

Parmar SSC Live Mock 21

Q. 1	<p>Select the most appropriate option that can substitute the underlined segment in the given sentence.</p> <p>The question <u>was raised for discussion</u> before the members during the assembly session.</p> <p>a) came off </p> <p>b) came round </p> <p>c) came out </p> <p>d) came up </p>
Explanation:	<p>The correct answer is: (4) came up</p> <ul style="list-style-type: none">● Came up – means <i>was raised or brought forward for discussion</i>. <p>Correct sentence: The question came up for discussion before the members during the assembly session.</p> <p>Other options:</p> <ul style="list-style-type: none">● Came off – means <i>to succeed or happen as planned</i>.● Came round – means <i>to regain consciousness or to visit someone</i>.● Came out – means <i>to be published, revealed, or become visible</i>.

<p>Q. 2</p>	<p>Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.</p> <p>A. The other half had been sued at least twice, and Levinson found that just on the basis of those conversations, she could find clear differences between the two groups.</p> <p>B. Recently the medical researcher Wendy Levinson recorded hundreds of conversations between a group of physicians and their patients.</p> <p>C. The surgeons who had never been sued spent more than three minutes longer with each patient than those who had been sued did.</p> <p>D. Roughly half of the doctors had never been sued.</p> <p>a) ABCD </p> <p>b) CABD </p> <p>c) BDAC </p> <p>d) BCAD </p>
<p>Explanation:</p>	<p>The correct order is: (3) BDAC</p> <p>B. Introduces the researcher Wendy Levinson and the study she conducted — a natural starting point.</p> <p>D. Gives the result of that study — dividing doctors into two groups (those sued and not sued).</p> <p>A. Explains what Levinson observed — differences in conversations between these two groups.</p> <p>C. Gives specific detail about time spent by surgeons with patients — supports the claim in sentence A.</p>

Q. 3	<p>Select the most appropriate synonym for the highlighted word. This is credible information provided by the informer.</p> <p>a) dependable ✓</p> <p>b) detachable ✗</p> <p>c) digestible ✗</p> <p>d) commendable ✗</p>
Explanation:	<p>The correct answer is:(1) dependable Credible means <i>believable or trustworthy</i>.</p> <ul style="list-style-type: none"> ● Dependable – <i>reliable, trustworthy</i> — Correct ● Detachable – <i>can be removed</i> ● Digestible – <i>easy to digest</i> (food or info) ● Commendable – <i>praiseworthy</i>
Q. 4	<p>Select the most appropriate ANTONYM of the given word. Conceal</p> <p>a) Reveal ✓</p> <p>b) Hide ✗</p> <p>c) Watch ✗</p> <p>d) See ✗</p> <p>The correct answer is: (1) Reveal Conceal means <i>to hide something</i>.</p> <ul style="list-style-type: none"> ● Reveal – <i>to show or make known</i> — Correct ● Hide – <i>same meaning as conceal</i> ● Watch – <i>to observe</i> ● See – <i>to perceive with the eyes</i>

Q. 5	<p>Select the option that will improve the underlined part of the given sentence. In case no improvement is needed, select 'No improvement required'.</p> <p>The stranger stood quietly <u>for few moments</u>.</p> <p>a) For moments </p> <p>b) For the few moments </p> <p>c) No improvement required </p> <p>d) For a few moments </p>
Explanation:	<p><i>The correct answer is: (4) For a few moments</i></p> <ul style="list-style-type: none"> ● "Few" (without an article) generally means "hardly any" or "not many," implying a negative or insufficient quantity. ● "A few" means "some" or "a small number," implying a positive or sufficient quantity. In this context, the stranger stood for "some" moments, not "hardly any." ● Therefore, the indefinite article "a" is required before "few" to convey the intended meaning of a small but positive number of moments.

Q. 6	<p>Select the most appropriate option to fill in the blank.</p> <p>The termites were just the tip of the _____, but the house was near collapsing in reality.</p> <p>a) mountain </p> <p>b) iceberg </p> <p>c) shoe </p> <p>d) heel </p>
Explanation:	<p><i>The correct answer is: (2) iceberg</i></p> <ul style="list-style-type: none"> ● "just the tip of the iceberg" is an idiom meaning that only a small part of a much larger and often hidden problem is visible.

Q. 7	<p>Select the most appropriate synonym of the italicised word in the given sentence.</p> <p>In most organisations there are <i>predators</i> who take advantage over the meek ones.</p> <p>a) exploiters ✓</p> <p>b) supporters ✗</p> <p>c) philanthropists ✗</p> <p>d) benefactors ✗</p>
Explanation:	<p>The correct answer is: (1) exploiters</p> <ul style="list-style-type: none"> ● "predators" refers to people who take advantage of others, often in a selfish or harmful way. ● Exploiters means those who use others unfairly for their own benefit <p>Other options:</p> <ul style="list-style-type: none"> ● Supporters – Those who help or encourage others ● Philanthropists – People who donate generously for good causes ● Benefactors – People who give help or money to others
Q. 8	<p>Sentences with spelling errors are given. Select the sentence with NO error.</p> <p>a) The body produces more saliva under fluorescent illumination which helps prevent cavities. ✗</p> <p>b) The body produces more saliva under fluorescent illumination which helps prevent cavities. ✓</p> <p>c) The body produces more saliva under fluorescent illuminination which helps prevent cavities. ✗</p> <p>d) The body produces more saliva under fluorescent illuminination which helps prevent cavities. ✗</p>
Explanation:	<p>The correct answer is: (2) The body produces more saliva under fluorescent illumination which helps prevent cavities.</p> <p>Spelling errors in other options:</p> <ol style="list-style-type: none"> 1. prewrent – incorrect spelling of "prevent" 2. cavaties – incorrect spelling of "cavities" 3. illummination – incorrect spelling of "illumination"

<p>Q. 9</p> <p>Select the most appropriate ANTONYM of the underlined word in the given sentence.</p> <p>I <u>confronted</u> the journalist with the evidence.</p> <p>a) Encountered </p> <p>b) Resisted </p> <p>c) Challenged </p> <p>d) Avoided </p>
<p>Explanation:</p> <p>Correct answer: Option 4 – Avoided</p> <ul style="list-style-type: none"> ● Confronted means: <i>to face someone or something boldly or directly, often in a challenging or difficult situation.</i> ● Antonym (opposite) of "confronted" is "avoided" – <i>to stay away from or not face a situation or person.</i> <p>Other options:</p> <ul style="list-style-type: none"> ● 1. Encountered – met or came across ● 2. Resisted – opposed ● 3. Challenged – similar in meaning to "confronted".

<p>Q. 10</p> <p>Select the INCORRECTLY spelt word.</p> <p>a) Drifter </p> <p>b) Haughty </p> <p>c) Hinterland </p> <p>d) Bellweather </p>
<p>Explanation:</p> <p>Correct answer: Option 4 – Bellweather</p> <ul style="list-style-type: none"> ○ The correct spelling is Bellwether (<i>a leader or indicator of trends</i>).

Q. 11	<p>Select the most appropriate option to fill in the blanks. Soon after the doctor gave her the next _____ of the medicine, the patient began to _____. a) dose, dozed  b) dose, doze  c) doze, dose  d) dosed, doze </p>
Explanation:	<p>Correct Answer: Option 2 – dose, doze <ul style="list-style-type: none">● Dose (noun): a measured amount of medicine.● Doze (verb): to sleep lightly.● "Began to" is followed by the base form of the verb.<p>Correct sentence: "Soon after the doctor gave her the next dose of the medicine, the patient began to doze."</p></p>

Q. 12	<p>Select the option that expresses the given sentence in passive voice.</p> <p>Each member of the literary club submitted various literary works for the magazine.</p> <p>a) Various literary works were being submitted by each member of the literary club for the magazine. X</p> <p>b) Various literary works had been submitted by each member of the literary club for the magazine. X</p> <p>c) Various literary works were submitted by each member of the literary club for the magazine. ✓</p> <p>d) Various literary works are submitted by each member of the literary club for the magazine. X</p>
Explanation:	<p>Correct Answer: Option 3 – Various literary works were submitted by each member of the literary club for the magazine.</p> <p>To change to passive voice:</p> <ul style="list-style-type: none"> ● The object of the active sentence ("various literary works") becomes the subject of the passive sentence. ● The verb will be a form of "to be" + the past participle of the main verb ("submitted"). Since the original is simple past and the new subject ("various literary works") is plural, we'll use "were." ● The original subject ("Each member of the literary club") becomes the object of the preposition "by."

Q. 13

Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

- A. My grandmother always went to school with me because the school was attached to the temple.
- B. When we both finished, we would be back together.
- C. While the children sat in rows on either side of the verandah singing the alphabet or prayer in chorus, my grandmother sat inside reading the scriptures.
- D. The priest taught us the alphabet and the morning prayer.

a) ADBC

b) ABDC

c) ACBD

d) ADCB

Correct answer Option 4: ADCB

Explanation:

A – Sets the scene (grandmother goes to school with the child).

D – Describes what the child learns.

C – Describes what the grandmother does at the same time.

B – Shows how both finish together.

Q. 14	<p>Select the most appropriate option to fill in the blank. Stories of dolphins' saving human lives _____ throughout history.</p> <p>a) have been said </p> <p>b) have been told </p> <p>c) told </p> <p>d) had been said </p>
	<p>Correct Answer: 2. have been told</p> <ul style="list-style-type: none"> <input type="radio"/> <i>Throughout history</i> indicates something that has happened many times in the past and still continues — this calls for the present perfect tense. <p>Explanation:</p> <ul style="list-style-type: none"> <input type="radio"/> We tell stories, not say stories. <input type="radio"/> Hence, <i>told</i> is the correct verb. <input type="radio"/> Subject: <i>Stories</i> (plural) <input type="radio"/> Present perfect passive: have been told <p>Use “told” for stories, experiences, narratives.</p> <p>Use “said” for quotes, direct speech.</p>
Q. 15	<p>Select the most appropriate meaning of the given idiom. Call the shots</p> <p>a) To be a follower that makes less important decision </p> <p>b) To be in a position to make decisions that influences a situation </p> <p>c) To be in a powerless position that follows orders </p> <p>d) To be in a neutral position </p>
	<p>Correct Answer: 2. To be in a position to make decisions that influences a situation</p> <ul style="list-style-type: none"> ● Call the shots : To be the person who is in control or makes the important decisions in a situation.

Q. 16	<p>Select the option that express the given sentence in active voice.</p> <p>Was the beggar not being beaten by her?</p> <p>a) Was not she beating the beggar? </p> <p>b) Was she not beating the beggar? </p> <p>c) Was she beating the beggar? </p> <p>d) Was the beggar beaten by her? </p>
	<p>Correct Answer: 2. Was she not beating the beggar?</p> <p>(Passive to Active):</p> <p>Explanation:</p> <ul style="list-style-type: none"> ● Passive: <i>Was + object + not + being + past participle + by + subject</i> ● Active: <i>Was + subject + not + verb+ing + object</i> <p>So,</p> <p>"Was the beggar not being beaten by her?" becomes</p> <p>"Was she not beating the beggar?"</p>

Q. 17	<p>Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.</p> <p>A. He later tried to franchise his restaurant.</p> <p>B. Colonel Harland Sanders' real-life story of being disappointed numerous times in his life and still making his ambition come true late in life is truly motivating.</p> <p>C. He began selling chicken at the age of 40, but his dream of opening a restaurant was repeatedly denied owing to conflicts and wars.</p> <p>D. He is a seventh-grade dropout who tried many things in life but found them bitter.</p> <p>a) BDCA </p> <p>b) BACD </p> <p>c) BDAC </p> <p>d) BCDA </p>
	<p>Correct answer : (1) BDCA</p> <p>Explanation:</p> <ul style="list-style-type: none"> ● B: Introduces Colonel Sanders and his motivational story. ● D: Tells about his early life and struggles. ● C: Talks about when he started selling chicken and his difficulties. ● A: Shows his later success with franchising.

Q. 18	<p>Select the most appropriate idiom to fill in the blank.</p> <p>When I was in Italy for a tour, the tourist guide provided by Azim was _____ . Because of him, the whole tour was successful.</p> <p>a) worth his weight in gold ✓</p> <p>b) armed to the teeth ✗</p> <p>c) burning the midnight oil ✗</p> <p>d) looking for a needle in a haystack ✗</p>
	<p>Correct Answer: (1) worth his weight in gold</p> <ul style="list-style-type: none"> ● worth his weight in gold: <i>Extremely valuable or helpful.</i> ● The guide made the whole tour successful, so he was very helpful and valuable. <p>Explanation: Other options:</p> <ul style="list-style-type: none"> ● Armed to the teeth: Fully equipped with weapons ● Burning the midnight oil: Working late into the night ● Looking for a needle in a haystack: Trying to find something very hard to locate
Q. 19	<p>The following sentence has been split into four segments. Identify the segment that contains a grammatical error.</p> <p>Harish says / that his sister / loves to play / harmonium.</p> <p>a) harmonium ✓</p> <p>b) loves to play ✗</p> <p>c) Harish says ✗</p> <p>d) that his sister ✗</p>
	<p>Correct Answer: 1. harmonium</p> <ul style="list-style-type: none"> ● "harmonium" is incorrect because musical instruments are usually preceded by the definite article "the". <p>Correct sentence: <i>Harish says that his sister loves to play the harmonium.</i></p>

Q. 20	<p>Select the option that can be used as a one-word substitute for the underlined group of words in the following sentence.</p> <p>Denmark has <u>a type of government where power is held by the wealthiest members of society</u>.</p> <p>a) democracy </p> <p>b) plutocracy </p> <p>c) monarchy </p> <p>d) oligarchy </p>
Explanation:	<p>Correct Answer: 2. Plutocracy</p> <ul style="list-style-type: none">● Plutocracy: A form of government where wealthy people hold power.● Democracy: Government by the people, typically through elected representatives.● Monarchy: Rule by a king or queen.● Oligarchy: Government by a small group of people.

Q. 21

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Colonialism had a great impact on the lives of the aboriginal Australians who were eventually (1) _____ by the whites with all power and privilege. The colonisers turned their land into rubbish pits and (2) _____ sites for their own betterment. The aborigines were often (3) _____ as sub-humans with low status and dirty habits. The whites not only displaced the tribes off their homeland but also (4) _____ the beauty and balance of the natural world. An increase in deforestation and destruction of traditional land led (5) _____ like emu, eagle, and kangaroo, among many others to dwindle over time.

Select the most appropriate option to fill in blank number 1.

- a) understood
- b) caught
- c) raised
- d) subjugated

Explanation:

Correct Answer: 4. subjugated

- The sentence refers to how aboriginal Australians were treated during colonialism.
- "Subjugated" means brought under control or domination, especially by conquest.

Q. 22

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Colonialism had a great impact on the lives of the aboriginal Australians who were eventually (1) _____ by the whites with all power and privilege. The colonisers turned their land into rubbish pits and (2) _____ sites for their own betterment. The aborigines were often (3) _____ as sub-humans with low status and dirty habits. The whites not only displaced the tribes off their homeland but also (4) _____ the beauty and balance of the natural world. An increase in deforestation and destruction of traditional land led (5) _____ like emu, eagle, and kangaroo, among many others to dwindle over time.

Select the most appropriate option to fill in blank number 2.

- a) construction ✓
- b) dating ✗
- c) halting ✗
- d) recreation ✗

Explanation:

Correct Answer: Option 1 – construction

- The blank refers to what colonisers used the land for — something useful to them, often involving development.
- Construction sites correct, as colonisers typically developed land for buildings, roads, and settlements.

Q. 23

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Colonialism had a great impact on the lives of the aboriginal Australians who were eventually (1) _____ by the whites with all power and privilege. The colonisers turned their land into rubbish pits and (2) _____ sites for their own betterment. The aborigines were often (3) _____ as sub-humans with low status and dirty habits. The whites not only displaced the tribes off their homeland but also (4) _____ the beauty and balance of the natural world. An increase in deforestation and destruction of traditional land led (5) _____ like emu, eagle, and kangaroo, among many others to dwindle over time.

Select the most appropriate option to fill in blank number 3.

- a) created
- b) perceived
- c) received
- d) led

Explanation:

Correct answer: Option 2 – perceived

- Perceived means "thought of" or "seen as."
- The sentence is talking about how people looked at or thought about the aborigines — they were seen as dirty or of low status.

Q. 24

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.
Colonialism had a great impact on the lives of the aboriginal Australians who were eventually (1) _____ by the whites with all power and privilege. The colonisers turned their land into rubbish pits and (2) _____ sites for their own betterment. The aborigines were often (3) _____ as sub-humans with low status and dirty habits. The whites not only displaced the tribes off their homeland but also (4) _____ the beauty and balance of the natural world. An increase in deforestation and destruction of traditional land led (5) _____ like emu, eagle, and kangaroo, among many others to dwindle over time.

Select the most appropriate option to fill in blank number 4.

- a) destroyed ✓
- b) climbed ✗
- c) utilised ✗
- d) fed ✗

Explanation:

Correct answer: Option 1 – destroyed

- The sentence says that after removing the native people, the whites also damaged nature. So, the correct word is “destroyed.”
- Destroyed means completely damaged or ruined.

Q. 25

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.
Colonialism had a great impact on the lives of the aboriginal Australians who were eventually (1) _____ by the whites with all power and privilege. The colonisers turned their land into rubbish pits and (2) _____ sites for their own betterment. The aborigines were often (3) _____ as sub-humans with low status and dirty habits. The whites not only displaced the tribes off their homeland but also (4) _____ the beauty and balance of the natural world. An increase in deforestation and destruction of traditional land led (5) _____ like emu, eagle, and kangaroo, among many others to dwindle over time.

Select the most appropriate option to fill in blank number 5.

- a) pets
- b) thugs
- c) homies
- d) fauna

Explanation:

Correct answer: Option 4 – fauna

- Fauna means animals of a particular region, which is correct here because emu, eagle, and kangaroo are animals.
- The sentence talks about animals disappearing because of land destruction. So, the correct word is fauna.

Q. 26

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

Some mirrors are Decorative

No Decorative is a plant.

Conclusion:

I . Some mirrors are plants

II . Some Decoratives are Trees

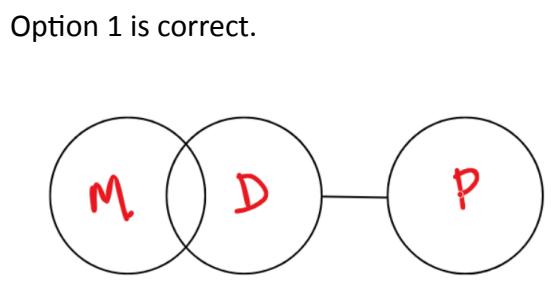
a) Neither conclusion (I) nor (II) follows. 

b) Only conclusion (I) follows. 

c) Both conclusion (I) and (II) follows. 

d) Only conclusion (II) follows. 

Explanation:



Conclusion I : some mirrors are plants ; it is a false statement because there is no relation between mirror and plants in the given statements.

Conclusion II : Some Decoratives are Trees ; there is no mention of trees in the statements , hence it is also a false statement.

Q. 27

Which number will replace the question mark (?) in the following number series?

$$5, 4, 6, 15, 56, ?$$

a) 195

b) 200

c) 275

d) 330

Option 3 is correct.

$$5 \times 1 - 1 = 4$$

$$4 \times 2 - 2 = 6$$

$$6 \times 3 - 3 = 15$$

$$15 \times 4 - 4 = 56$$

$$56 \times 5 - 5 = 275$$

Q. 28

If the signs – and ÷ are interchanged, then which of the following equations would be correct?

a) $8 \times 12 - 6 \div 3 = 12$

b) $12 \div 4 \times 3 - 6 = 10$

c) $4 - 8 \times 16 \div 4 = 6$

d) $8 + 12 - 6 \div 3 = 9$

Option 2 is correct.

Explanation:

$$12 - 4 \times 3 \div 6$$

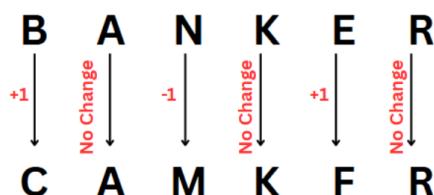
$$12 - 2 = 10$$

Q. 29

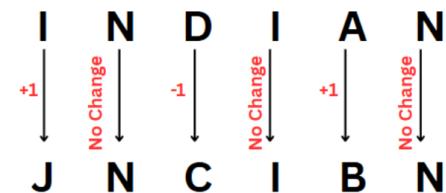
If BANKER is coded as CAMKFR, then how would INDIAN be coded?

- a) JNEIBN X
- b) JNCIBN ✓
- c) HMCIZN X
- d) JMCIZL X

Option 2 is correct.



Explanation:



Q. 30

Select the number-pair in which the two numbers are related in the same way as the two numbers of the pair given below.

10 : 24

- a) 140 : 165 X
- b) 48 : 99 X
- c) 50 : 80 ✓
- d) 70 : 120 X

Option 3 is correct.

$$3^2 + 1 : 5^2 - 1 \quad (5-2 = 2)$$

10 : 24

Similarly,

$$7^2 + 1 : 9^2 - 1 \quad (9 - 7 = 2)$$

50 : 80

Explanation:

Q. 31

Eight friends A, B, C, D, E, F, G and H are sitting around a square table facing the centre.

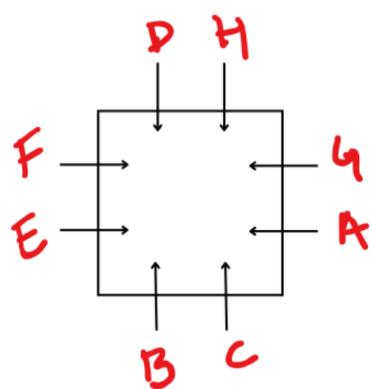
- i. B is facing D and is sitting to the right of E.
- ii. F, who is a neighbour of D, is facing G.
- iii. There are two persons between C and H, and H is not facing E.

Who might be sitting between C and E, if there is only one person between them?

- a) D
- b) A
- c) G
- d) B

Option 4 is correct.

Explanation:



Clearly, B is sitting between E and C.

Q. 32

If BANK is coded as 32 and BRAKE is coded as 42, then how would CLEVER be coded?

- a) 66 
- b) 68 
- c) 75 
- d) 71 

Option 4 is correct.

$$B + A + N + K = 28 ; 28 + 4 \text{ (Because Bank has 4 letters)} = 32$$

$$B + R + A + K + E = 37 ; 37 + 5 \text{ (Because Brake has 5 letters)} = 42$$

Similarly,

$$C + L + E + V + E + R = 65 + 6 \text{ (Because Clever has 6 letters)} = 71$$

Q. 33

A medical representative visited the doctors P, Q, R, S, T and U from Monday to Saturday – only one doctor per day.

- i. He visited U on some days before visiting R and T.
- ii. He visited P on the previous day of visiting S, but not on Thursday.
- iii. He did not visit either Q or S on the last day.
- iv. He visited Q just after U, but not on Tuesday.

Which are the two doctors he visited on the first two days?

- a) S and U
- b) U and Q
- c) P and U
- d) P and S

Explanation:

Option 4 is correct.

According to given statements, we can conclude that

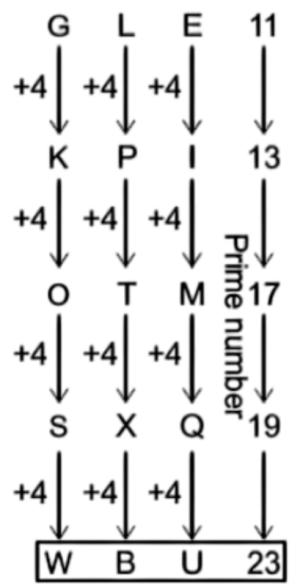
P – Monday
S – Tuesday
U – Wednesday
Q – Thursday
R – Friday
T – Saturday

Hence, he visited P and S in the first two days.

Q. 34	Which of the following terms will replace the question marks (?) in the given series to make it logically complete ? GLE11, KPI13, OTM17, SXQ19, ?
	<p>a) UWB27 X</p> <p>b) WBU23 ✓</p> <p>c) WBU27 X</p> <p>d) UWB23 X</p>

Option 2 is correct.

Explanation:



Q. 35	'Track' is related to 'Athlete' in the same way as 'Classroom' is related to '_____. <p>a) Student ✓</p> <p>b) Teaching X</p> <p>c) Study X</p> <p>d) School X</p>
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Option 1 is correct.

Explanation: A track is where athletes compete or practice. Similarly, a "Classroom" is where "Students" study or learn.

Q. 36

Two statements are followed by two conclusions numbered I and II. Assuming the statements to be true even if they do not conform to real-world knowledge, decide which of the conclusion(s) logically follows/follow from the statements.

Statements:

1. Some plants are trees.
2. All herbs are plants.

Conclusions:

- I . Some plants are herbs.
- II . All herbs are trees is a possibility

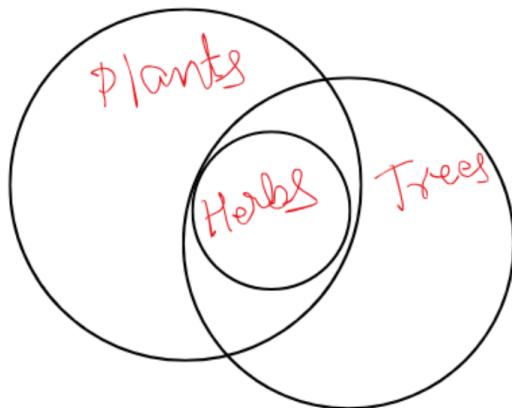
a) Neither conclusion I nor conclusion II follows 

b) Only conclusion II follows 

c) Both conclusions I and II follow 

d) Only conclusion I follows 

Option 3 is correct.



Explanation:

I . Some plants are herbs : it is a true statement because all herbs are plants , therefore some plants can be herbs.

II . All herbs are trees is a possibility : this is a true statement, it is possible that all herbs can be trees.

Q. 37	<p>'Entertainment' is related to 'Television' in the same way as 'Warmth' is related to '_____'. a) Temperature  b) Proximity  c) Woollens  d) Day </p>
Explanation:	<p>Option 3 is correct. Television is a medium for entertainment, so are woolens a source of warmth</p>

Q. 38

Which letter-cluster will replace the question mark (?) in the following series?

CED, FJH, KQN, ?, AKF

a) SZT X

b) QZV X

c) RZV ✓

d) RXU X

Option 3 is correct.

Explanation:

(3)	(5)	(4)
C	E	D
+3	+5	+4
↓	↓	↓
(6)	(10)	(8)
F	J	H
+5	+7	+6
↓	↓	↓
(11)	(17)	(14)
K	Q	N
+7	+9	+8
↓	↓	↓
(18)	(26)	(22)
R	Z	V
+9	+11	+10
↓	↓	↓
(1)	(11)	(6)
A	K	F

Q. 39

What will be the day on 7 May 2072 ?

- a) Saturday
 - b) Monday
 - c) Thursday
 - d) Friday

Day Code

	Sun	Mon	Tue	Wed	Thru	Fri	Sat					
Month Code	0	1	2	3	4	5	6					
Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Normal Year	0	3	3	6	1	4	6	2	5	0	3	5
Leap Year	6	2	3	6	1	4	6	2	5	0	3	5

Explanation:

Century	1600	1700	1800	1900	2000	2100	2200	2300
Code	6	4	2	0	6	4	2	0

Date + Month Code + Century Code + Last 2 digits of year + (last two digits of year ÷ 4)

$$\begin{aligned}\text{Remainder} &= (7 + 1 + 6 + 72 + 18) \div 7 \\&= 6\end{aligned}$$

Therefore, the day on 7 May 2072 will be “Saturday”.

Q. 40

Select the mirror image of the figure marked 'X', when the mirror is placed on the right side of the figure.

A1P1796

a) **æε˥˥ae** ✓

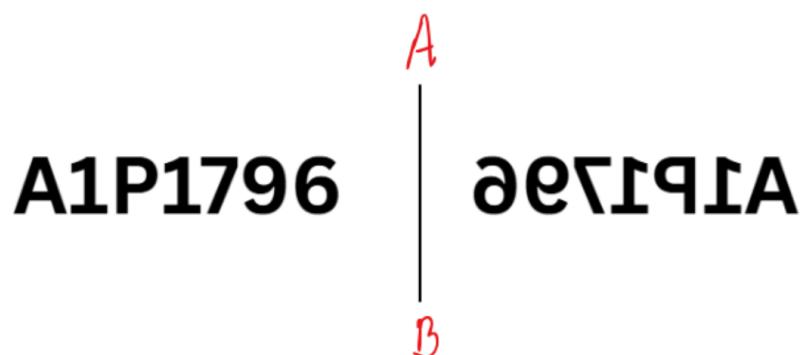
b) **96˥P1796** ✗

c) **æε˥˥ea** ✗

d) **69˥P169** ✗

Correct option is 1.

Explanation:



Q. 41

If a clock shows 2:36 in the mirror, then what is the actual time ?

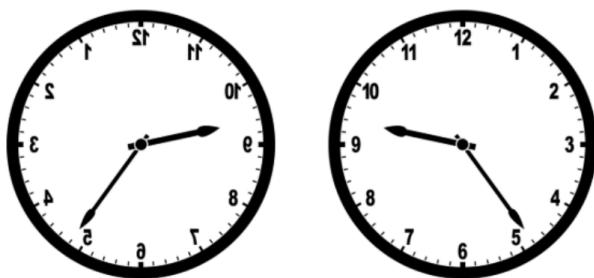
- a) 10:24
- b) 9:24
- c) 8:34
- d) 10:34

Option 2 is correct.

$$11:60 - 2:36$$

$$= 9 : 24$$

Explanation:



Q. 42

Choose the set of numbers that is similar to the following set.

- {28, 45, 53}
- a) {4, 4, 6}
 - b) {16, 111, 113}
 - c) {40, 79, 64}
 - d) {39, 80, 89}

Option 4 is correct.

Explanation:

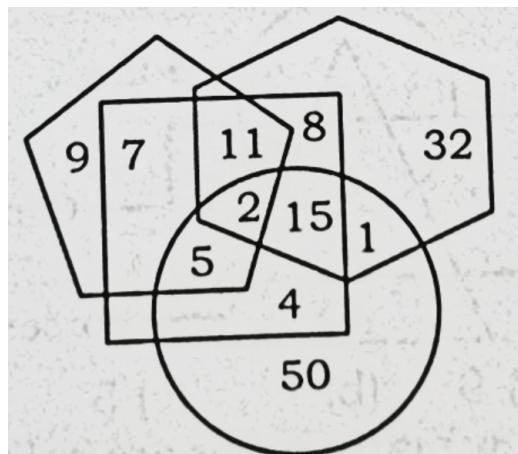
$$28^2 + 45^2 = 53^2 \text{ (Pythagorean Triplets)}$$

Similarly,

$$39^2 + 80^2 = 89^2 \text{ (Pythagorean Triplets)}$$

Q. 43

In the following Venn diagram, the hexagon stands for 'police officers', the pentagon stands for 'graduates', the circle stands for 'Females', and the square stands for Indians. The given numbers represent the number of persons in that particular category.

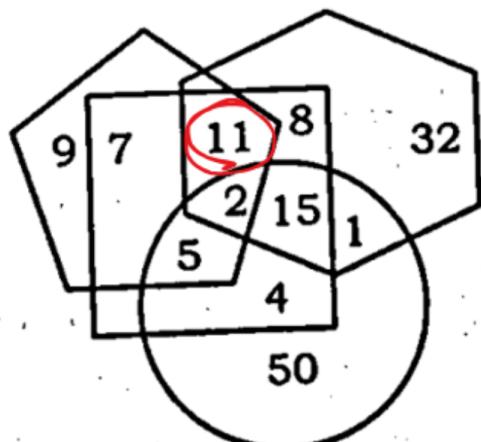


How many Indian Police officers are graduates but not females ?

- a) 13 X
- b) 15 X
- c) 11 ✓
- d) 19 X

Option 3 is correct.

Explanation:



Q. 44

Select the option that represents the letters that when sequentially placed from left to right in the blanks below will complete the letter series.

Z_A_Z_ _ Z A _ Z _

a) ZZAZZA ✓

b) AZAZAZ ✗

c) ZZZAAA ✗

d) AZZAZZ ✗

Option 1 is correct.

Explanation:

Correct sequence is

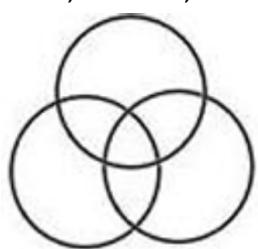
Z Z A Z Z A Z Z A Z Z A

Q. 45

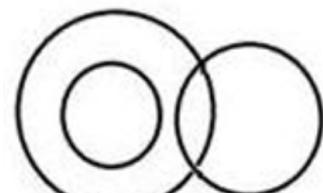
Select the Venn diagram that best illustrates the relationship among the following classes.

Brothers, Fathers, Painters

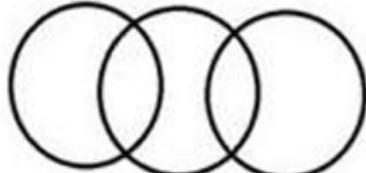
a)



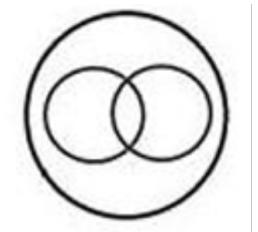
b)



c)

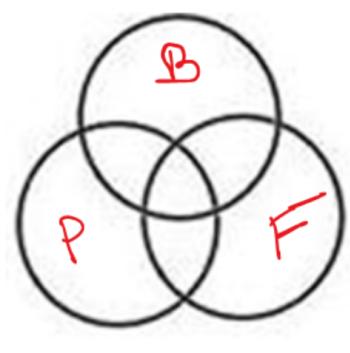


d)



Option 1 is correct.

Explanation:



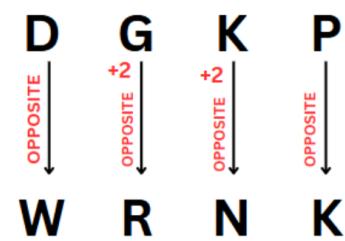
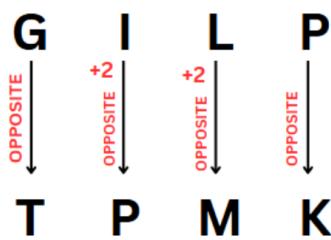
Q. 46

Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

GILP : TPMK :: DGKP : ?

- a) WURN X
- b) WRNK ✓
- c) WTPK X
- d) VQMJ X

Option 2 is correct.



Q. 47

If Cycle is called Aeroplane , Aeroplane is called Satellite, Satellite is called Car, Car is called Rocket and Rocket is called Train.

Which is used in communication ?

- a) Satellite X
- b) Aeroplane X
- c) Cycle X
- d) Car ✓

Option 4 is correct.

Explanation:

Here Satellite is called Car, therefore communication is possible via satellite.

Q. 48

Which number will replace the question mark (?) in the following number series?

5, 7, 9, 11, 18, ?, 34, 35, 59, 67

a) 19 ✓

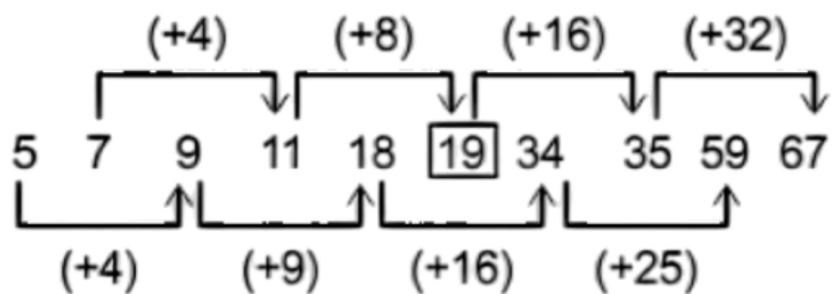
b) 27 ✗

c) 17 ✗

d) 21 ✗

Option 1 is correct.

Explanation:



Q. 49

Three statements are followed by three conclusions numbered I, II and III. Assuming the statements to be true even if they do not conform to real-world knowledge, decide which of the conclusion(s) logically follows/follow from the statements.

Statements:

All peas are vegetables

All carrots are vegetables

All vegetables are green

Conclusion:

I . All peas are green

II. All greens are carrots

III. Some greens are peas.

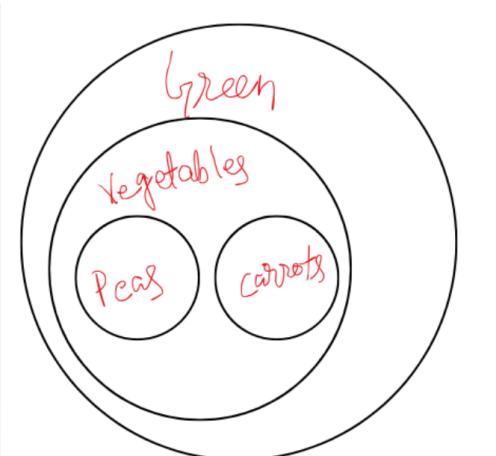
a) Only conclusions II and III follow X

b) Only conclusion III follows X

c) Only conclusions I and III follow ✓

d) All conclusions I, II and III follow X

Option 3 is correct



Explanation:

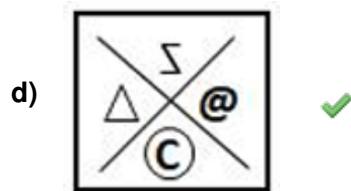
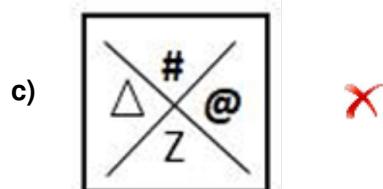
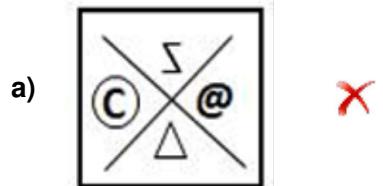
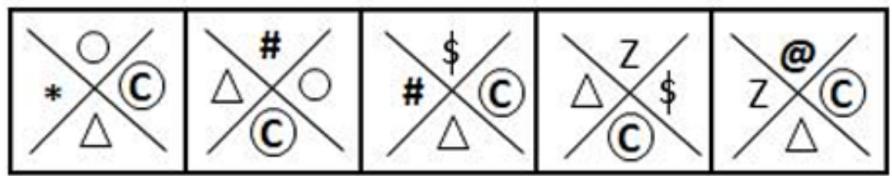
I . All peas are green : It is a true statement because all peas are vegetables and all vegetables are green, therefore all peas are green.

II. All greens are carrots : It is a false statement , because all carrots can be green but all green can not be carrots.

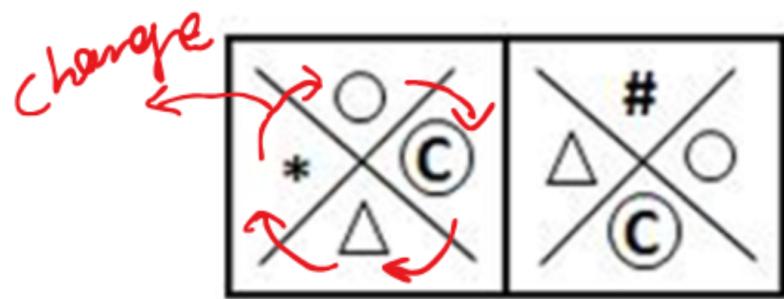
III. Some greens are peas : It is a true statement because all peas are green, therefore some green can be peas.

Q. 50

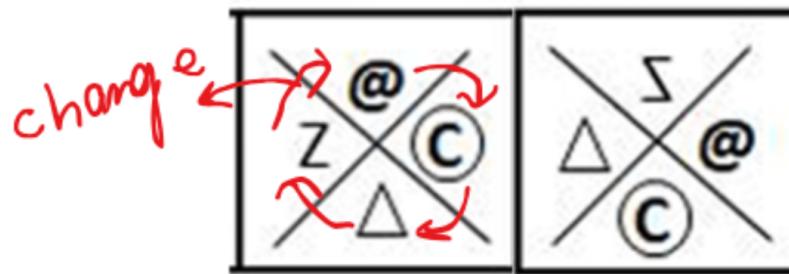
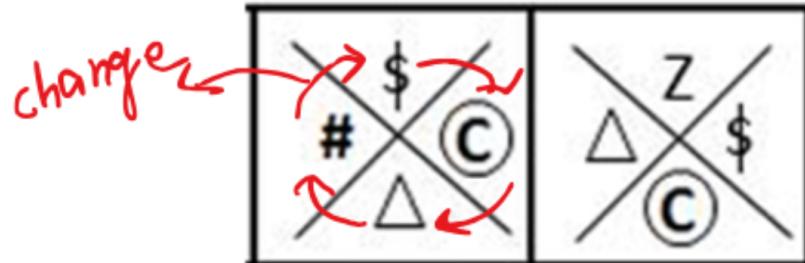
Which option figure would come next in the following figure series?



Option 4 is correct.



Explanation:



Q. 51

In a workshop with 80 students and 10 resource persons, sweets were distributed at the end of the workshop. The amount spent for distributing sweets to each student was 30% of the total number of students and the amount spent towards each resource person was 40% of the total number of students. The total amount spent for sweets distribution in the workshop was:

- a) 2400 X
- b) 2440 X
- c) 2420 X
- d) 2240 ✓

Explanation:

$$\text{1. Students} = 80$$

$$\text{Resource persons} = 10$$

Amount spent for distributing sweets to students

$$= (30\% \text{ of students}) \times (\text{no. of students})$$

$$= \frac{30}{100} \times 80 \times 80$$

$$= 1920$$

Amount spent on resource person for sweets

$$= (40\% \text{ of total students}) \times (\text{no. of Resource person})$$

$$= \left(\frac{40}{100} \times 80 \right) \times 10$$

$$= 320$$

$$\therefore \text{Total Amount spent on sweets} = 1920 + 320$$

$$= 2240$$

Q. 52

A bicycle wheel has a radius of 42 cm. It makes 40 revolutions in 25 seconds. What is its speed (in km/h, up to one decimal place)?

- a) 3.5
- b) 11.6
- c) 15.2
- d) 9.5

$$\begin{aligned}2. \text{ Distance covered in 40 revolution} &= 40 \times 2\pi r \\&= 40 \times 2 \times \frac{22}{7} \times 42 \text{ cm} \\&= \frac{40}{100} \times 2 \times 22 \times 6 \text{ m}\end{aligned}$$

Explanation:

$$\text{Speed} = \frac{\text{Distance}}{\text{time}}$$

$$\begin{aligned}&= \frac{4}{10} \times \frac{2 \times 22 \times 6}{25} \text{ m/sec} \\&= \frac{4}{10} \times \frac{2 \times 22 \times 6}{25} \times \frac{18}{5} \text{ km/hr} \\&= 15.2 \text{ km/hr}\end{aligned}$$

Q. 53

If $(4x - 5)^3 + (x - 2)^3 + 27(2x - 5)^3 = 9(4x - 5)(x - 2)(2x - 5)$, then the value of $\left(x + \frac{3}{2}\right)$ will be:

- a) $3/2$
- b) $1/2$
- c) $7/2$
- d) $5/2$

$$3. (4x-5)^3 + (x-2)^3 + 27(2x-5)^3 = 9(4x-5)(x-2)(2x-5)$$
$$(4x-5)^3 + (x-2)^3 + [3(2x-5)]^3 = 3 \cdot (4x-5)(x-2) \cdot 3(2x-5)$$
$$A^3 + B^3 + C^3 = 3 \cdot A \cdot B \cdot C$$

Explanation:

$$\begin{aligned} &\Rightarrow A+B+C = 0 \\ &\Rightarrow 4x-5+x-2+3(2x-5) = 0 \\ &\Rightarrow 5x-7+6x-15 = 0 \\ &\Rightarrow 11x-22 = 0 \\ &\Rightarrow x = 2 \\ \\ &\therefore x + \frac{3}{2} = 2 + \frac{3}{2} = \frac{7}{2} \end{aligned}$$

Q. 54

Amit bought two woollen jackets for Rs 3500 and Rs 4500 respectively. By the first at a gain of $k\%$ and the second at a loss of $k\%$, he found that the selling price of both is the same. What is the value of k ?

- a) 15% X
- b) 20% X
- c) 12.5% ✓
- d) 10% X

Explanation:

4. A/Q , Selling price of Both jackets are Same

$$(1+k\%)3500 = (1-k\%)4500$$

$$\Rightarrow \left(1 + \frac{k}{100}\right)3500 = \left(1 - \frac{k}{100}\right)4500$$

$$\Rightarrow \frac{1+k/100}{1-k/100} = \frac{45}{35} = \frac{9}{7}$$

$$\Rightarrow 7 + \frac{7k}{100} = 9 - \frac{9k}{100}$$

$$\Rightarrow \frac{16k}{100} = 2$$

$$\Rightarrow k = 12.5\%$$

Q. 55

If the number 645a2879b8 is divisible by both 8 and 9, then the smallest possible values of A and B will be:

- a) A=3, B=4
- b) A=4, B=3
- c) A=2, B=3
- d) A=3, B=2

5. 6 4 5 a 2 8 7 9 b 8 → divisible by
Both 8 and 9.

Divisibility by 8 → last 3 digits should be
divisible by 8.

∴ 9 b 8 → should be divisible by 8.

= 908 → not divisible by 8

918 → not divisible by 8

928 → divisible by 8.

∴ **b=2**

Explanation:

Now, 6 4 5 a 2 8 7 9 b 8

↳ This should be divisible by 9.

divisibility of 9 → sum should be divisible
by 9.

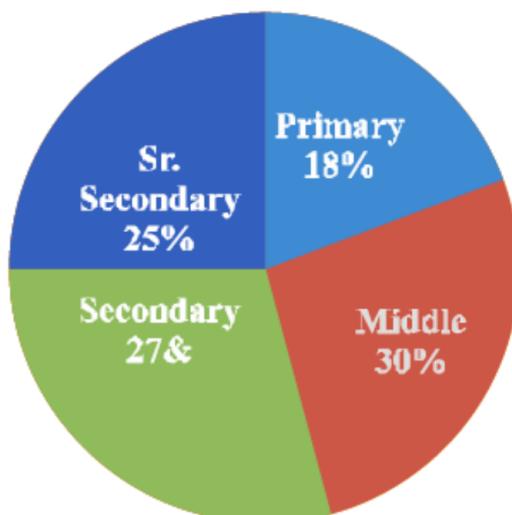
$$\Rightarrow 6+4+5+a+2+8+7+9+2+8 = 6+a = 0/g$$
$$\Rightarrow a = 3$$

 PTS WAY-

: check the value of 'b' from options.
only b=2 , satisfies the divisibility
test of 8.

Q. 56

Students of Primary, Middle, Secondary and Sr. Secondary classes collected donations for a Relief Fund as shown in the given pie chart. If the donation collected from Middle classes was `6,750, then how much more money was collected by Middle classes as compared to Secondary classes?



- a) 6075 X
- b) 1125 X
- c) 675 ✓
- d) 2025 X

6. Middle class = 6750
let total Students be $100x$
 $\Rightarrow 30\% \text{ of } 100x = 6750$
 $\Rightarrow \frac{30}{100} \times 100x = 6750$
 $\Rightarrow 3x = 675$

Middle - Secondary = $(30x - 27x)$
 $= 3x$
 $= 675$

Explanation:

Q. 57

24% of Reena's salary is equal to 38% of Sunita's salary. Veena's salary is two-third of the total salary of Reena and Sunita. If Veena's salary is Rs. 62,000, then Sunita's salary is:

- a) 35000 X
- b) 32000 X
- c) 38000 X
- d) 36000 ✓

7. let Reena's Salary be 'R'
let Sunita's Salary be 'S'

$$\text{A/q, } \frac{24}{100} R = \frac{38}{100} S$$

$$\Rightarrow 12R = 19S$$

let veena's salary be 'V'
 $V = \frac{2}{3}(R+S)$

Explanation:

$$V = \frac{2}{3} \left(\frac{19S}{12} + S \right)$$

$$V = \frac{2}{3} \times \frac{31S}{12}$$

$$V = \frac{31S}{18}$$

$$\Rightarrow 62000 = \frac{31}{18} \cdot S$$

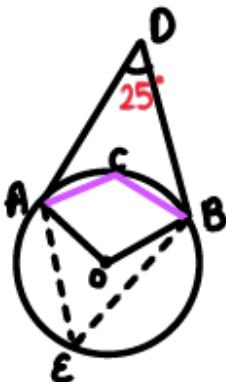
$$\Rightarrow S = 36000$$

Q. 58

A and B are two points on a circle with centre O, C is a point on the minor arc of the circle between points A and B. The tangents to the circle at A and B meet each other at a point D. If $\angle ADB = 25^\circ$, then $\angle ACB$ (in degrees) is equal to:

- a) 105 
- b) 100.5 
- c) 102.5 
- d) 100 

8.



$OA = OB = \text{Radius of Circle}$
 $\Rightarrow \angle OAD = \angle OBD = 90^\circ$
(Angle between Radius and tangent is 90°)

Explanation:

In Quad. AODB,

$$\angle O + \angle A + \angle D + \angle B = 360^\circ$$

$$90^\circ + 25^\circ + 90^\circ + \angle D = 360^\circ$$

$$\Rightarrow \angle D = 155^\circ$$

let E be any point on major arc AB,

$$\Rightarrow \angle AEB = \frac{\angle D}{2} = \frac{155^\circ}{2} = 77.5^\circ$$

ACBE is a cyclic quad.

$$\angle C + \angle E = 180^\circ$$

(sum of opposite angles of a cyclic quad. is 180°).

$$\Rightarrow \angle C + 77.5^\circ = 180^\circ$$

$$\Rightarrow \angle C = 102.5^\circ$$

Q. 59

Find the compound interest (in Rs.) on a sum of Rs. 7,500 for 4 years if the rate of interest is 20% per annum for the first two years and 10% per annum for the next two years. (The interest is compounded annually.)

- a) 5658 X
- b) 5586 X
- c) 6558 X
- d) 5568 ✓

$$g. \quad A = P + \left(1 + \frac{R}{100}\right)^T$$

$$\Rightarrow CI = A - P$$

$$CI = P \left(1 + \frac{20}{100}\right) \left(1 + \frac{20}{100}\right) \left(1 + \frac{10}{100}\right) \left(1 + \frac{10}{100}\right) - P$$

$$= P \times \frac{6}{5} \times \frac{6}{5} \times \frac{11}{10} \times \frac{11}{10} - P$$

$$CI = P \left(\frac{36 \times 121 - 2500}{2500} \right)$$

$$CI = \frac{3500}{2500} (36 \times 121 - 2500)$$

$$CI = 3(4356 - 2500)$$

$$CI = 5568$$

Explanation:

Q. 60

The value of $18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{3}{11} \times \left(5\frac{1}{6} - 3\frac{1}{3} \right) \right\} \right]$ is -

- a) 4 ✓
- b) 5 ✗
- c) 2 ✗
- d) 8 ✗

$$\begin{aligned}
 & 10. \quad 18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{3}{11} \times \left(5\frac{1}{6} - 3\frac{1}{3} \right) \right\} \right] \\
 & = 18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{3}{11} \times \left(\frac{31}{6} - \frac{10}{3} \right) \right\} \right] \\
 & = 18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{3}{11} \times \left(\frac{31}{6} - \frac{20}{6} \right) \right\} \right] \\
 & = 18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{3}{11} \times \frac{11}{6} \right\} \right] \\
 & = 18\frac{2}{11} \div \left[\frac{7}{33} + \left\{ \frac{29}{6} - \frac{1}{2} \times \frac{3}{3} \right\} \right]
 \end{aligned}$$

Explanation:

$$\begin{aligned}
 & = \frac{200}{11} \div \left[\frac{7}{33} + \frac{26}{6} \right] \\
 & = \frac{200}{11} \div \left[\frac{7}{33} + \frac{13 \times 2}{3 \times 11} \right] \\
 & = \frac{200}{11} \div \left[\frac{7}{33} + \frac{143}{33} \right] \\
 & = \frac{200}{11} \times \frac{33}{150} \\
 & = 4
 \end{aligned}$$



B - bracket
O - of
D - division
M - multiplication
A - addition
S - subtraction

Q. 61

A container contains 25 litres of milk. From this container, 5 litres of milk is taken out and replaced by water. This process is further repeated two times. How much milk is there in the container now?

- a) 14.8 X
- b) 11.5 X
- c) 12.8 ✓
- d) 13.5 X

11 5ltr of Milk is taken out from
25ltr of Milk

$$\frac{5}{25} \times 100\% = 20\%$$

Explanation:

milk	water	milk+water
25	0	25
20	5	25
$20 - 20\% \text{ of } 20$ $= 20 - \frac{20}{100} \times 20$ $= 16$	9	25
$16 - 20\% \text{ of } 16$ $= 16 - \frac{20}{100} \times 16$ $= 12.8$	12.2	25

∴ 12.8ltr milk in container after
3 Replacements.

Q. 62

The value of $\frac{3\tan^2 60^\circ + \sec^2 30^\circ - \sin^2 45^\circ}{(\cos 15^\circ + \sin 75^\circ)(\sec 15^\circ + \cosec 75^\circ)}$ is:

- a) $5/12$ X
- b) $65/24$ X
- c) $13/12$ X
- d) $59/24$ ✓

$$\begin{aligned}
 & 12. \quad \frac{3\tan^2 60^\circ + \sec^2 30^\circ - \sin^2 45^\circ}{(\cos 15^\circ + \sin (90-15^\circ))[\sec 15^\circ + \cosec (90-15^\circ)]} \\
 \Rightarrow & \frac{3(\sqrt{3})^2 + (2/\sqrt{3})^2 - (1/\sqrt{2})^2}{[\cos 15^\circ + \sin (90-15^\circ)][\sec 15^\circ + \cosec (90-15^\circ)]} \\
 \Rightarrow & \frac{3(3) + 4/3 - 1/2}{[\cos 15^\circ + \cos 15^\circ][\sec 15^\circ + \sec 15^\circ]}
 \end{aligned}$$

Explanation:

$$\begin{aligned}
 & [\because \sin(90-\theta) = \cos\theta] \\
 & [\because \cosec(90-\theta) = \sec\theta] \\
 \Rightarrow & \frac{9 + 4/3 - 1/2}{2 \cos 15^\circ \cdot 2 \sec 15^\circ} \\
 \Rightarrow & \frac{59/6}{4} = \frac{59}{24} \quad [\because \cos\theta \cdot \sec\theta = 1]
 \end{aligned}$$

Q. 63

The average of the squares of four consecutive odd natural numbers is 201. The average of 7 times of the largest number and 3 times of the smallest number is:

- a) 72 X
- b) 78 X
- c) 76 ✓
- d) 66 X

13. Let the consecutive odd numbers be $(x-2), x, (x+2), (x+4)$.

$$\Rightarrow \frac{(x-2)^2 + x^2 + (x+2)^2 + (x+4)^2}{4} = 201$$

$$\Rightarrow x^2 + 4 - 4x + x^2 + x^2 + 4 + 4x + x^2 + 16 + 8x = 201 \times 4$$

$$\Rightarrow 4x^2 + 8x + 24 = 201 \times 4$$

$$\Rightarrow x^2 + 2x + 6 = 201$$

$$\Rightarrow x^2 + 2x - 195 = 0$$

$$\Rightarrow x^2 + 15x - 13x - 195 = 0$$

$$\Rightarrow x(x+15) - 13(x+15) = 0$$

$$\Rightarrow x = 13$$

Explanation:

$$\therefore \frac{7(x+4) + 3(x-2)}{2} = \frac{10x + 22}{2}$$

$$= 5x + 11$$

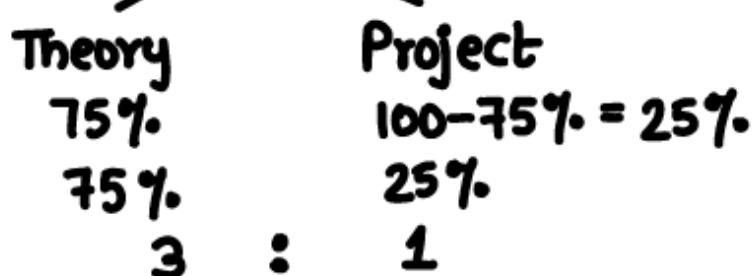
$$= 76$$

Q. 64

In an examination of 180 marks of a subject, 75% marks are allocated for theory and the rest for project work. Veena scored 60% in theory. What percentage of marks must she score in the project to achieve an overall 62% marks in the subject?

- a) 65 X
- b) 66 X
- c) 68 ✓
- d) 64 X

14. Total = 180 marks



Explanation:

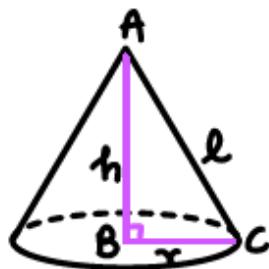
$$\begin{aligned} &\text{let marks in Project work is 'M'} \\ \Rightarrow &\frac{3 \times 60 + 1 \times M}{3+1} = 62 \\ \Rightarrow &180 + M = 62(4) \\ \Rightarrow &180 + M = 248 \\ \Rightarrow &M = 68 \end{aligned}$$

Q. 65

If the diameter of the base of a cone is 18 cm and its curved surface area is $424\frac{2}{7}\text{ cm}^2$, then its height will be: (Take $\pi = 22/7$)

- a) 14 cm 
- b) 12 cm 
- c) 10 cm 
- d) 15 cm 

15.



$\therefore r = \text{Radius of Cone}$
 $\ell = \text{Slant Height of Cone}$

$$\text{CSA of Cone} = \pi r \ell$$

$$\Rightarrow 442 \frac{2}{7} = \pi r \ell$$

$$\Rightarrow \frac{2970}{7} = \frac{22}{7} \cdot r \cdot \ell$$

$$\Rightarrow r \cdot \ell = 135$$

Explanation:

Diameter of cone = 18 cm

$$\therefore \text{Radius} = \frac{18}{2} = 9 \text{ cm}$$

$$\Rightarrow r \cdot \ell = 135$$

$$\Rightarrow 9 \cdot \ell = 135$$

$$\ell = 15$$

Now in $\triangle ABC$,

$$\ell^2 = h^2 + r^2$$

$$h^2 = \ell^2 - r^2$$

$$h^2 = 15^2 - 9^2$$

$$h^2 = (15-9)(15+9) \quad [\because a^2-b^2=(a-b)(a+b)]$$

$$h^2 = 24 \times 6$$

$$h = \sqrt{24 \times 6}$$

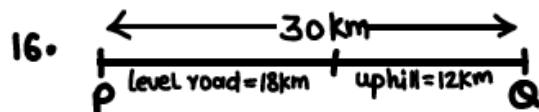
$$h = 2 \times 6$$

$$h = 12 \text{ cm}$$

Q. 66

A man cycles from P to Q, a distance of 30 km, in 2 hours 48 minutes. The road from P is a level road for 18 km and then it is uphill to Q. The man's average speed on the level road is 15 km/h. What is his average uphill speed (in km/h)?

- a) 9 X
- b) 10.5 X
- c) 7.5 ✓
- d) 12 X



$$\text{Average speed} = \frac{\text{distance of level Road}}{\text{time}}$$

$$15 = \frac{18}{\text{time}}$$

$$\Rightarrow \text{time} = \frac{18}{15} \text{ hour}$$

$$= \frac{6}{5} \text{ hrs} = 1\frac{1}{5} \text{ hours}$$

$$= 1 \text{ hr } \frac{1}{5} \times 60 \text{ min}$$

$$= 1 \text{ hr } 12 \text{ min}$$

Explanation:

$$\therefore \text{Total time} = 2 \text{ hr } 48 \text{ mins}$$

$$\text{Time spent on level road} = 1 \text{ hr } 12 \text{ mins}$$

$$\text{Time left} = 1 \text{ hr } 36 \text{ min}$$

$$\text{Avg. speed} = \frac{\text{Uphill distance}}{\text{time}}$$

$$= \frac{12}{\frac{136}{60}} = \frac{12 \times 5}{8} = 7.5 \text{ km/hr}$$

Q. 67

A man buys goods for `8,000. He sells 30% of those goods at a profit of 12% and 40% of the remaining goods at a profit of 25%. At what profit percentage should he sell the remaining goods to gain 30% in the entire transaction (correct to one decimal place)?

- a) 42.6% X
- b) 46.2% ✓
- c) 48.4% X
- d) 31.6% X

17. Let total goods be '100x'
 30% of the goods sold at 12% profit
 40% of Remaining goods sold at 25% profit

$$\rightarrow \frac{30}{100} \times 100x = 30x \quad 12\%$$

$$\rightarrow \frac{40}{100} (100x - 30x) = 28x \quad 25\%$$

$$\rightarrow 100x - 30x - 28x = 42x \quad 'y' \text{ (Let)}$$

$$\therefore \frac{30x \times 12\% + 28x \times 25\% + 42x \times y\%}{100x} = 30\%$$

$$\Rightarrow 360 + 700 + 42y = 3000$$

$$\Rightarrow 42y = 1940$$

$$\Rightarrow y = 46.19\%$$

Explanation:

Q. 68

Simplify the following expression.

$$3\frac{2}{3} - 5\frac{7}{9} \div \frac{1}{3} \times 1\frac{2}{13}$$

$\frac{2}{3}$ of $1\frac{1}{3} \div \frac{1}{3}$

a) $-2\frac{77}{204}$

b) $-29\frac{2}{5}$

c) $-6\frac{1}{8}$

d) $-14\frac{1}{4}$

$$18. \frac{3\frac{2}{3} - 5\frac{1}{9} \div \frac{1}{3} \times 1\frac{2}{13}}{\frac{2}{3} \text{ of } 1\frac{1}{3} \div \frac{1}{3}}$$

$$\Rightarrow \frac{\frac{11}{3} - \frac{52}{9} \div \frac{1}{3} \times \frac{15}{13}}{\frac{2}{3} \text{ of } \frac{4}{3} \div \frac{1}{3}}$$

$$\Rightarrow \frac{\frac{11}{3} - \frac{52}{9} \times 3 \times \frac{15}{13}}{\frac{8}{9} \div \frac{1}{3}}$$

Explanation:

$$\Rightarrow \frac{\frac{11}{3} - 20}{\frac{8}{9} \times 3}$$

$$\Rightarrow \frac{11 - 3 \times 20}{3 \left(\frac{8}{3} \right)}$$



B - bracket
O - of
D - division
M - multiplication
A - addition
S - subtraction

$$\Rightarrow \frac{11 - 60}{8} = -\frac{49}{8}$$

$$= -6\frac{1}{8}$$

Q. 69

The numbers 2, 3, 4 and 5 occur $(2 + 5k)$, $(5k - 7)$, $(2k - 3)$ and $(k + 2)$ times, respectively. The average of the numbers is 2.85. Later on, the number 2 was replaced by 6 in all the places. What is the average of the new numbers?

- a) 2.4 X
- b) 5.25 ✓
- c) 3.85 X
- d) 4.75 X

19. A/Q.

$$\frac{2(2+5k)+3(5k-7)+4(2k-3)+5(k+2)}{2+5k+5k-7+2k-3+k+2} = 2.85$$

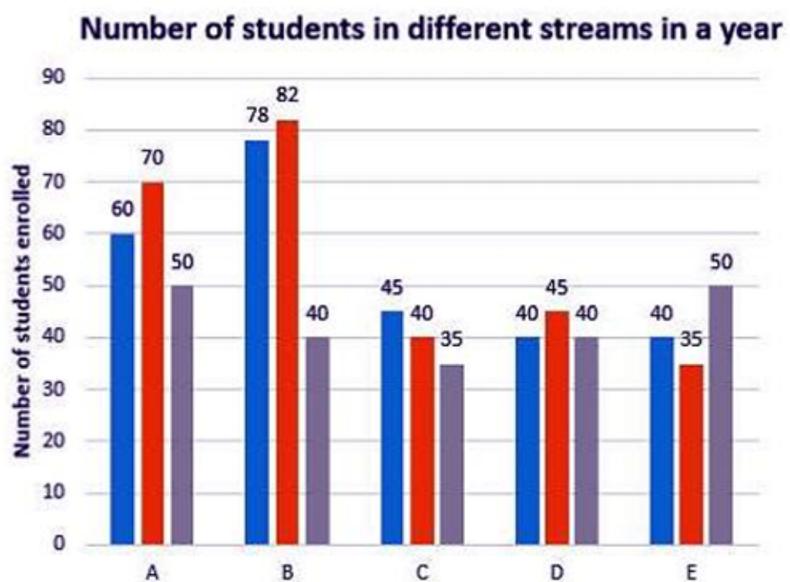
$$\Rightarrow \frac{0.95k + 1.9}{k} = 2$$

Explanation:

$$\begin{aligned}\text{New Avg.} &= \frac{6(2+5k)+3(5k-7)+4(2k-3)+5(k+2)}{2+5k+5k-7+2k-3+k+2} \\&= \frac{-11+58k}{13k-6} \\&= \frac{105}{20} \\&= 5.25\end{aligned}$$

Q. 70

The number of students enrolled in different streams at senior Secondary level in five schools is shown in the bar graph.



In which school is the number of students the least?

- a) C ✓
- b) E ✗
- c) D ✗
- d) A ✗

20. check the options

$$C = 45 + 40 + 35 = 120$$

$$E = 40 + 35 + 50 = 125$$

$$D = 40 + 45 + 40 = 125$$

$$A = 60 + 70 + 50 = 180$$

∴ 'C' has least no. of students among the Given options.

Explanation:

Q. 71

P can complete five-eighths of a work in 15 days and Q can complete three-fourths of the same work in 30 days. They worked together for 8 days and then P left. How much time will Q working alone take to complete the remaining work?

- a) 15 days 16 hours
- b) 18 days 16 hours
- c) 20 days 14 hours
- d) 15 days 8 hours

21. P Complete $(\frac{5}{8})^{\text{th}}$ work in 15 days

$$(\frac{5}{8})^{\text{th}} \rightarrow 15 \text{ days}$$

$$1 \rightarrow 24 \text{ Days}$$

- P takes 24 days to complete the work.
- Q completes $(\frac{3}{4})^{\text{th}}$ work in 30 days

$$(\frac{3}{4})^{\text{th}} \rightarrow 30 \text{ days}$$

$$1 \rightarrow 40 \text{ days}$$

∴ Q takes 40 days to complete the work.

$$\begin{array}{c} P \rightarrow 24 > \boxed{8 \times 3 \times 5} < 5 \\ Q \rightarrow 40 \downarrow \qquad \qquad \qquad 3 \end{array} \begin{array}{l} \text{work done} \\ \text{in 1 day} \end{array}$$

let total work = 120 units

P & Q work for 8 days

$$\begin{aligned} \therefore \text{work completed} &= (5+3) \times 8 \\ &= 8 \times 8 \\ &= 64 \text{ units} \end{aligned}$$

$$\begin{aligned} \text{work left} &= 120 - 64 \\ &= 56 \text{ units} \end{aligned}$$

∴ Q complete the remaining work in $\frac{56}{3} = 18\frac{2}{3}$ days

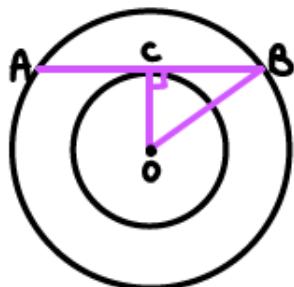
$$\therefore \frac{2}{3} \text{ days} = \frac{2}{3} \times 24 = 16 \text{ hours.}$$

Q. 72

Two concentric circles are of radii 15 cm and 6 cm. What is the length (in cm) of the chord of the larger circle that is tangent to the smaller circle?

- a) $6\sqrt{21}$ ✓
- b) $9\sqrt{21}$ ✗
- c) $3\sqrt{21}$ ✗
- d) $4\sqrt{21}$ ✗

22.



- AB is chord of larger circle and tangent to smaller circle
- 'O' is center of both circle

(T) OC = radius of smaller circle = 6cm

(R) OB = radius of Big circle = 15cm

In $\triangle OCB$,

$$\begin{aligned}OB^2 &= OC^2 + BC^2 \\ \Rightarrow R^2 &= r^2 + (BC)^2\end{aligned}$$

$$\Rightarrow BC = \sqrt{R^2 - r^2}$$

$$\Rightarrow BC = \sqrt{15^2 - 6^2}$$

$$\Rightarrow BC = \sqrt{(15+6)(15-6)}$$

$$\Rightarrow BC = \sqrt{21 \times 9}$$

$$\Rightarrow BC = 3\sqrt{21}$$

$$\therefore AB = 2BC$$

$(\because$ A perpendicular drawn from center of a circle to a chord bisects the chord)

$$\Rightarrow AB = 6\sqrt{21}$$

Explanation:

Q. 73

If the five-digit number 457ab is divisible by 3,7 and 11, then what is the value of a^2+b^2-ab ?

- a) 49 ✓
- b) 36 ✗
- c) 24 ✗
- d) 33 ✗

23. $457ab \Rightarrow$ Divisible by 3,7,11
 $3 \times 7 \times 11 = 231$

let $a = b = 0$

$$\begin{array}{r} 231) 45700 \quad (197 \\ \underline{45507} \\ \underline{\underline{193}} \end{array}$$

Explanation:

$$231 \times 197 = 45507$$

$$231 \times 198 = 45738$$

$$a = 3$$

$$b = 8$$

$$\begin{aligned}\therefore a^2 + b^2 - ab &= 3^2 + 8^2 - 3 \times 8 \\ &= 9 + 64 - 24 \\ &= 49\end{aligned}$$

Q. 74

If $(3p - 5m) = 5$ and $pm = 6$, then what is the value of $(9p^2 - 25m^2)$?

a) $\pm 5 \sqrt{385}$ ✓

b) $30 \sqrt{10}$ ✗

c) $5 \sqrt{385}$ ✗

d) $\pm 30 \sqrt{10}$ ✗

24. $3p - 5m = 5$
 $(3p + 5m)^2 = (3p - 5m)^2 + 4(3p)(5m)$
 $\Rightarrow (3p + 5m)^2 = (5)^2 + 60pm$
 $= 25 + 60 \times 6$
 $= 25 + 360$
 $= 385$

Explanation:

$$\Rightarrow 3p + 5m = \pm \sqrt{385}$$
$$9p^2 - 25m^2 = (3p + 5m)(3p - 5m)$$
$$= (\pm \sqrt{385})(5)$$
$$= \pm 5\sqrt{385}$$

Q. 75

A sum lent at simple interest amounts to Rs 6,240.80 in one year and to Rs 7,563.20 in 4 years. The sum (in Rs) and the rate of interest per annum, respectively are:

- a) 6,200, 8.5%
- b) 5,800, 8.5%
- c) 5,800 7.6%
- d) 6,200, 7.6%

$$25. A = P + I$$

$$\text{A/q., } 6240.80 = P + \frac{P.R.T}{100}$$

$$6240.80 = P + \frac{P.R.I}{100} \quad \textcircled{1}$$

Now,

$$7563.20 = P + \frac{P.R.T}{100}$$

$$7563.20 = P + \frac{P.R.I}{100} \quad \textcircled{2}$$

Subtracting eqⁿ $\textcircled{1}$ from eqⁿ $\textcircled{2}$

$$\Rightarrow \frac{3PR}{100} = 1322.40$$

Explanation:

$$\Rightarrow PR = 44080 \quad \textcircled{3}$$

Putting eqⁿ $\textcircled{3}$ in eqⁿ $\textcircled{1}$,

$$6240.80 = P + \frac{PR}{100}$$

$$\Rightarrow 6240.80 = P + \frac{44080}{100}$$

$$\Rightarrow P = 5800$$

$$\therefore PR = 44080$$

$$\Rightarrow 5800R = 44080$$

$$\Rightarrow R = 7.6\%$$

Q. 76	<p>Which Indian labour law and social security measure aims to guarantee the 'right to work'?</p> <p>a) The Employees' Provident Funds and Miscellaneous Provisions Act </p> <p>b) Indian Institutes of Management Act </p> <p>c) Citizenship Act </p> <p>d) Mahatma Gandhi National Rural Employment Guarantee Act </p>
Explanation:	<p>Correct answer = Option 4 (Mahatma Gandhi National Rural Employment Guarantee Act)</p> <ul style="list-style-type: none"> ● The Employees' Provident Funds and Miscellaneous Provisions Act (1952) = <ul style="list-style-type: none"> ○ This Act provides for the institution of provident funds, pension funds, and deposit-linked insurance for employees in factories and other establishments. It aims to ensure social security for employees after retirement or in case of disability/death. ○ Administered by Employees' Provident Fund Organisation (EPFO) ● Indian Institutes of Management Act (2017) = <ul style="list-style-type: none"> ○ The Act declares the Indian Institutes of Management (IIMs) as institutions of national importance and grants them greater autonomy, including awarding degrees. It governs the structure and management of IIMs. ● Citizenship Act (1955) = <ul style="list-style-type: none"> ○ This Act provides the legal framework for the acquisition, determination, and termination of Indian citizenship. It defines who is an Indian citizen and how citizenship can be acquired or lost. ● Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) (2005) = <ul style="list-style-type: none"> ○ MGNREGA aims to provide at least 100 days of guaranteed wage employment in a financial year to every rural household whose adult members are willing to do unskilled manual work. It is a rights-based employment scheme. ○ Implemented by the Ministry of Rural Development.

Q. 77	<p>What change was observed in agricultural practices after the Green Revolution?</p> <p>a) Shift from cash crops to subsistence farming </p> <p>b) Focus on monoculture of wheat only </p> <p>c) Shift from low-yield to high-yield crops </p> <p>d) Decrease in the use of fertilizers Known for tropical rainforests </p>
<p>Explanation:</p> <p>Correct answer = Option 3 (Shift from low-yield to high-yield crops)</p> <p><u>Green Revolution in India (1960) =</u></p> <ul style="list-style-type: none"> ● Norman Borlaug = Father of the Green Revolution ● Dr. M.S. Swaminathan = Father of the Green Revolution in India ● Launched during the third Five Year Plan. ● Introduced in Punjab, Haryana, and Western Uttar Pradesh as pilot regions ● The Green Revolution was a period of significant agricultural innovation that aimed to increase food production, particularly in developing countries. ● The Green Revolution often encouraged a shift towards commercial farming of staple food grains (like wheat and rice) for markets, rather than solely subsistence farming. ● The Green Revolution also significantly impacted rice production. It led to a focus on monoculture (growing a single crop over a large area) for these high-yielding varieties, but not only wheat. ● Led to a significant increase in the use of chemical fertilizers to support the nutrient demands of the high-yielding crops. ● Improved irrigation systems, including dams and canals, were developed to ensure a reliable water supply for the newly introduced crops, especially in regions with limited rainfall. 	

Q. 78	<p>The lymph is mainly formed from the plasma of blood and it surrounds the cells. The main difference between blood and lymph is:</p> <ul style="list-style-type: none"> a) Lymph does not contain red blood cells ✓ b) Lymph does not contain white blood cells. ✗ c) Lymph contains both red blood cells and white blood cells ✗ d) Lymph does not contain any cells. ✗
<p>Explanation:</p>	<p>Correct answer = Option 1 (Lymph does not contain red blood cells)</p> <ul style="list-style-type: none"> ● Lymph = <ul style="list-style-type: none"> ○ Lymph is a clear, pale-yellow fluid that flows through the lymphatic system, which is a crucial part of your immune system. ○ It's essentially blood plasma that has leaked out of the capillaries into the surrounding tissues, becoming interstitial fluid. This fluid then gets collected by tiny lymphatic vessels, at which point it's called lymph. ○ It plays a cleansing and immune-surveillance role in the body unlike blood, which primarily serves as a delivery and transport system. ○ Composition = <ul style="list-style-type: none"> ▪ Water, Proteins, White Blood Cells (WBCs), Fats, Waste products, Nutrients ○ It plays a crucial role in immune function, fluid balance, and fat absorption. ○ Circulation through an open system (lymph vessels, lymph nodes). ● Blood = <ul style="list-style-type: none"> ○ Blood is a specialized connective tissue that circulates throughout the body via the cardiovascular system. It plays a vital role in transportation, regulation, and protection. ○ Composition = <ul style="list-style-type: none"> ▪ Plasma = The liquid portion of blood (a straw-colored fluid) ▪ Red Blood Cells (RBCs) (Erythrocytes) = Transport oxygen using hemoglobin; also carry some CO₂ ▪ White Blood Cells (WBCs) (Leukocytes) = Defend against infections and foreign bodies ● Platelets (Thrombocytes) = Help in blood clotting (hemostasis)

Q. 79

On the basis of employment conditions, the economy is divided into:

- a) Organized and unorganized sectors ✓
- b) Private and public sectors ✗
- c) Seasonal and disguised sectors ✗
- d) Primary, secondary and tertiary sectors ✗

Explanation:

Correct answer = Option 1 (Organized and unorganized sectors)

- **Organized Sector =**
 - Includes enterprises registered with the government and follows formal labor laws.
 - Offers job security, fixed working hours, regular salaries, and benefits like provident fund, paid leave, health insurance, etc.
 - Ex:- Government jobs, large private companies, banks, schools.
- **Unorganized Sector =**
 - Comprises small and scattered units not registered with the government.
 - Jobs often lack security, fixed hours, and benefits.
 - Workers are usually paid daily or weekly, and there's minimal regulation.
 - Ex:- Daily wage laborers, street vendors, small shop assistants, domestic workers.
- **Private Sector =**
 - The private sector consists of businesses and organizations owned and managed by private individuals or companies, not the government.
 - Driven by profit and competition.
 - Ex:- Private companies, multinational corporations, private schools, hospitals, etc.
- **Public Sector =**
 - The public sector includes industries, enterprises, and services that are owned and operated by the government.
 - Focus on providing services to the public and ensuring social welfare, rather than maximizing profit.
 - Ex: Government-run schools, hospitals, public utilities (water, electricity), railways, defense services, etc.
- **Seasonal Sector =**
 - Jobs in the seasonal sector are linked to specific times of the year, often because of the nature of the work.
- **Disguised Sector =**
 - Disguised unemployment refers to situations where more people are employed than actually needed for the task at hand.
- **Primary Sector =**
 - The primary sector involves the extraction and harvesting of natural resources directly from the Earth.
 - Ex:- Agriculture, fishing, mining, oil extraction, etc.
- **Secondary Sector =**
 - The secondary sector involves the processing and manufacturing of raw materials into finished goods.
 - Ex:- Factories, construction industries, car manufacturing, and

building materials.

● Tertiary Sector =

- Includes jobs that provide services like education, healthcare, finance, hospitality, and information technology.
- Ex:- Retail, banking, tourism, IT services, healthcare, and education.

Q. 80

Solution contains 20 g of solute in 180 g of solvent. If the solvent is water, what is the concentration of the solution in terms of mass by mass percentage?

- a) 11.1%
- b) 22.2%
- c) 10%
- d) 20%

Correct answer = Option 3 (10%)

Mass % = $(\text{Mass of solute}/\text{Mass of solute}+\text{Mass of solvent}) \times 100$

Given:

Mass of solute = 20 g

Mass of solvent (water) = 180 g

Total mass of solution = $20 \text{ g} + 180 \text{ g} = 200 \text{ g}$

Mass % = $(20/200) \times 100 = 10\%$

- Solute = This is the substance that is dissolved in another substance.
- Solvent = This is the substance that does the dissolving, usually present in a larger amount.
- Solution = A homogeneous mixture formed when a solute is dissolved in a solvent.

<p>Q. 81</p> <p>Which one among the following statements regarding sound is correct?</p> <p>a) High pitch sound has high frequency ✓</p> <p>b) High pitch sound has high amplitude ✗</p> <p>c) High pitch sound has high speed ✗</p> <p>d) High pitch sound has low frequency and high amplitude ✗</p>	<p>Correct answer = Option 1 (High pitch sound has high frequency)</p> <ul style="list-style-type: none"> ● Pitch = <ul style="list-style-type: none"> ○ Pitch is how high or low a sound seems to us. ○ Pitch depends on the frequency of the sound wave. ○ The higher the frequency, the higher the pitch. ● Sound = <ul style="list-style-type: none"> ○ Sound is a form of energy that travels through a medium (like air, water, or solids) in the form of vibrations or longitudinal waves. ○ SI Unit = decibel (dB) ● Frequency = <ul style="list-style-type: none"> ○ Frequency is the number of vibrations (or cycles) per second of a sound wave. ○ It is measured in Hertz (Hz). ○ High frequency = more vibrations per second. ○ Low frequency = fewer vibrations per second ● Amplitude = <ul style="list-style-type: none"> ○ Amplitude is the height of the sound wave. ○ It represents the energy or strength of the wave. ○ High amplitude = louder sound ○ Low amplitude = softer sound ○ Amplitude affects loudness, not pitch.
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Q. 82

Match the dances in column A with their states in column B.

Column A Column B

- | | |
|------------------|---------------|
| 1. Bharatanatyam | a. Gujarat |
| 2. Mohiniyattam | b. Tamil Nadu |
| 3. Garba | c. Kerala |
| 4. Sattriya | d. Assam |

a) 1-b, 2-c, 3-d, 4-a

b) 1-c, 2-b, 3-a, 4-d

c) 1-a, 2-c, 3-b, 4-d

d) 1-b, 2-c, 3-a, 4-d

Correct answer = Option 4 (1-b, 2-c, 3-a, 4-d)

Bharatanatyam = Tamil Nadu

- One of the oldest and most traditional classical dance forms of India.
- Known for its grace, fixed upper torso, and intricate footwork.
- Expresses religious themes, mainly stories of Hindu deities through facial expressions (abhinaya) and body movements.
- Performed on Carnatic music.
- Origin from Temples of Tamil Nadu.
- Exponents = Tanjaore Bandhu (Ponaiyah, Vadivelu, Sivanandam, Chinnaia), Meenakshi Sundaram Pillai, Rukmini Devi, Balasaraswati, Mrinalini Sarabhai, Mallika Sarabhai, Alarmel Valli, Yamini Krishnamurthy

Mohiniyattam = Kerala

- "Dance of the enchantress" (Mohini = enchantress)
- Graceful, feminine style dance, emphasizing soft movements and lasya (beauty and emotion).
- Associated with Lord Vishnu in his Mohini form.
- Performed solo by women, often in white and gold costumes.
- Accompanied by Carnatic music and instruments like mridangam, edakka.
- Exponents = Kalamandalam Kalyanikutty Amma, Thankamony, Krishna Panicker, Mukundraja, Sunanda Nair, Smitha Rajan, Radha Dutta, Vijayalakshmi, Gopika Varma, Jayaprabha Menon

Garba = Gujarat

- Popular folk dance performed during Navratri, a festival dedicated to Goddess Durga.
- Performed in a circular formation around a lamp or image of the goddess.
- Involves rhythmic clapping, twirling, and footwork.
- Usually performed by both men and women wearing colorful traditional outfits (e.g., chaniya choli for women, kediya for men).

Sattriya = Assam

- Created by Saint and scholar Srimanta Sankardeva in the 15th century.
- Originally performed by monks in Vaishnavite monasteries (sattras) as a form of devotional dance drama.
- Based on stories from Ramayana, Mahabharata, and Bhagavata Purana.
- Traditional Assamese attire like mekhela chador with religious symbolism.
- Exponents = Jatin Goswami, Prateesha Suresh, Anwesa Mahanta, Ghanakanta Bora, Ankita Sharma

Q. 83

Consider the following statements regarding the royal center in Vijayanagara Empire:

1. The royal center was located in the south-western part of the settlement.
2. It included over 600 temples.
3. About 300 building complexes at the site have been identified as palaces.

Which of the statements given above is/are correct?

- a) 1 only ✓
- b) 2 only ✗
- c) 1, 2 and 3 ✗
- d) 1 and 2 only ✗

Correct answer = Option 1 (1 only)

Statement I is correct =

- The Royal Centre was indeed located in the south-western part of the city of Vijayanagara (modern Hampi).
- It was the heart of political and ceremonial activity.
- This area contained:
 - The Mahanavami Dibba (a ceremonial platform),
 - Audience halls,
 - Water tanks like Stepped Tank,
 - Lotus Mahal, and elephant stables.

Statement II is incorrect = The Sacred Centre, not the Royal Centre, is known for its many temples. While some temples may have existed within or near the Royal Centre, it did not contain over 60 temples.

Statement III is incorrect = Archaeologists have found many large structures in the Royal Centre, but:

Explanation:

- Very few can be confidently identified as palaces.
- Most buildings were audience halls, platforms, or ceremonial pavilions.
- No remains of traditional living quarters or private palaces have been definitively found.

Vijayanagara Empire (1336 – 1646 CE) =

- Founded in 1336 CE by Harihara I and Bukka Raya I, under the guidance of the saint Vidyaranya.
- Located on the banks of the Tungabhadra River in present-day Karnataka.
- Naturally fortified by granite hills and rocky terrain.
- In 1565 CE, the empire suffered a major defeat in the Battle of Talikota against the Deccan Sultanates.
- Architecture =
 - Blend of Dravidian (South Indian) styles and Islamic influences.
 - Gopurams (ornate temple towers)
 - Mandapas (pillared halls)
 - Sculptures and carvings on stone

Q. 84	<p>The Eld's deer subspecies, which is classified as endangered in the IUCN Red List, is found only in the:</p> <p>a) Hemis National Park in Ladakh </p> <p>b) Ranthambore National Park in Rajasthan </p> <p>c) Keibul Lamjao National Park in Manipur </p> <p>d) Pench National Park in Madhya Pradesh </p>
Explanation:	<p>Correct answer = Option 3 (Keibul Lamjao National Park in Manipur)</p> <p>Hemis National Park = Ladakh</p> <ul style="list-style-type: none"> ● Location: Union Territory of Ladakh, in the Trans-Himalayan region. ● Famous For: Snow leopards (highest density in the world), Tibetan wolf, Himalayan marmot. <p>Ranthambore National Park = Rajasthan</p> <ul style="list-style-type: none"> ● Location: Southeastern Rajasthan. ● Habitat: Dry deciduous forests, scrubland, and open meadows. ● Famous For: Bengal tigers, which are the main tourist attraction. ● Deer species present: Spotted deer (chital), sambar deer, nilgai <p>Keibul Lamjao National Park = Manipur</p> <ul style="list-style-type: none"> ● Location: On the Loktak Lake in Manipur, Northeast India. ● World's only floating national park made of phumdis (floating mats of vegetation and organic matter). ● Famous For: Sangai (a subspecies of Eld's deer – <i>Rucervus eldii</i>), also known as the “dancing deer” because of its elegant gait. <p>Pench National Park = Madhya Pradesh</p> <ul style="list-style-type: none"> ● Location: Border of Madhya Pradesh and Maharashtra. ● Habitat: Dry deciduous forest with riverine areas. ● Famous For: Tigers, leopards, and herbivores like sambar, chital, and gaur.

Q. 85

Match the lakes in column A with their countries in column B.

Column-I Column-II

- | | |
|-------------------|-----------------------|
| i. Lake baikal | a.Uganda and Tanzania |
| ii. Lake Superior | b.Canada and America |
| iii.Loch Lomond | c. Scotland |
| iv. Lake victoria | d. Russia |

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

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

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

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

Correct answer = Option 3 (i-d, ii-b, iii-c, iv-a)

Lake Baikal = Russia

- Located in Siberia, Russia.
- It is the deepest and oldest freshwater lake in the world.
- UNESCO World Heritage Site.

Lake Superior = USA and Canada

- One of the Great Lakes of North America.
- It is the largest freshwater lake by surface area in the world.

Loch Lomond = Scotland

- Located in Scotland, UK.
- Largest inland stretch of water by surface area in Great Britain.
- Famous for its scenic beauty and is part of Loch Lomond and The Trossachs National Park.

Lake Victoria = Uganda, Tanzania, Kenya

- Largest lake in Africa and the second-largest freshwater lake in the world by surface area.
- Shared by Uganda, Tanzania, and Kenya.
- Source of the White Nile River.

Explanation:

Q. 86	<p>Silappathikaram (the Jewelled Anklet), the earliest epic poem in Tamil was written in the 5th- 6th Century CE by_____.</p> <p>a) Tolkappiyar </p> <p>b) Ilango Adigal </p> <p>c) Sittalai Sattanar </p> <p>d) Tirumalisai Alwar </p>
Explanation:	<p>Correct answer = Option 2 (Ilango Adigal)</p> <p>Ilango Adigal =</p> <ul style="list-style-type: none"> ● A Jain monk and prince, believed to be the younger brother of Chera king Senguttuvan. ● Author of Silappathikaram, one of the Five Great Epics of Tamil Literature (Aimperumkappiyam). ● Focuses on Kannagi, the ideal wife, and themes of justice, virtue, and fate. <p>Tolkappiyar =</p> <ul style="list-style-type: none"> ● An ancient Tamil grammarian. ● Wrote Tolkappiyam, the earliest extant Tamil grammar text that also includes poetics and sociology. ● His work is not a poem or an epic, but a technical and linguistic treatise. <p>Sittalai Sattanar =</p> <ul style="list-style-type: none"> ● A Buddhist poet who wrote Manimekalai, which is considered a sequel to Silappathikaram. ● Focuses on Manimekalai, the daughter of Kovalan and Madhavi. ● Emphasizes Buddhist philosophy, renunciation, and the transience of life. <p>Tirumalisai Alwar =</p> <ul style="list-style-type: none"> ● One of the 12 Alwars (Vaishnavite saint-poets). ● Composed devotional hymns in praise of Lord Vishnu. ● His works are part of the Naalayira Divya Prabandham, the sacred Tamil canon of the Vaishnavite tradition.

Q. 87	<p>Which dance form of Karnataka involves large drums hung around the necks of men and is known for its religious and battle fervour?</p> <p>a) Kummi </p> <p>b) Dollu Kunitha </p> <p>c) Dandiya </p> <p>d) Ghodemodni </p>
Explanation:	<p>Correct answer = Option 2 (Dollu Kunitha)</p> <ul style="list-style-type: none"> ● Kummi = <ul style="list-style-type: none"> ○ A simple folk dance of Tamil Nadu and Kerala. ○ Performed mostly by women in circles, clapping hands rhythmically. ○ No drums or martial elements. ● Dollu Kunitha = <ul style="list-style-type: none"> ○ A folk dance of Karnataka, especially performed by the Kuruba (shepherd) community. ○ It has religious, ritualistic, and martial origins, often dedicated to Lord Shiva (especially Beeralingeshwara, a form of Shiva). ○ Large drums called Dollu are hung around the necks of male performers. ○ It is known for its powerful, rhythmic drumming, masculine energy, and battle-like formations. ○ Often accompanied by cymbals, gongs, and singing. ● Dandiya = <ul style="list-style-type: none"> ○ A folk dance of Gujarat, performed during Navratri. ○ Involves sticks (dandiyas). ○ It's a playful and colorful dance, not martial in nature. ● Ghodemodni = <ul style="list-style-type: none"> ○ A folk dance of Goa. ○ Means "horse dance", performers wear mock horse costumes and enact battle scenes. ○ Has martial elements

Q. 88

Sandalwood is found in which type of forests in India?

- a) Tropical Thorn Forests and Scrubs 
- b) Tropical Deciduous Forests 
- c) Mangrove Forests 
- d) Tropical Evergreen Forests 

Correct answer = Option 2 (Tropical Deciduous Forests)

- India has a diverse range of forests, classified based on climate, rainfall, soil, and altitude.

Types of forests =

- Tropical Evergreen Forests =
 - Location: Western Ghats, Andaman & Nicobar Islands, parts of Northeast India
 - Rainfall: More than 200 cm annually
 - Dense, multi-layered canopy
 - Trees are evergreen (don't shed leaves all at once)
 - Ex:- Ebony, mahogany, rosewood, rubber, bamboo
- Tropical Deciduous Forests (Monsoon Forests) =
 - Location: Central India, Northern plains, Eastern Ghats, parts of South India
 - Rainfall: 100–200 cm
 - Trees shed leaves in the dry season.
 - Moist Deciduous = higher rainfall, Ex:- sal, teak)
 - Dry Deciduous = less rainfall, Ex:- sandalwood, neem, palash)
- Tropical Thorn Forests and Scrubs =
 - Location: Rajasthan, Gujarat, Punjab, Haryana, Deccan plateau
 - Rainfall: Less than 50 cm
 - Scattered trees and thorny bushes.
 - Ex:- Babul, acacia, khejri
- Mangrove Forests (Tidal Forests) =
 - Location: Coastal areas like Sundarbans (West Bengal), Mahanadi, Krishna, Godavari deltas
 - Grow in saline, marshy coastal waters
 - Roots are above ground (pneumatophores) for respiration
 - Ex:- Sundari, rhizophora, avicennia
- Montane Forests =
 - Location: Himalayan and high-altitude regions
 - Vary with altitude
 - Lower hills: Wet temperate forests (oak, chestnut)
 - Mid-altitude: Coniferous forests (pine, deodar, fir)
 - Higher altitude: Alpine vegetation (shrubs, mosses)
- Littoral and Swamp Forests =
 - Location: Wetlands, river deltas, marshy areas
 - Water-loving trees and shrubs
 - Often merge with mangrove ecosystems

Q. 89	<p>The East India Company lost all its administrative powers with the enforcement of _____.</p> <p>a) The Indian Councils Act, 1892 </p> <p>b) The Government of India Act, 1858 </p> <p>c) The Charter Act of 1853 </p> <p>d) The Regulating Act, 1773 </p>
<p>Explanation:</p> <p>Correct answer = Option 2 (The Government of India Act, 1858)</p> <p>The Government of India Act, 1858 =</p> <ul style="list-style-type: none"> ● Viceroy: Lord Canning ● This Act ended the rule of the East India Company after the Revolt of 1857 (also known as the First War of Indian Independence). ● Passed by the British Parliament, it marked the transfer of administrative control from the East India Company to the British Crown. ● India came under direct control of the British Crown. ● A new position called the Secretary of State for India was created to oversee Indian affairs from London. ● The Governor-General of India became the Viceroy, representing the Crown in India. <p>The Indian Councils Act, 1892 =</p> <ul style="list-style-type: none"> ● Governor-General: Lord Lansdowne ● Expanded the legislative councils in British India. ● Gave Indians limited representation, but did not end East India Company rule (which had already ended in 1858). <p>The Charter Act of 1853 =</p> <ul style="list-style-type: none"> ● Governor-General: Lord Dalhousie ● It was the last of the Charter Acts regulating the East India Company. ● Separated the executive and legislative functions of the Governor-General's council. ● Still allowed the Company to rule India — did not remove its power. <p>The Regulating Act, 1773 =</p> <ul style="list-style-type: none"> ● Governor-General: Warren Hastings (first to hold this title for Bengal) ● First attempt by the British Parliament to regulate the affairs of the East India Company. ● Established the post of Governor-General of Bengal. ● Started government supervision, but did not remove administrative powers of the Company. 	

Q. 90	<p>Identify the INCORRECT statement/s concerning SHGs.</p> <p>I. They include voluntary groups of up to 20 socially and economically homogeneous people.</p> <p>II. There is no need to follow the well-defined rules and bye-laws for SHGs.</p> <p>III. In April 1996, RBI declared SHG-BLP as a priority sector lending activity.</p> <p>a) II and III </p> <p>b) Only I </p> <p>c) Only III </p> <p>d) Only II </p>
Explanation:	<p>Correct answer = Option 4 (Only II)</p> <p>Statement I is correct =</p> <ul style="list-style-type: none"> ● SHGs typically consist of 10–20 members, often women, who come from similar social and economic backgrounds. ● The aim is mutual help, savings, credit, and empowerment. ● This ensures trust and ease of cooperation. <p>Statement II is incorrect =</p> <ul style="list-style-type: none"> ● SHGs are required to follow well-defined rules, procedures, and bye-laws. ● These rules govern membership, meetings, savings, lending procedures, decision-making, etc. ● It helps maintain transparency, discipline, and accountability within the group. <p>Statement III is correct =</p> <ul style="list-style-type: none"> ● In April 1996, the Reserve Bank of India (RBI) included lending to SHGs under Priority Sector Lending (PSL). ● This encouraged banks to provide credit to SHGs and support the SHG–Bank Linkage Programme (SHG-BLP). ● It marked a major boost to financial inclusion and rural development.

<p>Q. 91</p> <p>73rd Amendment Act 1992 makes provisions for a 3-tier system of Panchayati Raj for all the states having population of above:</p> <p>a) 15 lakh </p> <p>b) 5 lakh </p> <p>c) 20 lakh </p> <p>d) 10 lakh </p>	<p>Correct answer = Option 3 (20 Lakh)</p> <p>73rd Constitutional Amendment Act, 1992 =</p> <ul style="list-style-type: none"> ● Enacted on: 24 April 1993 (celebrated as National Panchayati Raj Day) ● Added: Part IX to the Constitution (Articles 243 to 243-O) ● Schedule Added: 11th Schedule (lists 29 subjects for Panchayats) ● Goal: Empower rural local bodies with constitutional backing, elections, and functions <p>Structure of Panchayati Raj Institutions (PRIs) =</p> <ul style="list-style-type: none"> ● Gram Panchayat = Village level <ul style="list-style-type: none"> ○ Most basic unit ○ Directly elected by village people ○ Headed by Sarpanch ● Panchayat Samiti = Intermediate level (Block or Taluka) <ul style="list-style-type: none"> ○ Represents a group of villages ○ Members elected and include MLAs/MPs from that area ○ Coordinates between Gram Panchayats and Zila Parishad ● Zila Parishad = District level <ul style="list-style-type: none"> ○ Apex body in rural areas ○ Covers the whole district ○ Coordinates and supervises plans and implementation across blocks ● 3-tier for above 20 lakh people, ● 2-tier for less than 20 lakh
<p>Explanation:</p>	

Q. 92	<p>Who among the following was primarily an integral part of the Indian National Army (INA)?</p> <p>a) Rabindranath Tagore </p> <p>b) Subhas Chandra Bose </p> <p>c) Chittaranjan Das </p> <p>d) Abanindranath Tagore </p>
<p>Explanation:</p> <p>Correct answer = Option 2 (Subhas Chandra Bose)</p> <p>Rabindranath Tagore =</p> <ul style="list-style-type: none"> ● A poet, philosopher, and Nobel Laureate in Literature (1913). ● Known for writing Jana Gana Mana (India's national anthem). <p>Subhas Chandra Bose =</p> <ul style="list-style-type: none"> ● Popularly known as Netaji. ● Elected Congress President twice (1938, 1939). ● Slogans = <ul style="list-style-type: none"> ○ "Give me blood, and I will give you freedom." ○ "Jai Hind" – which later became India's national salutation. <p>INA (Azad Hind Fauj) =</p> <ul style="list-style-type: none"> ● Formed in 1942 by Captain Mohan Singh and Rash Behari Bose from Indian POWs (prisoners of war) captured by the Japanese during WWII. ● Later taken over and expanded by Subhas Chandra Bose in 1943. ● Took charge of INA, renamed it the Azad Hind Fauj (Free Indian Army). <p>Chittaranjan Das =</p> <ul style="list-style-type: none"> ● Defend Aurobindo Ghosh in the Alipore Bomb Case. ● Founded the Swaraj Party with Motilal Nehru. <p>Abanindranath Tagore =</p> <ul style="list-style-type: none"> ● A painter and artist, nephew of Rabindranath Tagore. ● Founder of the Bengal School of Art. 	

Q. 93	<p>Which Governor of Goa wrote the book 'Heavenly Islands of Goa', released in April 2024?</p> <p>a) PS Sreedharan ✓</p> <p>b) Bhagat Singh Koshyari ✗</p> <p>c) Mridula Sinha ✗</p> <p>d) Satya Pal Malik ✗</p>
Explanation: <p>Correct answer = option 1 (PS Sreedharan)</p> <p>PS Sreedharan = Governor of Goa</p> <ul style="list-style-type: none"> ● Books = <ul style="list-style-type: none"> ○ "Heavenly Islands of Goa" ○ Heritage Trees of Goa. ○ Discovery of Vaman Vriksha Kala <p>Bhagat Singh Koshyari = Governor of Maharashtra (2019–2022)</p> <ul style="list-style-type: none"> ● Books = <ul style="list-style-type: none"> ○ "Loktantra Aur Vishwavidyalaya": A book that talks about the relationship between democracy and universities. <p>Mridula Sinha = Former Governor of Goa (served from 2014 to 2019).</p> <ul style="list-style-type: none"> ● Books = <ul style="list-style-type: none"> ○ "Bairagi": A novel that explores Indian society and politics through the life of a person who doesn't adhere to conventional norms. ○ "Chhattisgarh Ki Gatha": A book on the culture and history of Chhattisgarh. <p>Satya Pal Malik = Governor of Goa (2019–2020), also served as the Governor of Jammu and Kashmir, and Bihar</p> <ul style="list-style-type: none"> ● His tenure in Jammu and Kashmir was significant as it coincided with the revocation of Article 370. 	

<p>Q. 94</p> <p>One of the classical instruments of India, the Tambura (also called Tanpura in north India), is made of how many metal strings?</p> <p>a) 3 </p> <p>b) 9 </p> <p>c) 6 </p> <p>d) 4 </p>	<p>Correct answer = Option 4 (4)</p> <p>Some Classical String Instruments =</p> <ul style="list-style-type: none"> ● Tanpura / Tambura = <ul style="list-style-type: none"> ○ Strings: 4 or 5 (metal) ○ Tradition: Hindustani & Carnatic ○ Function: Provides drone (background sound) ○ Played by: Plucking open strings ● Sitar = <ul style="list-style-type: none"> ○ Strings: 18–20 (6–7 main + 11–13 sympathetic) ○ Tradition: Hindustani ○ Function: Melody + resonance ○ Features: Fretted, curved frets, long neck, resonating strings ● Veena (Saraswati Veena) = <ul style="list-style-type: none"> ○ Strings: 7 (4 main + 3 drone) ○ Tradition: Carnatic ○ Function: Melody + drone ○ Features: Large gourd body, played with a plectrum ● Rudra Veena = <ul style="list-style-type: none"> ○ Strings: 7 (4 main + 3 drone) ○ Tradition: Hindustani (Dhrupad) ○ Function: Melody ○ Features: Two large gourds, deep tone ● Sarod = <ul style="list-style-type: none"> ○ Strings: 17–25 ○ Tradition: Hindustani ○ Function: Melody ○ Features: Fretless, metal fingerboard, rich sound ● Santoor = <ul style="list-style-type: none"> ○ Strings: ~100+ (25 bridges × 4 strings) ○ Tradition: Hindustani (Kashmir) ○ Function: Melody ○ Played with: Wooden mallets (not plucked)
<p>Explanation:</p>	

Q. 95	<p>Which one of the following best describes BRICS?</p> <p>a) A group of five nuclear powers X</p> <p>b) A group of five industrialized nations X</p> <p>c) A group of five major emerging economies ✓</p> <p>d) A group of five potentially strong UN Security Council members from the Countries of the Global South X</p>
Explanation:	<p>Correct answer = option 3 (A group of five major emerging economies)</p> <p>BRICS =</p> <ul style="list-style-type: none"> ● The BRICS Summit is a meeting of the heads of state or government from five major emerging economies: Brazil, Russia, India, China, and South Africa. ● The term "BRIC" was coined by economist Jim O'Neill in 2001. ● South Africa joined in 2010, making it BRICS. ● Objectives: <ul style="list-style-type: none"> ○ Promote economic cooperation, trade, and development among member nations. ○ Reform global financial and governance institutions like the IMF and World Bank. ● 2009: The first BRIC (BRICS minus South Africa) summit was held in Yekaterinburg, Russia. ● 2010: South Africa was accepted as a full member, and the group became BRICS. ● 2011: South Africa attended its first BRICS summit in China. ● 2014: The Fortaleza Declaration was adopted at the 6th BRICS Summit, and it marked the establishment of the New Development Bank (NDB) ● New Development Bank (NDB) = <ul style="list-style-type: none"> ○ Also called The BRICS Bank ○ Headquarters: Shanghai, China ○ Established: 2014 (at the 6th BRICS Summit in Fortaleza, Brazil) ○ Provides funding for infrastructure and sustainable development projects in BRICS and other developing countries. ○ Alternative to institutions like the World Bank and IMF.

Q. 96

Which of the following statements is true regarding electromagnetic waves?

- a) They are longitudinal waves. X
- b) They require a medium to propagate. X
- c) They travel at different speeds in vacuum X
- d) They are transverse waves and do not require a medium. ✓

Correct Answer = Option 4 (They are transverse waves and do not require a medium)

- Electromagnetic (EM) waves consist of oscillating electric and magnetic fields perpendicular to each other and to the direction of wave propagation.
 - They are transverse waves.
 - They do not require a medium, they can travel through a vacuum (e.g., light from the sun reaches Earth through space).

Explanation:

- In vacuum, all EM waves travel at the same speed $\approx 3 \times 10^8$ m/s.
- Longitudinal waves involve oscillations parallel to the direction of wave propagation.
 - Ex - sound waves

Increasing order of frequency-

1. **Radio Waves** (Lowest frequency, longest wavelength)
2. **Microwaves**
3. **Infrared (IR) Radiation**
4. **Visible Light**
5. **Ultraviolet (UV) Radiation**
6. **X-rays**
7. **Gamma Rays** (Highest frequency, shortest wavelength)
 - # Trick- Rich Men Invented Very Unusual X-ray Guns.

Q. 97	<p>Which of the following gases is responsible for the pungent smell in fertilizers and contributes to soil nutrition?</p> <p>a) Methane </p> <p>b) Ammonia </p> <p>c) Carbon dioxide </p> <p>d) Oxygen </p>
<p>Explanation:</p> <ul style="list-style-type: none"> Correct Answer = Option 2 (Ammonia) <ul style="list-style-type: none"> ● Ammonia (NH_3) is commonly used in fertilizers. ○ It has a pungent smell and is a rich source of nitrogen, which is essential for plant growth. 	<ul style="list-style-type: none"> Correct Answer = Option 2 (Ammonia) <ul style="list-style-type: none"> ● Ammonia (NH_3) is commonly used in fertilizers. ○ It has a pungent smell and is a rich source of nitrogen, which is essential for plant growth. <p>Explanation:</p> <ul style="list-style-type: none"> ○ It is widely used in the production of urea and ammonium salts. <ul style="list-style-type: none"> ▪ Urea= $\text{NH}_2\text{-CO-NH}_2$ ● Methane = It's a greenhouse gas but not directly responsible for fertilizer smell or a direct primary nutrient for plants in this form. ● Carbon dioxide = It is odorless and essential for photosynthesis.

Q. 98	<p>The Shimla Agreement between India and Pakistan was signed in the aftermath of which major event?</p> <p>a) Kargil War </p> <p>b) Indo-Pak War of 1947 </p> <p>c) Indo-Pak War of 1965 </p> <p>d) Indo-Pak War of 1971 </p>
	<p>Correct Answer = Option 4 (Indo-Pak War of 1971)</p> <ul style="list-style-type: none"> ● The Shimla Agreement was signed on 2 July 1972 between Indira Gandhi (then Prime Minister of India) and Zulfikar Ali Bhutto (then Prime Minister of Pakistan). ● It was signed after the 1971 Indo-Pak war, which led to the creation of Bangladesh. <p>Explanation:</p> <ul style="list-style-type: none"> ● India suspends Indus Waters Treaty with Pakistan over Pahalgam Terror Attack. <ul style="list-style-type: none"> ○ The Indus Waters Treaty (IWT) = A water-distribution treaty between India and Pakistan ○ Brokered by the World Bank. ○ It was signed in Karachi on September 19, 1960 by then Indian PM Jawaharlal Nehru and Pakistani President Ayub Khan.

Q. 99	<p>At the Miami Open 2025 Lawn Tennis Tournament, which pair clinched the Women's Doubles title?</p> <p>a) Coco Gauff and Jessica Pegula </p> <p>b) Barbora Krejcikova and Katerina Siniakova </p> <p>c) Mirra Andreeva and Diana Shnaider </p> <p>d) Storm Hunter and Elise Mertens </p>
Explanation:	<p>Correct Answer = Option 3 (Mirra Andreeva and Diana Shnaider)</p> <p>The Miami Open 2025 (Lawn Tennis Tournament)-</p> <ul style="list-style-type: none"> ● Men's Singles title = Jakub Mensik ● Women's Singles title = Aryna Sabalenka ● Men's Doubles title = Marcelo Arevalo and Mate Pavic ● Women's Doubles title = Mirra Andreeva and Diana Shnaider
Q. 100	<p>At the ISSF World Cup 2025, held in Buenos Aires, Argentina, who won the gold medal for India in the Women's 50m Rifle 3 Positions event?</p> <p>a) Tejaswini Sawant </p> <p>b) Suruchi Singh </p> <p>c) Sift Kaur Samra </p> <p>d) Gayatri Nithyanandam </p>
Explanation:	<p>Correct Answer = Option 3 (Sift Kaur Samra)</p> <p>The ISSF World Cup 2025-</p> <ul style="list-style-type: none"> ● Held = Buenos Aires, Argentina ● China topped = 11 medals (5 gold, 3 silver, 3 bronze) ● India in second place = 8 medals (4 gold, 2 silver, 2 bronze) <p><u>Indian Gold Medal Winners-</u></p> <ul style="list-style-type: none"> ● Sift Kaur Samra (Women's 50m Rifle 3 Positions) ● Rudrankksh Patil (Men's 10m Air Rifle) ● Suruchi Singh (Women's 10m Air Pistol) ● Vijayveer Sidhu (Men's 25m Rapid Fire Pistol)