, then A and finally E, how many metres has the player walked if he has travelled the straight distance all through?

- A** 185
- B** 135
- C** 230
- D** 325

**Answer: D**

**Explanation:**



Distance travelled =  $45 + 75 + 95 + 110 = 325$  m

**Instructions [64 - 68 ]**

Read the information provided and answer the questions which follow.

Given an input, a coding machine generates pass codes everyday as follows:

Input : my bag carries no more than ten books

Pass codes :

Batch I : more my than bag ten carries books no

Batch II : bag ten than carries rny books more no

Batch III : my bag books ten more than no carries

Batch IV : ten more books than bag no my carries and so on.

The first batch timing is 9.30 AM and each batch is of one hour's duration. There is a rest period of one hour after the work for the fourth batch is over.

64. If the pass code on a particular day for the second batch is 'if winter comes can spring be far behind', what will be the pass code for the batch at 2.30 PM on that day?

- A if winter behind far comes can spring be
- B behind winter if spring comes can far be
- C behind winter if spring comes far be can
- D if winter behind far spring be can comes

**Answer: D**

**Explanation:**

Input : my bag carries no more than ten books

Pass codes :

Batch I : more my than bag ten carries books no

Batch II : bag ten than carries my books more no

Batch III : my bag books ten more than no carries

Batch IV : ten more books than bag no my carries.

Since there is a rest of 1 hours after 1:30 PM

At 2:30 again batch II will start.

Change from Batch II to Batch IV

Batch II : bag(1) ten(2) than(3) carries(4) rny(5) books(6) more(7) no(8) { (1),(2)..... denote the position of the words }

Batch III : my bag books ten more than no carries

Batch IV : ten(2) more(7) books(6) than(3) bag(1) no(8) my(5) carries(4)

So, "if(1) winter(2) comes(3) can(4) spring(5) be(6) far(7) behind(8)" will become "winter(2) far(7) be(6) comes(3) if(1) behind(8) spring(5) can(4)"

Code generation for batch I:

my(1) bag(2) carries(3) no(4) more(5) than(6) ten(7) books(8)

more(5) my(1) than(6) bag(2) ten(7) carries(3) books(8) no(4)

"winter far be comes if behind spring can" will become " if winter behind far spring be can comes"

65. On a particular day, Rahul was to begin the work in the batch at 10.30 AM with a pass code 'I like tea and biscuit but not together'. However, he came late on that day and hence joined the next batch. What was his new pass code?

- A together but like not biscuit I tea and
- B together but like I tea and biscuit not
- C biscuit I but like not tea together and
- D biscuit I but tea together like and not

**Answer:** C

**Explanation:**

At 10:30 2nd batch will start. Since Rahul was late, he will join the 3rd batch. In the 3rd batch, the passcode is generated according the following rule:

Last four words are alternatively placed behind the first four words in the same order.

So 12345678 becomes (5)1(6)2(7)3(8)4. Hence C is the answer.

66. On a particular day, the pass code for the batch immediately before the rest hour was 'bah bah black sheep have you any wool'. What was the input for the pass code on that day?

- A any have wool bah sheep you black bah
- B any have wool you bah sheep bah black
- C any have wool you bah black bah sheep
- D None of the above

**Answer:** B

**Explanation:**

If the input is 12345678, then the fourth batch passcode becomes 75862413.

Hence, the input of "bah(7) bah(5) black(8) sheep(6) have(2) you(4) any(1) wool(3)" will be --any have wool you bah sheep bah black

67. On a particular day, the pass code for the second batch was ' India's core strength lies in unity in diversity'. What was the input on that day in the reverse order of its words?

- A in in India's lies diversity strength core unity
- B unity core strength in diversity lies India's in
- C in in strength India's core diversity unity lies
- D None of the above

**Answer:** B

**Explanation:**

If the input is 12345678, then the code for the second batch will be 27631845. Hence the input of " India's(2) core(7) strength(6) lies(3) in(1) unity(8) in(5) diversity(4)" will be "in India's lies diversity in strength core unity". After reversing it we get the option B.

68. In the following question, two statements are given followed by four conclusions. Taking the given statements to be true, decide which of the given conclusions logically follows from the given statements:

**Statements:** Some rivers are plateau. No plateau is mountain.

**Conclusions:**

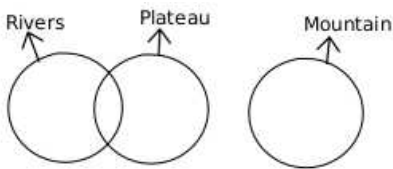
- I. Some plateau are rivers.
- II. Some mountains are rivers.
- III. Some rivers are not mountains.
- IV. All mountains are rivers.

- A Only I follows
- B Both II and III follow
- C Both I and III follow
- D Both I and II follow

**Answer:** C

**Explanation:**

The given statements can be represented in the following basic diagram



From the above,

Conclusion I, affirmative, follows. Conclusion II, affirmative, does not follow. Conclusion III, negative, follows. Conclusion IV, affirmative, does not follow. Here, a negative conclusion follows from the basic diagram. The negation of it is "All rivers are mountains". This cannot be represented in any alternate diagram. Hence, only I and III follow.

**Instructions [69 - 70 ]**

In each of the following problems, there is one question and three statements I, II and III given below the question. You have to decide whether the data given-in the statements is sufficient to answer the question. Read all the statements carefully and find which of the statement(s) is/are sufficient to answer the given question.

69. What is Mobil's rank from the top in an annual appraisal of a FMCG Company comprising of 70 sales executives? ·

- I. Mohit is 5 ranks below Rashmi from the top
- II. Rashmi's rank from the bottom is 44
- III. Mobe is 5 ranks above Rasbmi from the bottom

- A Any two of the three
- B Only II and III
- C Only I and either II or III
- D Only II and either I or III

**Answer:** D

**Explanation:**

From statement II we get "Rashmi's rank from the bottom is 44".

R 4 3

From I and II together, 26

R 4 M 3 8



\ Mohit's rank is 32nd from the top.

Similarly, if we take II and III together, we get 21

M 4 R 4 3

\ Mohit's rank is 22nd from the top.

The question can be answered by taking II

along with I and III.

70. What does 'orange' represent in a code language?

I. 'rim pa xab' means 'orange and apple' in that code language

II. 'na pie tac' means 'I dislike sweet' in that code language

III. 'natsi pa' means 'orange is sweet' in that code language

**A** All I, II and III

**B** Only II and III

**C** Only I and III

**D** Only I and either II or III

**Answer: C**

**Explanation:**

I and II have no words in common. Therefore, we cannot determine the code for any of the 6 words involved.

II and III have 'sweet' in common. We can determine the code for sweet but we cannot determine the code for 'orange'.

I and III have 'orange' in common. We can determine the word represented by 'orange' using I and III together and hence, option C is the right answer.

### Instructions [71 - 72]

Read the information provided below and answer the questions which follow.

Seven friends - A, B, C, D, E, F and G - are traveling from Delhi to Amritsar in Swarna Satabdi train. They are seated in three different coaches - A1, A2 and A3. Further the following additional information are provided:

(a) There are two married couples among them.

(b) Three friends love playing tennis, two love playing cricket and two love playing volleyball amongst them.

(c) There are at least two of them in each coach and each of them loves playing different games.

(d) No husband-wife couple loves playing the same game.

(e) C is seated in coach A1 and is married to A, who loves playing tennis.

(f) G loves playing volleyball and is married to D who is seated in coach A2 with F, a cricket enthusiast.

(g) B and G are not seated with C.

(h) E, who loves playing tennis, is seated in Coach A3.

71. Which game does C like to play?

**A** cricket or tennis

**B** volleyball

**C** tennis or volleyball

**D** cricket or volleyball

**Answer: D**

**Explanation:**

The given data can be represented as follows.

A1 - C

A2 – D, F (Cricket) A3 – E (Tennis)

From, (g) and (c) it can be concluded that A (tennis) sits in coach A1. From (d) and (e) it can be said that C does not love playing tennis. Hence, C loves playing cricket or volleyball.

From (f) and (d), D does not love playing volleyball.

C loves to play either cricket or volleyball.

Only A and C are seated in coach A1.

72. **How many friends are seated in coach A1?**

- A** 2
- B** 3
- C** 2 or 3
- D** Data inadequate

**Answer:** A

**Explanation:**

The given data can be represented as follows.

A1 – C

A2 – D, F (Cricket) A3 – E (Tennis)

From, (g) and (c) it can be concluded that A (tennis) sits in coach A1. From (d) and (e) it can be said that C does not love playing tennis. Hence, C loves playing cricket or volleyball.

From (f) and (d), D does not love playing volleyball.

C loves to play either cricket or volleyball.

Only A and C are seated in coach A1.

**Instructions [73 - 74 ]**

Read the information provided below and answer the questions which follow.

Last week, Rajeev watched four sports of different types: tennis, cricket, football and kabaddi. The sports were shown by four different channels - Star Sports 1, Ten Sports 2, Sony Six and NeoSports (not necessarily in the same order): These sports were telecast on different days - Monday, Tuesday, Thursday and Friday (not necessarily in the same order). Further the following additional information are provided:

- (a) The sport by Star Sports 1 was shown on Friday.
- (b) Tennis was shown on Monday.
- (c) Kabaddi was shown by Sony Six and not telecast on Thursday.
- (d) Football was shown by Neo Sports

73. **Which of the following combination is true?**

- A** Star Sports I - Tennis
- B** Neo Sports - Thursday
- C** Kabaddi- Thursday
- D** Data inadequate

**Answer:** B

**Explanation:** Therefore, option B is the right answer.

74. Which sports was telecasted in Ten Sports 2 and on which day of the week?

- A Football on Friday
- B Kabaddi on Thunday
- C Cricket on Monday
- D Tennis on Monday

**Answer:** D

**Explanation:** />

Ten sports 2 broadcasts Tennis on Monday. Therefore, option D is the right answer.

## Section 5

75. Swarn a SME enterprise borrowed a sum of money from a nationalized bank at 10% simple interest per annum and the same amount at 8% simple interest per annum from a microfinance firm for the same period: It cleared the first loan 6 months before the scheduled date of repayment and repaid the second loan just at the end of the scheduled period: If in each case it had to pay Rs. 62100 as amount then how much money and for what time period did it borrow?

- A Rs. 55750, 2 years
- B Rs. 52500, 2 years
- C Rs. 51750, 2.5 years
- D Rs. 55750, 2.5 years

**Answer:** C

**Explanation:**

The sum that was returned is same in both cases that means interest accrued is same in both cases.

Assume that the duration is 't' years for which amount is borrowed in both case and principal amount is 'P'.

$$\frac{P*(t-0.5)*10}{100} = \frac{P*t*8}{100}$$

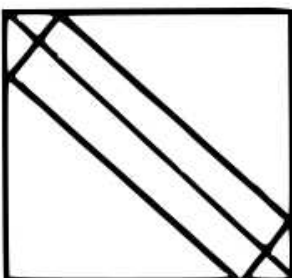
$$t=2.5 \text{ years}$$

Principal amount that the enterprise borrowed :

$$P(1 + \frac{2*10}{100}) = 62100$$

$$P=51750$$

76. A rectangular plank  $\sqrt{10}$  metre wide, is placed symmetrically along the diagonal of a square of side 10 metres as shown in the figure. The area of the plank is:

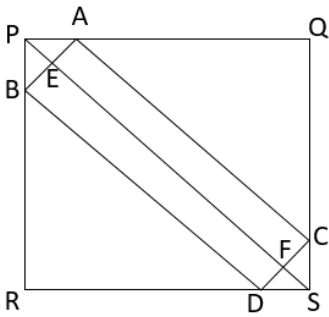


- A  $10(\sqrt{20} - 1)$  sq.mt
- B  $10(\sqrt{5} - 1)$  sq.mt
- C  $10\sqrt{20} - 1$  sq.mt
- D None

**Answer:** A

**Explanation:**

In the given diagram  $AB = \sqrt{10}$  m



Given that PQRS is a square and the plank is placed symmetrically  $\triangle BPA$  and  $\triangle AQC$  will be isosceles right triangles.

$$\text{Hence } AB^2 = PA^2 + PB^2$$

As the plank is symmetrical,  $PA = PB$ ,

$$\text{Hence } AB^2 = 2 \times PA^2 \Rightarrow \sqrt{10}^2 = 2 \times PA^2$$

$$\text{So } PA = PB = \sqrt{\frac{10}{2}} = \sqrt{5} \text{ m}$$

$$PQ = PA + AQ$$

$$AQ = PQ - PA = 10 - \sqrt{5} \text{ m}$$

We know that  $AQ = QC$  ( $\triangle AQC$  is isosceles right triangle)

$$\text{So } AC = \sqrt{2}AQ = \sqrt{2}(10 - \sqrt{5}) \text{ m}$$

Now we can calculate area of plank

$$\text{Area of } ABCD = AB \cdot AC = \sqrt{10} \cdot \sqrt{2}(10 - \sqrt{5}) = 10(\sqrt{20} - 1) \text{ sq. mt}$$

77. **Somesh, Tarun and Nikhil can complete a work separately in 45, 60 and 75 days. They started the work together but Nikhil left after 5 days of start and Somesh left 2 days before the completion of the work. In how many days will the work be completed?**

- A  $25\frac{1}{7}$
- B  $50\frac{1}{7}$
- C  $35\frac{5}{7}$
- D  $40\frac{5}{7}$

**Answer:** A

**Explanation:**

Let the duration in which the will be completed be 't' days.

$$\text{The portion of work done by Nikhil} = \frac{5}{75} = \frac{1}{15}$$

( Since He worked for 5 days)

Somesh left 2 days early that means Somesh must have worked for 't-2' days

The portion of work done by Somesh =  $(t-2) \times \frac{1}{45}$

Similarly, the portion of work done by Tarun =  $t \times \frac{1}{60}$

Solving for t

$$\frac{1}{15} + (t-2) \times \frac{1}{45} + t \times \frac{1}{60} = 1$$

$$\frac{4(t-2)+3t}{180} = \frac{14}{15}$$

$$t = 25\frac{1}{7}$$

Therefore, option A is the correct answer.

78.  $(1 + 5) \log_e 3 + \frac{(1+5^2)}{2!} (\log_e 3)^2 + \frac{(1+5^3)}{3!} (\log_e 3)^3 + \dots$

**A** 12

**B** 244

**C** 243

**D** 245

**Answer: B**

**Explanation:**

Splitting the above mentioned series into two series

$$A = \log_e 3 + \frac{1}{2!} (\log_e 3)^2 + \frac{1}{3!} (\log_e 3)^3 + \dots$$

$$B = 5 \log_e 3 + \frac{5^2}{2!} (\log_e 3)^2 + \frac{5^3}{3!} (\log_e 3)^3 + \dots$$

We know that  $e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$

So  $e^x - 1 = x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$

On solving two series A and B

$$A = \log_e 3 + \frac{1}{2!} (\log_e 3)^2 + \frac{1}{3!} (\log_e 3)^3 + \dots = e^{\log_e 3} - 1 = 3 - 1 = 2$$

$$B = 5 \log_e 3 + \frac{5^2}{2!} (\log_e 3)^2 + \frac{5^3}{3!} (\log_e 3)^3 + \dots = e^{\log_e 3^5} - 1 = 3^5 - 1 = 242$$

$$A+B = 2 + 242 = 244$$

79. If  $f(x) = \frac{1}{1+x}$ , then find the value of  $f[f[f(x)]]$ , at  $x=5$

**A** 7/9

**B** 7/13

**C** 5/13

**D** 5/9

**Answer: B**

**Explanation:**

$$f(x) = \frac{1}{1+x}$$

$$f[f(x)] = 1 + f(x) = 1 + \frac{1}{1+x} = \frac{1+x}{2+x}$$

$$f[f[f(x)]] = 1 + f[f(x)] = 1 + \frac{1+x}{2+x} = \frac{3+2x}{2+x}$$

$$f[f[f(x)]] = \frac{2+5}{3+2*5} = \frac{7}{13}$$

80. A Pharmaceutical company produces two chemicals X and Y, such that X consists of 5% salt A and 10% salt B and Y consists of 10% salt A and 6% salt b: For producing the chemicals X and Y, the company requires at least 7 gm of Salt A and at least 7 gm of Salt b: If chemical X costs Rs. 10.50 per gm and chemical Y costs Rs. 7.80 per gm, what is the minimum cost at which the company can meet the requirement by using a combination of both types of chemicals?

- A Rs.810
- B Rs.850
- C Rs. 537
- D None

**Answer: A**

**Explanation:**

Let's assume that P gm of chemical X and Q gm of chemical Y to be used to meet the requirement.

So net quantity of salt A in both the chemicals

$$A = \frac{5}{100} * P + \frac{10}{100} * Q \geq 7$$

Similarly net quantity of salt B in both the chemicals

$$B = \frac{10}{100} * P + \frac{6}{100} * Q \geq 7$$

For minimum cost

$$A = \frac{5}{100} * P + \frac{10}{100} * Q = 7$$

$$B = \frac{10}{100} * P + \frac{6}{100} * Q = 7$$

On solving both equations for P and Q

$$P=40 \quad Q=50$$

So minimum cost will be =  $40 * 10.50 + 50 * 7.80 = 810$

81. Suntex Company plans to manufacture a new product line of Razor next year and sell it at a price of Rs. 12 per unit. The variable costs per unit in each production run is estimated to be 50% of the selling price, and the fixed costs for each production run is estimated to be Rs. 50,400. Based on their estimated costs how many units of the new product will company Suntex need to manufacture and sell in order for their revenue to be equal to their total costs for each production run?

- A 5400
- B 4200
- C 8400
- D 2100

**Answer: C**

**Explanation:**

Let's assume 'n' be the number of units that Suntex needs to manufacture and sell in order for their revenue to be equal to their total costs for each production run.

$$\begin{aligned} \text{Cost incurred for manufacturing these 'n' units} &= 50400 + \frac{50}{100} * 12n \\ &= 50400 + 6n \end{aligned}$$

Revenue generated by selling these units =  $12n$

For break-even Revenue generated = Cost incurred

$$50400 + 6n = 12n$$

$$6n = 50400$$

$$n = 8400$$

82. In a certain sequence the term  $x_n$  is given by formula  $x_n = 5x_{n-1} - \frac{3}{4}x_{n-2}$  for  $n \geq 2$ . What is the value of  $x_3$ , if  $x_0 = 4$  and  $x_1 = 2$ ?

A  $67/2$

B  $37/2$

C  $123/4$

D None

**Answer:** A

**Explanation:**

Given that  $x_n = 5x_{n-1} - \frac{3}{4}x_{n-2}$

$$\therefore x_2 = 5x_1 - \frac{3}{4}x_0$$

$$x_2 = 5 * 2 - \frac{3}{4} * 4 = 10 - 3 = 7$$

Similarly  $x_3 = 5x_2 - \frac{3}{4}x_1$

$$x_3 = 5 * 7 - \frac{3}{4} * 2 = 35 - \frac{3}{2} = \frac{67}{2}$$

83. A mobile company that sells two models ACN-I and ACN-II of mobile, reported that revenues from ACN-I in 2016 were down 12% from 2015 and revenue from ACN-II sales in 2016 were up by 9% from 2015. If the total revenues from sales of both the mobile models ACN-I and ACN-II in 2016 were up by 3% from 2015, what is the ratio of revenue from ACN-I sales in 2015 to revenue from ACN-II sales in 2015?

A 5:2

B 2:5

C 3:4

D None

**Answer:** B

**Explanation:**

Let's assume that revenue reported from ACN-I and ACN-II sales in 2015 be X and Y respectively.

So revenue generated from ACN-I sales in 2016 =  $X(1 - \frac{12}{100}) = 0.88X$

Similarly revenue generated from ACN-II sales in 2016 =  $Y(1 + \frac{9}{100}) = 1.09Y$

$$0.88X + 1.09Y = (X + Y)(1 + \frac{3}{100})$$

$$0.88X + 1.09Y = 1.03X + 1.03Y$$

$$6Y = 15X$$

$$\frac{X}{Y} = \frac{2}{5}$$

84. If  $10^{67} - 87$  is written as an integer in base 10 notation, what is the sum of digits in that integer?

- A 683
- B 489
- C 583
- D 589

**Answer:** D

**Explanation:**

$$10^{67} - 87 = 9999\dots99913 \text{ (total 67 digits)}$$

$$\text{Sum of digits} = 65 * 9 + 1 + 3 = 589$$

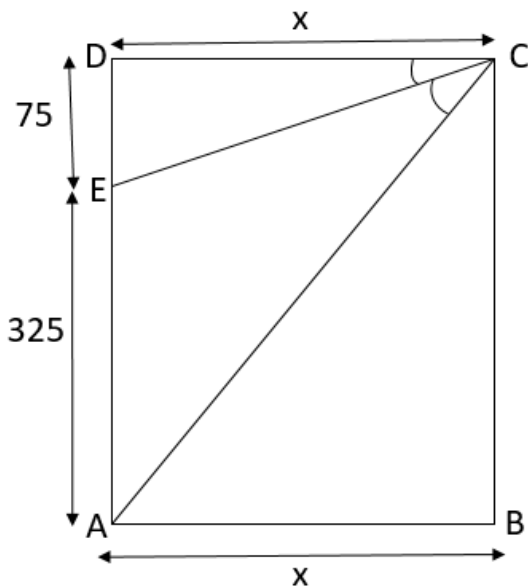
85. A flag pole on the top of a mall building is 75 m high. The height of the mall building is 325 m. To an observer at a height of 400 m,

m, the mall building and the pole subtend equal angle  $\theta$ . If the horizontal distance of the observer from the pole is 'x', then what is the value of x?

- A  $20\sqrt{10}$  m
- B  $30\sqrt{10}$  m
- C  $25\sqrt{5}$  m
- D None

**Answer:** B

**Explanation:**



In the given diagram AE is the mall building and DE is pole. The observer is at C point which is 400 mts from the ground.



It is given that  $\angle DCE = \angle ECA = \theta$

In  $\triangle ACD$  and  $\triangle ECD$

$$\tan(2\theta) = \frac{400}{x}$$

$$\tan(\theta) = \frac{75}{x}$$

We know that  $\tan(2\theta) = \frac{2\tan(\theta)}{1-\tan^2(\theta)}$

$$\therefore \frac{400}{x} = \frac{2 \cdot \frac{75}{x}}{1 - \left(\frac{75}{x}\right)^2}$$

$$x^2 = 9000 = 30\sqrt{10}$$

86. **Witrex Brown, an E-commerce company gives home delivery of its valuable products after receiving final order on their website by different modes of transportation like bike, scooter, tempo and truck. The probabilities of using bike, scooter, tempo and truck are respectively 2/9, 1/9, 4/9 and 2/9. The probabilities of his delivering the product late to the destination by using these modes of transport are 3/5, 2/5, 1/5 and 4/5. If the product reach to the destination in time, find the probability that he has used scooter to reach the office.**

**A** 1/10

**B** 4/25

**C** 3/25

**D** None

**Answer: C**

**Explanation:**

Given that probabilities of his delivering the product late to the destination by using bike, scooter, tempo and truck are 3/5, 2/5, 1/5 and 4/5 respectively.

Hence the probabilities of his delivering the product on time by using these modes of transport are 2/5, 3/5, 4/5 and 1/5 respectively.

Hence the required probability

$$P = \frac{2 \cdot \frac{2}{9} + \frac{3}{9} + \frac{4}{9} + \frac{2}{9} \cdot \frac{1}{5}}{\frac{2}{9} + \frac{3}{9} + \frac{4}{9} + \frac{2}{9}}$$

$$P = \frac{3}{25}$$

87. **A pest control person uses a particular machine for his job, it moves along the circumference of a circular hall of radius 49 metres in 148 minutes to finish the pest control. How many minutes more will it take him to move along the perimeter of a hexagon of side 54 metres?**

**A** 7.69 minutes

**B** 14.36 minutes

**C** 14.00 minutes

**D** 4.28 minutes

**Answer: A**

**Explanation:**

Distance covered by the pest control person = Circumference of the circular hall =  $2 \pi r = 2 \cdot \frac{22}{7} \cdot 49 = 308$  m

So machine's speed =  $\frac{308}{148}$  m/min = 2.08 m/min

The distance that is to be covered = Perimeter of hexagon =  $6 \cdot 54 = 324$  m

$$\begin{aligned} \text{Time consumed} &= \frac{\text{Distance}}{\text{Speed}} \\ &= \frac{324}{2.08} \\ &= 155.7 \text{ min} \end{aligned}$$

So additional time taken by the machine is =  $155.7 - 148 = 7.7 \approx 7.69$  minutes.

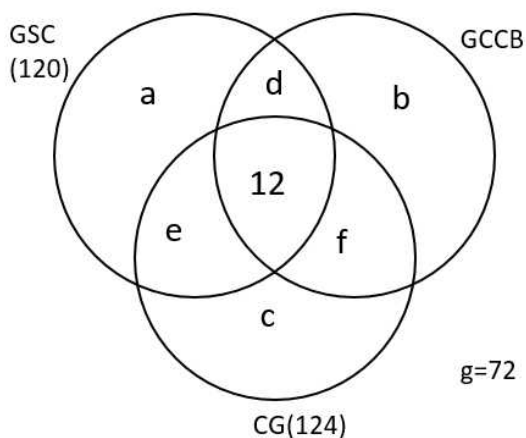
88. A premier B-school, which is in process of getting an AACSB accreditation, has 360 second year students. To incorporate sustainability into their curriculum, it has offered 3 new elective subjects in the second year namely Green Supply Chain, Global Climate Change & Business and Corporate Governance. Twelve students have taken all the three electives, and 120 students have taken Green Supply Chain. There are twice as many students who study Green Supply Chain and Corporate Governance but not Global Climate Change & Business, as those who study both Green Supply Chain and Global Climate Change & Business but not the Corporate Governance, and 4 times as many who study all the three. 124 students study Corporate Governance. There are 72 students who could not muster up the courage to take up any of these subjects. The group of students who study both Green Supply Chain and Corporate Governance but not Global Climate Change & Business is exactly the same as the group made up of the students who study both Global Climate Change & Business and Corporate governance. How many students study Global Climate Change & Business only?

- A 176
- B 104
- C 152
- D 188

**Answer:** B

**Explanation:**

With the help of given information we can make Venn diagram:



It's given that  $e = 2d = 4(12) = 48$  and  $d = 48/2 = 24$

So  $e = 12 + f$  so  $f = e - 12 = 48 - 12 = 36$

total number of students in GSC =  $120 = a + e + d + 12$

$$a = 120 - 48 - 24 - 12 = 36$$

Similarly in case of CG,  $CG = 124 = c + e + f + 12$

$$c = 124 - 12 - 48 - 36 = 28$$

total number of students  $a + b + c + d + e + f + g + 12 = 360$

$$36 + b + 28 + 24 + 48 + 36 + 72 + 12 = 360$$

89. Ramesh and Sohan start walking away from each other from a point P at an angle of  $120^\circ$ . Ramesh walks at a speed of 3 km/hour while Sohan walks at a speed of 4 km/hour. What is the distance between them after 90 minutes?

- A 9.89km  
 B 10.56 km  
 C 9.12 km  
 D 12.42 km

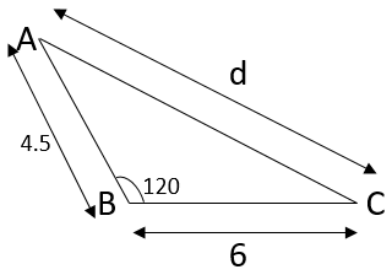
**Answer:** C

**Explanation:**

The distance covered by Ramesh in 90 minutes =  $1.5 \times 3 = 4.5$  kms

Similarly the distance covered by Sohan in 90 minutes =  $1.5 \times 4 = 6$  kms

The distance between Sohan and Ramesh after 90 minutes will be :



$$\cos(A) = \frac{b^2 + c^2 - a^2}{2bc}$$

$$\cos(120) = \frac{4.5^2 + 6^2 - d^2}{2 \times 4.5 \times 6}$$

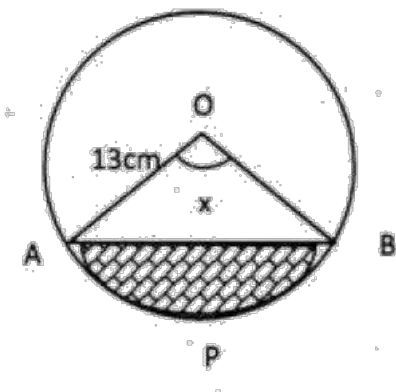
$$d^2 = 4.5^2 + 6^2 - 2 \times 4.5 \times 6 \times \cos(120)$$

$$d^2 = 20.25 + 36 + 27 = 83.25$$

$$d = \sqrt{83.25}$$

$$d \approx 9.12$$

90. A chord AB of length 24 cm is drawn in a circle of radius 13cm. Find the area of the shaded portion APB.



- A  $13\pi x m^2$   
 B  $\frac{13\pi x}{180} cm^2$

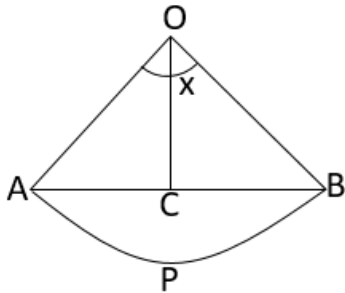
C  $\frac{169\pi x}{360} - 60\text{cm}^2$

D  $\frac{169\pi x}{180} - 60\text{cm}^2$

Answer: C

Explanation:

In  $\triangle OAB$



OC is drawn perpendicular to AB

By symmetry  $AC=CB=AB/2 = 24/2= 12$

$$OA=13$$

$$OC^2 = OA^2 - AC^2$$

$$OC^2 = 13^2 - 12^2=25$$

$$OC=5$$

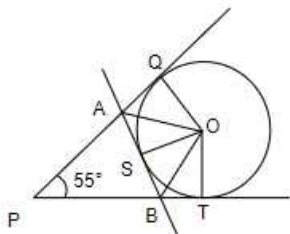
So area of shaded region = Area of sector OAPB - Area of  $\triangle OAB$

$$= \frac{x}{360} * \pi * (OA)^2 - \frac{1}{2} * (AB) * (OC)$$

$$= \frac{x}{360} * \pi * (13)^2 - \frac{1}{2} * (24) * (5)$$

$$= \frac{169\pi x}{360} - 60\text{cm}^2$$

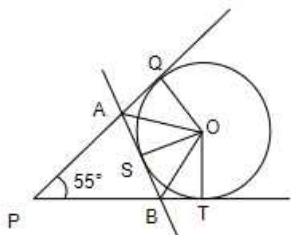
91. Two tangents are drawn from a point P on the circle with centre at O, touching the circle at point Q and T respectively. Another tangent AB touches the circle at point S. If angle QPT =  $55^\circ$ , find the angle AOB = ?



- A  $125^\circ$   
 B  $62.5^\circ$   
 C  $97.5^\circ$   
 D  $95^\circ$

**Answer: B**

**Explanation:**



Since PQ and PT are tangent on circle so  $\angle P Q O = \angle P T O = 90$

In quadrilateral PQOT  $\angle P Q O + \angle P T O + \angle Q O T + \angle T P Q = 360$

$$90 + 90 + \angle Q O T + 55 = 360$$

$$\angle Q O T = 125$$

Since AB touches the circle hence OA and OB are the angle bisector of  $\angle Q O S$  and  $\angle T O S$  respectively.

$$\text{So } \angle A O B = \frac{1}{2} \angle Q O T = \frac{125}{2} = 62.5$$

92. The coordinates of a triangle ABC are A(1, 5), B(-2, 3), and C(0,-4); find the equation of the median AD?

**A**  $7x - 3y + 8 = 0$

**B**  $5x - 4y + 15 = 0$

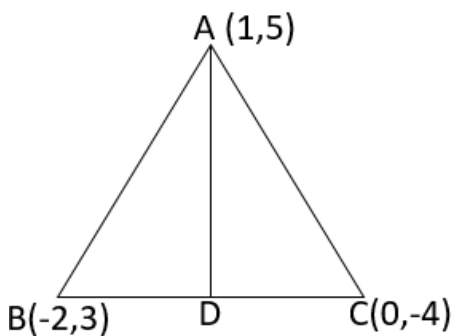
**C**  $x + 3y - 16 = 0$

**D**  $11x - 4y + 9 = 0$

**Answer: D**

**Explanation:**

Given that  $\triangle ABC$



Since AD is the median to BC, D will be mid point of BC. So coordinates of  $D = \left( \frac{-2+0}{2}, \frac{3-4}{2} \right) = \left( -1, \frac{-1}{2} \right)$

Equation of line passing through points A(1,5) and  $D(-1, \frac{-1}{2})$  will be :

$$(y - x_1) = \frac{y_2 - y_1}{x_2 - x_1} (x - x_1) \quad (\text{Here } (x_1, y_1) = (1, 5), (x_2, y_2) = (-1, \frac{-1}{2}))$$

$$(y - 5) = \frac{(\frac{-1}{2}) - (5)}{(-1) - (1)} (x - 1)$$

$$4(y - 5) = 11(x - 1)$$

$$11x - 4y + 9 = 0$$

93. The Drizzle Pvt. Ltd., a squash company has 2 cans of juice. The first contains 25% water and the rest is fruit pulp. The second contains 50% water and rest is fruit pulp: How much juice should be mixed from each of the containers so as to get 12 litres of juice such that the ratio of water to fruit pulp is 3:5?

- A 6 litres, 6 litres
- B 4 litres, 8 litres
- C 5 litres, 7 litres
- D 9 litres, 3 litres

**Answer:** A

**Explanation:**

Let's assume that quantities of juice taken from the first and second cans be x and y respectively.

So we can say that  $x + y = 12$  ...(1)

Net quantity of water in resulting mixture =  $\frac{25}{100} * x + \frac{50}{100} * y$

Ratio of water to pulp in resulting mixture = 3:5 hence the mixture will contain  $\frac{3}{3+5} th = \frac{3}{8} th$  part as water.

$$\frac{25}{100} * x + \frac{50}{100} * y = \frac{3}{8} * (x + y)$$

$$\frac{x}{4} + \frac{y}{2} = \frac{3}{8} * (12) \quad (\text{Since } x+y=12)$$

$$x + 2y = 18 \quad \dots(2)$$

Solving equation (1) and (2) for x and y

$$x=6, y=6$$

94. An overhead tank, which supplies water to a settlement, is filled by three bore wells. First two bore wells operating together fill the tank in the same time as taken by third bore well to fill it. The second bore well fills the tank 10 hours faster than the first one and 8 hours slower than the third one. The time required by the third bore well to fill the tank alone is:

- A 9 hours
- B 12 hours
- C 18 hours
- D 20 hours

**Answer:** B

**Explanation:**

Let the time taken by second bore well be t hours, then the time taken by first bore well will be t + 10 and the time taken by the third bore well will be t - 8. Now since first two bore wells operating together take same time as taken by the third bore well we can say that work done in unit time will be same in both cases :

$$\frac{1}{t+10} + \frac{1}{t} = \frac{1}{t-8}$$

$$\frac{(t)+(t+10)}{(t)(t+10)} = \frac{1}{t-8}$$

$$(2t + 10)(t - 8) = (t)(t + 10)$$

$$t^2 - 16t - 80 = 0$$

$$(t - 20)(t + 4) = 0$$

Since  $t \neq -4$ , hence  $t = 20$

So the time taken by the third bore well will be  $t - 8 = 20 - 8 = 12$  hours

## Section 6

### Instructions [95 - 99 ]

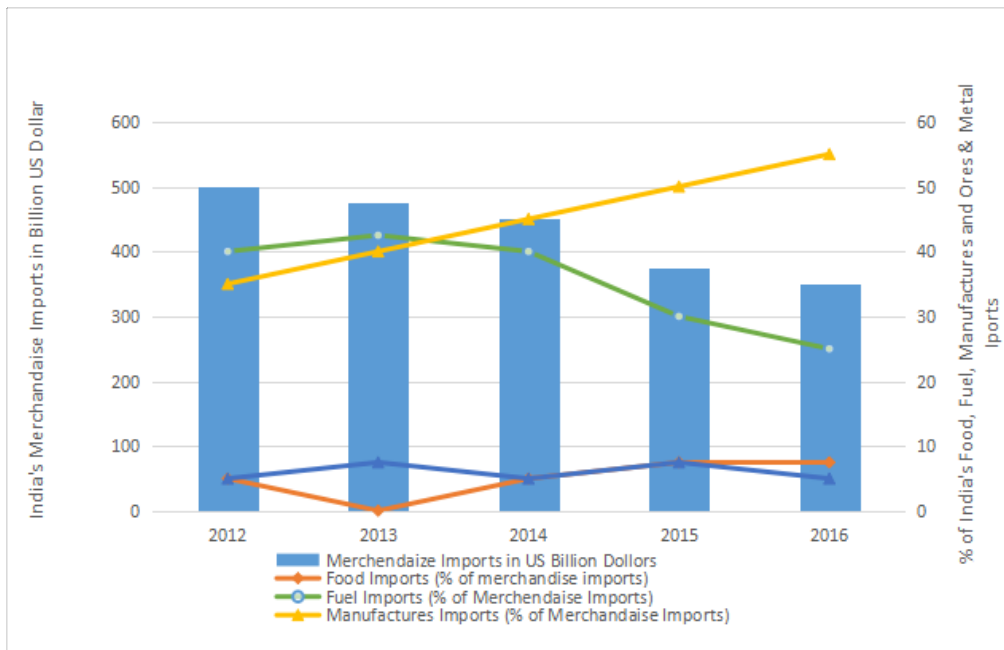
Exhibit 1 as under provides the data of India's Merchandize Imports (Billion US Dollar) on left axis and Percentage of Food: Fuel, Manufactures and Ores & Metals Imports of India's on the right axis. Similarly; Exhibit 2 provides data of India's Merchandize Exports (Billion US Dollar) on left axis and Percentage exports of Food, Fuel, Manufactures and Ores & Metals on the right axis. Attempt the questions in the context of information provided as under:

A.Trade Balance = Import Minus Exports

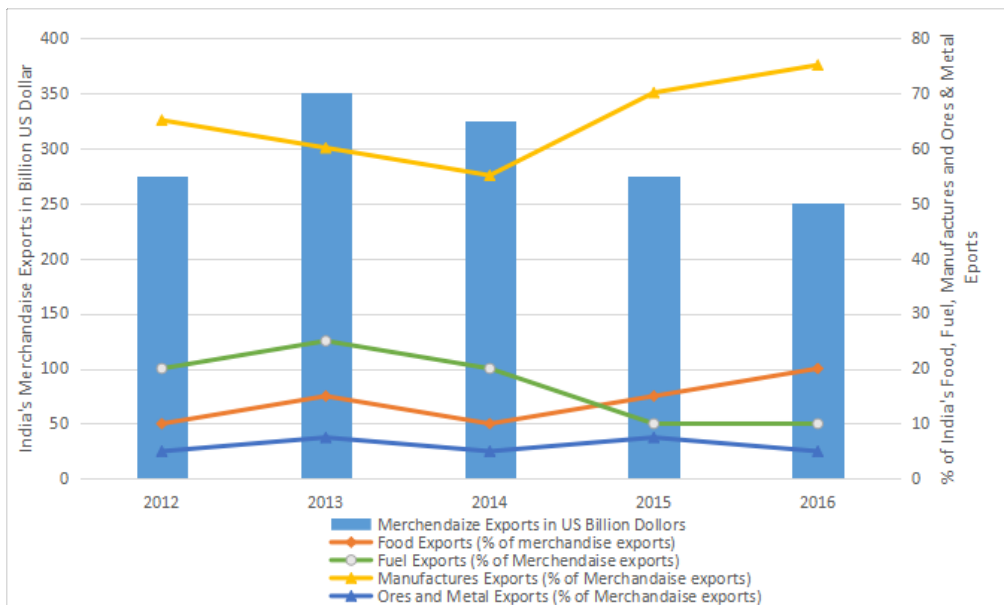
b:Trade Deficit If Imports are more than Exports

c:TradeSurplus= If Exports are more than Imports

**Exhibit 1: India's Total Merchandize Imports (US Dollar in Billion) and Percentage Imports of Food, Fuel, Manufacturers and Ores and Metals (2012 - 2016)**



**Exhibit 2: India's Total Merchandize Exports (US Dollar in Billion) and Percentage Exports of Food, Fuel, Manufacturers and Ores and Metals (2012 - 2016)**



95. What shall be approximate Manufactures exports of India in the year 2016 based on average exports for the period 2012-2016?

- A 221 Billion US Dollar
- B 209 Billion US Dollar
- C 239 Billion US Dollar
- D 236 Billion US Dollar

**Answer:** A

**Explanation:**

Average export for the period 2012-2016 = (Sum of all exports in 2012-2016)/5 = (275+350+325+275+250)/5 = 295 (US dollar in billions)

Manufactures Export of India in 2016 = 75 percent of the exports (from graph) = (295\*75)/100 = 221.25 (US dollar in billions)

96. What is the proportion of positive and negative Manufactures trade balance in the period 2012-2016 ?

- A 3:2
- B 2:3
- C 1:4
- D None of the above

**Answer:** B

**Explanation:**

Trade balance = Imports - Exports

For 2012:

Manufactures Trade balance = Manufactures import - manufactures export

$$= 500*(35/100) - 275*(65/100) = -3.75 \quad \text{(From Graph)}$$

For 2013:

Manufactures Trade balance = 475\*(40/100) - 350\*(60/100) = -20

For 2014:

Manufactures Trade balance = 450\*(45/100) - 325\*(55/100) = 23.75

For 2015:

Manufactures Trade balance = 375\*(50/100) - 275\*(70/100) = -5

For 2016:

Manufactures Trade balance = 350\*(55/100) - 250\*(75/100) = 5

Number of positive trade balances = 2

Number of negative trade balances = 3

Proportion of positive and negative trade balances = 2:3

97. In which year, trade deficit of fuel has been the second lowest?

- A 2015
- B 2014



**C** 2013

**D** 2016

**Answer:** A

**Explanation:**

Trade deficit of fuel = import of the fuel - export of the fuel = total import \* percentage of fuel import - total import \* percentage of fuel export

For year 2013, trade deficit of fuel =  $(475 \times 42) / 100 - (350 \times 25) / 100 = 199.50 - 87.5 = 112$  (US dollar in billions)

For year 2014, trade deficit of fuel =  $(450 \times 40) / 100 - (325 \times 20) / 100 = 180 - 65 = 115$  (US dollars in billions)

For year 2015, trade deficit of fuel =  $(375 \times 30) / 100 - (275 \times 10) / 100 = 112.50 - 27.5 = 85$  (US dollars in billions)

For year 2016, trade deficit of fuel =  $(350 \times 25) / 100 - (250 \times 10) / 100 = 87.5 - 25 = 62.5$  (US dollars in billions)

Trade deficit of fuel is 2nd lowest for year 2015.

98. **Assuming India's imports and exports grow by 10% in 2017 and sectoral share of fuel in both imports and exports grow by 5 percentage basis, what shall be the approximate deficit of fuel trade in the year 2017?**

**A** 88 Billion Fuel Trade Deficit

**B** 74 Billion Fuel Trade Deficit

**C** 85 Billion Fuel Trade Deficit

**D** 78 Billion Fuel Trade Deficit

**Answer:** B

**Explanation:**

India's import in 2017 = import in 2016 \*  $(1 + (10/100))$  (Since growth rate is 10 percent)  
=  $350 * 1.1 = 385$  (USD in billions)

India's export in 2017 = export in 2016 \*  $(1 + (10/100))$  (Since growth rate is 10 percent)  
=  $250 * 1.1 = 275$  (USD in billions)

New sectoral share of fuel in imports =  $25 + 5 = 30$  percent

New sectoral share of fuel in exports =  $10 + 5 = 15$  percent

India's fuel imports in 2017 =  $385 * 30 / 100 = 115.5$  (USD in billion)

India's fuel exports in 2017 =  $275 * 15 / 100 = 41.25$  (USD in billion)

Trade deficit of fuel = Fuel import - fuel export =  $115.5 - 41.25 = 74.25$  (USD in billions)

99. **Assuming India's absolute trade deficit grows by 54 Billion USDollar and exports become 324 Billion US Dollar in the year 2017. What shall be India's absolute imports of food and fuel in 2017 if sectoral composition of food, fuel, manufactures, ores and metals remain same as that of 2016?**

**A** 36 Billion US Dollar & 119.5 Billion USDollar

**B** 38 Billion US Dollar & 117.5 Billion USDollar

**C** 34 Billion US Dollar & 118.5 Billion US Dollar

**D** 38 Billion US Dollar & 116.5 Billion US Dollar

**Answer:** A

**Explanation:**

Trade deficit = Import - Export

India' trade deficit in 2016 = 350 - 250 = 100 (USD in billions)

India' trade deficit in 2017 = 100+54 = 154 (USD in billions)

154 = Import - 324

Hence, import = 324+154 = 478 (USD in billions)

India food import percentage in 2017 = India food import percentage in 2016 = 7.5 (Given)

India food import percentage in 2017 = India food import percentage in 2016 = 25 (Given)

India's food export in 2017 =  $478 \times 7.5 / 100 = 35.85 = 36$  (Approx) (USD in billion)

India's fuel export in 2017 =  $478 \times 25 / 100 = 119.5$  (USD in billion)

**Instructions [100 - 101 ]**

Table as under provides the monthly prices in US Dollars Per Tonne of Barley, Wheat, Maize and Sorghum for the period July2016 to June 2017. Attempt the questions given as under in the context of information provided.

Month	Barley Price	Wheat Price	Maize Price	Sorghum Price
Jul - 16	140	134	162	174
Aug - 16	128	128	150	141
Sep - 16	125	123	148	141
Oct - 16	128	123	153	139
Nov - 16	132	123	151	139
Dec - 16	128	123	153	139
Jan - 17	132	137	160	140
Feb - 17	136	147	163	141
Mar - 17	137	146	159	142
Apr - 17	139	138	156	143
May - 17	142	146	159	144
Jun - 17	141	157	158	167

100. In which of the following month, Wheat has the third highest percentage growth in monthly prices?

- A June 2017
- B February 2017
- C January 2017
- D None of these

**Answer:** B

**Explanation:**

The Prices of wheat has increased only in 4 instances.

January 17 - from Rs.123 to Rs. 137

% increase =  $14/123$

February 17 - from Rs.137 to Rs.147

% increase =  $10/137$

May 2017 - from Rs.138 to Rs.146

% increase =  $8/138$

June 17 -from Rs.146 to Rs. 157

% increase =  $11/146$

We can see that  $8/138$  is the smallest fraction and  $10/137$  is the second smallest fraction. Therefore, the third highest increase in monthly prices happened in February 17 and hence, option B is the right answer.

101. How many times, the double digit growth in monthly prices occur across the commodities in the given time period?

- A** 2
- B** 3
- C** 5
- D** None of the above

**Answer:** A

**Explanation:**

Months in which price is increased from previous months,

For Barley, no period has double digit growth.

For wheat, Dec'16-Jan'17 has double digit growth.

For maize, no period has double digit growth.

For sorghum, May'17-Jun'17 has double digit growth.

Total 2 periods have double digit growth.

**Instructions [102 - 104 ]**

India has 13 major ports, out of which 6 ports are located in Eastern Coast and 6 ports are in Western Coast of India. 13th port is at Port Blair, located in Andaman & Nicobar Island, which has negligible cargo traffic: Table below provides the traffic data bandied by 12 major ports (thousand tonnes) of India for the period 2011-12 to 2015-16. Based on the table, answer the questions:

Ports	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16
<b>1. Kolkatta</b>	43248	39928	41386	46293	50195
<b>2. Paradip</b>	54254	56552	68003	71011	76395
<b>3. Vizag</b>	67420	59038	58504	58004	57033
<b>4. Kamarajar</b>	14956	17885	27337	30251	32206
<b>5. Chennai</b>	55707	53404	51105	52541	50058
<b>6. Chidambaranar</b>	28105	28260	28642	32414	36849
<b>7. Cochin</b>	20090	19845	20886	21595	22099
<b>8. New Mangalore</b>	32941	37036	39365	36566	35582
<b>9. Mormugao</b>	39049	17738	11739	14711	20776
<b>10. Mumbai</b>	56186	58038	59184	61660	61110
<b>11. J.N.P.T</b>	65730	64488	62333	63801	64027
<b>12. Kandla</b>	82501	93619	87005	92497	100051

102. In which year, the average growth of all ports is the highest?

- A** 2014-15
- B** 2015-16
- C** 2013-14
- D** 2012-13

**Answer:** B

**Explanation:**

Total traffic of all ports

for 2011-12,  $43248+54254+67420+14956+55707+28105+20090+32941+39049+56186+65730+82501 = 560187$

for 2012-13,  $39928+56552+59038+17885+53404+28260+19845+37036+17738+58038+64488+93619 = 545831$

for 2013-14,  $41386+68003+58504+27337+51105+28642+20886+39365+11739+59184+62333+87005 = 555489$

for 2014-15,  $46293+71011+58004+30251+52541+32414+21595+36566+14711+61660+63801+92497 = 581344$

for 2015-16,  $50195+76395+57033+32206+50058+36849+22099+35582+20776+61110+64027+100051 = 606381$

Highest average growth = growth/12 (Total no of ports = 12)

For 2012-13, growth is negative.

For 2013-14, growth =  $555489-545831 = 9658$

For 2014-15, growth =  $581344-555489 = 25855$

For 2015-16, growth =  $606381-581344 = 25037$

Here, 2014-15 has highest growth from previous period.

103. Which of the following port has registered the third highest growth in traffic (000) from year 2011-12 to 2015-16?

- A Paradip
- B Chidambaranar
- C Kandla
- D None of these

**Answer: D**

**Explanation:**

Ports with growth in traffic are Kolkata, Paradip, Kamarajar, Chidambaranar, Kochin, New Mangalore, Mumbai and Kandla.

From year 2011-12 to year 2015-16,

Growth for Kolkata = 7000

Growth for Paradip = 22000

Growth for Kamarajar = 17000

Growth for Chidambaranar = 9000

Growth for Kochin = 2000

Growth for New Mangalore = 3000

Growth for Mumbai = 5000

Growth for Kandla = 17500

Since all values are approximate, port with third highest growth is either Kandla or Kamarajar whichever is lower.

Actual Growth for Kamarajar = 17250

Actual Growth for Kandla = 17550

Hence Kamarajar is the port with 3rd highest growth rate.

104. What shall be the total approximate traffic (000) of Kolkata, Vizag and Cochin Port in 2017-18 if traffic continues to grow at the annual growth rate of 10% per annum in each of these ports?

- A 156500
- B 142300
- C 129500
- D 161775

**Answer: A**

**Explanation:**

Total traffic for Kolkata in 2017-18 = Traffic for Kolkata in 2015-16  $\times (1 + (10/100))^2 =$

$$= (\text{Traffic for Kolkata in 2015-16}) * 1.1 * 1.1 =$$

$$= (\text{Traffic for Kolkata in 2015-16}) * 1.21 \quad (\text{Given growth rate is 10 percent})$$

$$\text{Total traffic for Vizag in 2017-18} = (\text{Traffic for Vizag in 2015-16}) * 1.21$$

$$\text{Total traffic for Cochin in 2017-18} = (\text{Traffic for Cochin in 2015-16}) * 1.21$$

$$\text{Sum of total traffic of these ports in 2017-18} = (\text{Sum of total traffic of given ports in 2015-16}) * 1.21$$

$$= (50,195 + 57,033 + 22,099) * 1.21 = 129,327 * 1.21 = 156,500 \text{ (Approx)}$$

### Instructions [105 - 109]

The table below relates to data on Wholesale Price of India (WPI) for the period 2001-02 to 2015-16. **WPI-based inflation** is defined as percentage change in the value of the Index. Based on the table, answer the following questions:

TABLE : WHOLESALE PRICE INDEX - ANNUAL AVERAGE						
Year	Index (Average of weeks)					
1	AC	PA	of which		F & P	MP
			FA	NF		
1	2	3	4	5	6	7
(Base: 1993-94 = 100)						
2001 - 02	161.3	168.4	176.1	152.9	226.7	144.3
2002 - 03	166.8	174.00	179.2	165.4	239.2	148.1
2003 - 04	175.9	181.5	181.5	186.3	254.5	156.5
2004 - 05	187.3	188.1	186.3	187.6	280.2	166.3
(Base: 2004-05 = 100)						
2005 - 06	104.5	104.3	105.4	96.7	113.6	102.4
2006 - 07	111.4	114.3	115.5	102.3	120.9	108.2
2007 - 08	116.6	123.9	123.6	114.4	221.00	113.4
2008 - 09	126	137.5	134.8	129.2	135.00	120.4
2009 - 10	130.8	154.9	155.4	136.2	132.9	123.1
2010 - 11	143.3	182.4	179.6	166.6	148.3	130.1
2011 - 12	156.1	200.3	192.7	182.7	169.00	139.5
2012 - 13	167.6	220.00	211.8	201.9	186.5	147.1
2013 - 14	177.6	241.6	238.9	213.3	205.4	151.5
2014 - 15	181.2	248.8	253.4	212.1	203.5	155.1
2015 - 16	176.7	249.6	262.1	219.5	178.8	153.4
AC: All Commodities						
PA: Primary Articles						
FA: Food Articles						
NF: Non-Food Articles						
F & P: Fuel and Power						
MP: Manufactured Products						
FA and NF are part of PA						

105. What is the approximate percentage change in the WPI of F&P; between 2001-02 and 2015-16?

- A 115.5
- B 122.2
- C 130.7
- D 136.4

**Answer:** B

#### Explanation:

After 2004-05, WPI is calculated based on change from 2004-05.

Therefore, WPI of F & P in 2015-16 = 178.8 percent of WPI in 2004-05 (from table, WPI of F&P)

$$= 280.2 \times 178.8 / 100 = 500.99$$

WPI of F & P in 2015-16 according to base 1990 = 500.99.

WPI of F&P in 2001-02 = 226.7 (from the table)

Percentage change =  $((500.99 - 226.7) / 226.7) \times 100 = 121$  percent

106. **Between 2001-02 and 2015-16, which of the following components- PA, AC, F&P; and MP - have shown the second highest percentage increase in WPI ?**

- A PA
- B AC
- C F&P;
- D MP

**Answer: C**

**Explanation:**

There is a change in the base year used for calculation in 2005.

Therefore, the actual change will be proportional to the product of the change till 2005 and the change till 2015-16.

PA:

WPI in 2001-02 = 168.4

WPI in 2015-16 =  $188.1 \times 2.496 = 469.4976$

AC:

WPI in 2001-02 = 161.3

WPI in 2015-16 =  $187.3 \times 1.767 = 330.9591$

F&P

WPI in 2001-02 = 226.7

WPI in 2015-16 =  $280.2 \times 1.788 = 500.9966$

MP:

WPI in 2001-02 = 144.3

WPI in 2015-16 =  $166.3 \times 1.534 = 255.1042$

MP has not doubled whereas the other 3 have more than doubled during the given period. We can eliminate MP.

AC has increased slightly more than twice its original value. F&P has increased by a percentage greater than AC. PC has increased by a substantial amount over twice its initial value. Therefore, F&P has the second highest percentage increase in WPI and hence, option C is the right answer.

107. **Between 2001-02 and 2015-16 which year has recorded the smallest percentage increase in WPI on FA? .**

- A 2003-04
- B 2004-05
- C 2015-16
- D None of the above

**Answer: A**

**Explanation:**

From given options,

for the year 2003-04, percentage change in WPI on FA =  $((181.5 - 179.2) \times 100) / 179.2 = 230 / 179.2 = 1.28$

for the year 2004-05, percentage change in WPI on FA =  $((186.3 - 181.5) \times 100) / 186.3 = 480 / 186.3 = 2.57$

for the year 2015-16, percentage change in WPI on FA =  $((262.1-253.4)*100)/253.4 = 870/253.4 = 3.43$

By observation, 2003-04 has smallest percentage change because the change increases by a higher factor than the value of FA in the years other than mentioned above.

108. If PA has a 40 percent weight-age in the WPI-based inflation calculation in 2005-06, find the corresponding approximate percentage weights assigned to F&P; and MP in the WPI based inflation calculation for the same year.

- A 12 and 48
- B 15 and 45
- C 18 and 42
- D 20 and 40

**Answer:** A

**Explanation:**

For 2005-06,

$$\text{WPI} = \text{PA}*(40/100) + \text{F\&P}*(x/100) + \text{MP}*((60-x)/100) \quad (\text{x is the percentage weight-age for F\&P})$$

From table,

$$104.5 = 104.3(0.4) + 113.6*(x/100) + 102.4*(0.6 - x/100)$$

$$x = 12$$

weight-age for F&P = 12

weight-age for MP =  $60 - x = 60 - 12 = 48$

109. Which component(s) in WPI has registered a decline more than once between two consecutive years?

- A PA
- B AC
- C F&P;
- D None of the above

**Answer:** C

**Explanation:**

F&P observed a decline during 2008-09 and 2009-10. F&P observed a decline during 2014-15 and 2015-16 as well. Therefore, option C is the right answer.

**Instructions [110 - 114]**

Refer to the Table below. It provides quarterly output data of a company for four years (1998-2001) and its trend calculated through 4-quarter Moving Average Method:

Quarter Wise value of Output and its Trend				
Value of Output				
	Quarter1	Quarter 2	Quarter 3	Quarter 4
1998	65	58	56	61
1999	68	63	63	67
2000	70	59	56	52
2001	60	55	51	58
4 Quarter moving Average (Trend)				
1998			60.38	61.38
1999	62.88	64.5	65.5	65.25
2000	63.88	61.12	58.00	56.25
2001	55.12	55.25		

110. In which year and which quarter the output has second highest positive deviation from its trend?

- A 1999, Quarter 2
- B 1999, Quarter I
- C 2001, Quarter 4
- D None of the above

**Answer: B**

**Explanation:**

Quarters with positive deviations from its trend

1999 Quarter 1, deviation = Value - moving average =  $68 - 62.88 = 5.12$

1999 Quarter 4, deviation =  $67 - 65.25 = 1.75$

2000 Quarter 1, deviation =  $70 - 63.88 = 6.12$

2001 Quarter 1, deviation =  $60 - 55.12 = 4.88$

Clearly, 1999 Quarter 1 is second highest.

111. In which quarter, on an average there is maximum negative deviation of the output from the average value of trend of that quarter?

- A Quarter 3
- B Quarter I
- C Quarter4
- D Quarter2

**Answer: A**

**Explanation:**

Quarters with negative deviation from its trend

Average deviation for any quarter = Sum of all deviations from the quarter / Number of years

By observation, Quarter 1 will be rejected as all its deviations are positive.

Average deviation for quarter 2 =  $((63 - 64.5) + (59 - 61.12) + (55 - 55.25)) / 3 = (-1.5 - 2.12 - 0.25) / 3 = -3.87 / 3$

Average deviation for quarter 3 =  $((56 - 60.38) + (63 - 65.5) + (56 - 58)) / 3 = (-4.38 - 2.5 - 2) / 3 = -8.88 / 3$



Average deviation for quarter 4 =  $((61-61.38) + (67-65.25) + (52-56.25))/3 = (-0.38+1.75-4.25)/3 = -2.88/3$

Quarter 3 has maximum average negative deviation.

112. In which year the quarterly compound average growth rate (CAGR) is the second lowest?

- A 2001
- B 1999
- C 2000
- D 1998

**Answer: D**

**Explanation:**

Compound Average Growth Rate =  $\left[ \frac{\text{Endvalue}}{\text{Startvalue}} \right]^{1/n} - 1$

1998 growth rate =  $\left[ \frac{61}{65} \right]^{1/4} - 1 = -1.57\%$

1999 growth rate =  $\left[ \frac{67}{68} \right]^{1/4} - 1 = -0.36\%$

2000 growth rate =  $\left[ \frac{52}{70} \right]^{1/4} - 1 = -7.4\%$

2001 growth rate =  $\left[ \frac{58}{60} \right]^{1/4} - 1 = -0.84\%$

1998 is the year with second lowest quarterly CAGR.

113. In which year the annual output growth has been the lowest and what is the value?

- A 2001, 8.75%
- B 1999, -6.23%
- C 2000, -9.20%
- D 2000, -5.49%

**Answer: C**

**Explanation:**

Value of output for year

1998 65+58+56+61 = 240

1999 68+63+63+67 = 261

2000 70+59+56+52 = 237

2001 60+55+51+58 = 224

Output Growth for

1999  $((261-240)/240)*100 = 8.75$

2000  $((237-261)/261)*100 = -9.2$

2001  $((224-237)/237)*100 = -5.48$

114. Plot the quarterly output and its trend values. Identify the number of times the trend curve intersects the output curve

- A 5 times
- B 6 times

C 3 times

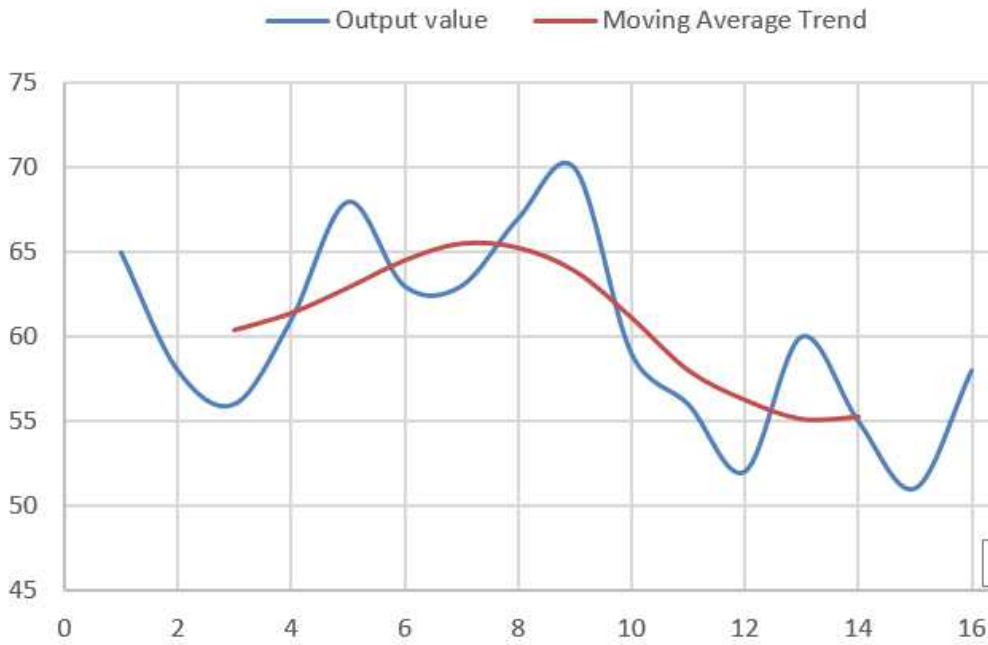
D Cannot be determined, more information required

**Answer:** B

**Explanation:**

To calculate the number of times graphs intersects, we can check number of times the difference of the two values changes sign.

We can also plot a graph to calculate number of times they intersect.



Trend curve intersects output curve 6 times.

Check the number of times where the difference of the actual value and trend value change sign.