ଓଡ଼ିଶାର ସମସ୍ତ ପୂର୍ବ ବର୍ଷର ପ୍ରଶ୍ନ ଉତ୍ତର ପାଇଁ

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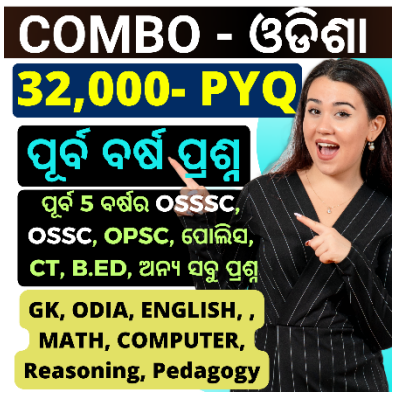

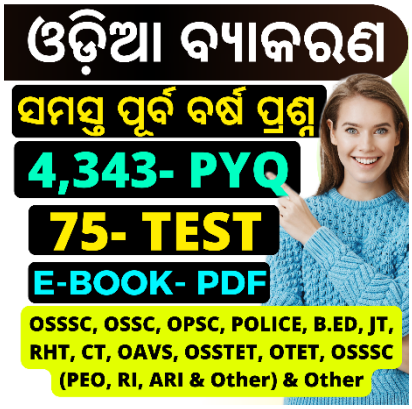

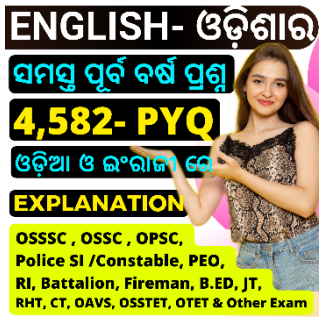

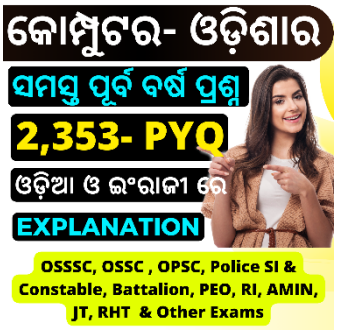

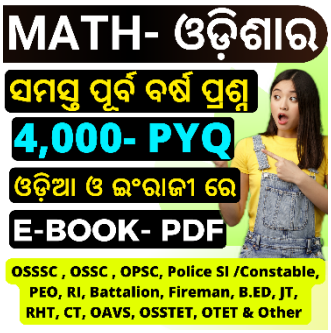

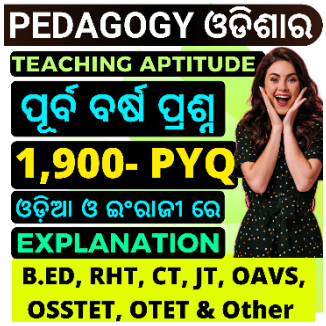

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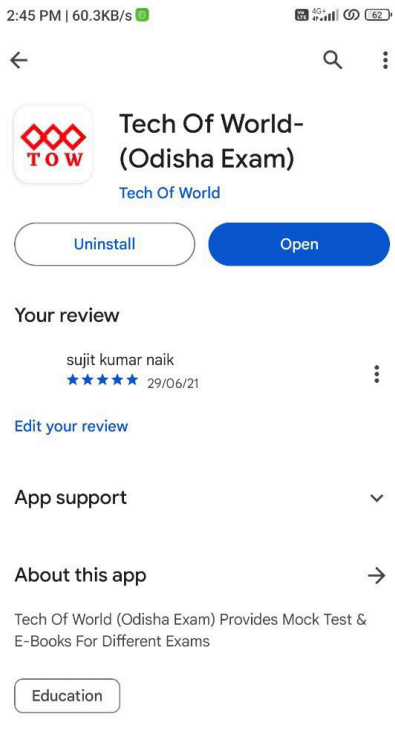

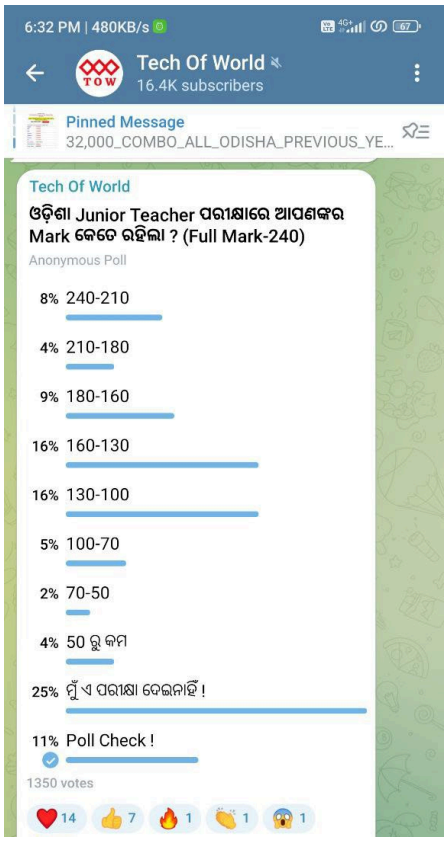

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Department of School & Mass Education, Govt. Of Odisha

Participant ID	
Participant Name	
Test Center Name	
Test Date	19/05/2023
Test Time	9:00 AM - 12:20 PM
Subject	TGT Mathematics

Section : **Language Proficiency Test-General English**

Q.1 **Select the most appropriate ANTONYM of the word given in brackets to fill in the blank.**
Rohan's _____ (sobersided) remarks changed the entire course of the discussion.

Ans
✗ 1. incompetent
✗ 2. solemn
✓ 3. facetious
✗ 4. businesslike

Question ID : **630680226454**
Option 1 ID : **630680878526**
Option 2 ID : **630680878523**
Option 3 ID : **630680878524**
Option 4 ID : **630680878525**
Status : **Not Answered**
Chosen Option : --

Q.2 **Select the most appropriate option to fill in the blanks.**

ZaitAit Malek's focus right now is the start of this 27-kilometer run through mountains high above the southern Spanish coast. "Two, one." When the signal sounds, the 'sky runners' _____ away and quickly disappear. Some 120 elite runners from across Spain are _____ for a trophy and a prize (Rupees 1,05,780 for the winner).

Ans
✗ 1. look, trying
✗ 2. move, working
✗ 3. brisk, moving
✓ 4. pound, competing

Q.3 Select the option that can be used as a one-word substitute for the underlined group of words.
The king of Denmark is fond of wearing an ornamented belt over his shoulder to support the sword.

Ans
✗ 1. coverlet
✗ 2. garland
✗ 3. hauberk
✓ 4. baldric

Questior
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.4 The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
The Opposition Leader's / politely address bewildered / all the members / of the Upper House.

Ans
✗ 1. of the Upper House
✗ 2. all the members
✓ 3. politely address bewildered
✗ 4. The Opposition Leader's

Questior
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.5 Select the most appropriate meaning of the given phrase.
Get the show on the road

Ans
✗ 1. To plan a show for someone
✓ 2. To put a plan into action
✗ 3. To get a road cleaned
✗ 4. To showcase the new road

Q.6 Select the option that can be used as a substitute for the underlined group of words.
Many people nowadays are found fooling around and wasting their time in meaningless things.

Ans
✔ 1. lollygagging
✘ 2. spending immensely
✘ 3. betraying others
✘ 4. deceiving themselves

Q.7 Select the most appropriate ANTONYM of the word given in brackets to fill in the blank.
John's _____ (frugality) has been a cause of concern for his parents.

Ans
✘ 1. parsimony
✔ 2. extravagancy
✘ 3. fearlessness
✘ 4. fruitfulness

Q.8 Select the most appropriate meaning of the given idiom.
Play (merry) hell with

Ans
✘ 1. To play merrily in hell
✘ 2. To distract someone
✔ 3. To disturb greatly
✘ 4. To ruin a good place

Q.9 The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
The topic of research / that I have chosen / has been quite an / interested one to work upon.

Ans
✗ 1. has been quite an
✗ 2. The topic of research
✗ 3. that I have chosen
✓ 4. interested one to work upon

Questio
Option
Option
Option
Option
Sta
Chosen Op

Q.10 Select the most appropriate option to fill in the blanks.

The past is back in the headlines with a vengeance. In Egypt, a new _____ was discovered in the Great Pyramid. It is about 9 metres, and its _____ is unknown.

Ans
✗ 1. object, colour
✓ 2. chamber, function
✗ 3. aspect, purpose
✗ 4. church, explorer

Questio
Option
Option
Option
Option
Sta
Chosen Op

Q.11 The following sentence has been split into four segments. Identify the segment that contains a spelling error.
His nature of / being quiet / considerate is / his forte.

Ans
✓ 1. being quiet
✗ 2. his forte
✗ 3. His nature of
✗ 4. considerate is

Q.12 Select the most appropriate synonym of the word given in brackets to fill in the blank.
It is difficult to consider these people _____ (friendly) although they appear to be so.

Ans
✗ 1. standoffish
✓ 2. convivial
✗ 3. taciturn
✗ 4. reclusive

Q.13 Select the option that expresses the given sentence in passive voice.
The man in blue reminded her to be present for the meeting on time.

Ans
✓ 1. She was reminded to be present for the meeting on time by the man in blue.
✗ 2. She reminded to be present for the meeting on time by the man in blue.
✗ 3. She is reminded to attend the meeting by the man in blue.
✗ 4. She had been reminded to be present for the meeting on time by the man in blue.

Q.14 The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
Shantanu and his / friends are visiting / India to meet you / and I this April itself.

Ans
✗ 1. India to meet you
✗ 2. Shantanu and his
✓ 3. and I this April itself
✗ 4. friends are visiting

Q.15 Select the option that expresses the given sentence in reported speech.
Rohit said, "Rajesh, will you go out with me tomorrow?"

Ans
✔ 1. Rohit asked Rajesh if he would go out with him the next day.
✘ 2. Rohit asked Rajesh if he would go out with me the next day.
✘ 3. Rohit asked Rajesh if he will go out with him the day before.
✘ 4. Rohit asked Rajesh whether he will be going out with him the next day.

Que
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Op
Chose

Q.16 Select the most appropriate option to fill in the blanks.

Effective altruism is an intellectual and charitable movement that aspires to find the best ways to help others. People dedicated to it _____ evidence and rational arguments to _____ what they can do to make the most progress toward solving the world's most pressing problems.

Ans
✔ 1. rely on, identify
✘ 2. ask for, think
✘ 3. decide about, develop
✘ 4. think of, work on

Que
Op
Op
Op
Op
Chose

Q.17 Select the correctly spelt word to fill in the blank.
He was given just two ____ pieces of toast for breakfast.

Ans
✔ 1. minuscule
✘ 2. minescale
✘ 3. minuscale
✘ 4. minescule

Q.18 Select the option that expresses the given sentence in direct speech.
The police officer warned the thief not to move.

Ans
✔ 1. The police officer said to the thief, "Don't move!"
✘ 2. The police officer asked the thief, "You don't move!"
✘ 3. The police officer said to the thief, "You are not allowed to move."
✘ 4. The police officer told the thief, " Beware of moving!"

Q.19 Select the option that expresses the given sentence in active voice.
Financial assistance is being sought by many people from the government.

Ans
✘ 1. Many people have sought financial assistance from the government.
✔ 2. Many people are seeking financial assistance from the government.
✘ 3. Many people have been seeking financial assistance from the government.
✘ 4. Many people were seeking financial assistance from the government.

Q.20 Select the correctly spelt word to fill in the blank.
Pipelines are usually inspected externally from _____.

Ans
✘ 1. sabmercibles
✘ 2. submarcibles
✘ 3. submercibles
✔ 4. submersibles

Q.1 'ବିହ୍ୱାହାରୀ'ର ବିପରୀତାର୍ଥ ବୋଧକ ଶବ୍ଦ ଚିହ୍ନାଅ ।

Ans
✗ 1. ଅମିତାହାରୀ
✗ 2. ପ୍ରତ୍ୟାହାରୀ
✗ 3. ଅତ୍ୟାହାରୀ
✓ 4. ଅଳ୍ପାହାରୀ

Q.2 'ନିଜଲୋକ ଭଲ ନହେବା' ପାଇଁ କେଉଁ ପ୍ରବାଦଟି ଉପଯୁକ୍ତ?

Ans
✗ 1. ଫଟାଦର୍ପଣରେ ମୁହଁ ଦେଖିବା
✗ 2. ଆପଣାହସ୍ତେ ଜିହ୍ୱା ଛେଦି
✓ 3. ଆପଣା ସୁନା ଭେଣ୍ଡି
✗ 4. ଆପଣାହାତ ପୋଡ଼ାକାଠ

Q.3 'ପଛେପଛେ ଗମନ' ପ୍ରତିବଦଳରେ କେଉଁ ଶବ୍ଦ ବ୍ୟବହାର କରାଯାଇ ପାରେ?

Ans
✗ 1. ଅନୁଧାବନ
✗ 2. ପଶ୍ଚାତ୍‌ଧାବନ
✓ 3. ଅନୁଗମନ
✗ 4. ଅନୁସରଣ

Q.4 ଶୁଦ୍ଧବାକ୍ୟଟି ଚିହ୍ନାଇ ଦିଅ ।

Ans
✗ 1. ଗୋଲକବିହାରି ଧଳ ଜଣେ ଭାଷାତତ୍ତ୍ୱବିତ୍ ଥିଲେ ।
✗ 2. ଗୋଲକ ବିହାରୀ ଧଳ ଜଣେ ଭାଷାତତ୍ତ୍ୱବିତ୍ ଥିଲେ ।
✓ 3. ଗୋଲୋକବିହାରୀ ଧଳ ଜଣେ ଭାଷାତତ୍ତ୍ୱବିତ୍ ଥିଲେ ।
✗ 4. ଗୋଲକବିହାରୀ ଧଳ ଜଣେ ଭାଷାତତ୍ତ୍ୱବିତ୍ ଥିଲେ ।

Q.5 'ବିରାଡି ଛିଙ୍କିବା'ର ପ୍ରକୃତ ଅର୍ଥ କ'ଣ ?

Ans
✗ 1. ଆମିଷ ଭକ୍ଷଣ କରୁନଥିବା ବିରାଡି
✓ 2. ଅଶୁଭ ସଂକେତ
✗ 3. ବୈଷ୍ଣବ ପରି ବିରାଡି
✗ 4. ବୈଷ୍ଣବଘର ବିରାଡି

Q.6 'ସାକାର'ର ବିପରୀତାର୍ଥବୋଧକ ଶବ୍ଦ ଲେଖ ।

Ans
✗ 1. ଆଣାକାର
✗ 2. ବିକାର
✗ 3. ଆକାର
✓ 4. ନିରାକାର

Q.7 'ଉପଚୟ'ର ବିପରୀତାର୍ଥବୋଧକ ଶବ୍ଦଟି କ'ଣ ?

Ans
✗ 1. ଅନୁପଚୟ
✗ 2. ନିଚୟ
✗ 3. ଅନୁଚୟ
✓ 4. ଅପଚୟ

Q.8 ଗଙ୍ଗାଙ୍କର ପ୍ରତିଶବ୍ଦ କେଉଁଟି ନୁହେଁ?

Ans
✓ 1. ନିମ୍ନଗା
✗ 2. ସୁରଧୁନୀ
✗ 3. ତ୍ରିପଥଗା
✗ 4. ବିଷ୍ଣୁପଦୀ

Q.9 'କପାଳ ଫିଟିବା' ରୁଢ଼ିର ଅର୍ଥ କ'ଣ?

Ans
✗ 1. ସର୍ବନାଶ ହେବା
✓ 2. ସୁଦିନ ଆସିବା
✗ 3. ଆଶ୍ରା ପାଇବା
✗ 4. ଦୁର୍ଦ୍ଦିନ ଆସିବା

Q.10 ଚରିତ୍ର ନ ଥିଲେ _____ କି ପ୍ରୟୋଜନ ! - ନିମ୍ନମଧ୍ୟରୁ ଉପଯୁକ୍ତ ଶବ୍ଦ ଯୋଗରେ ଶୂନ୍ୟସ୍ଥାନ ପୂରଣ କର ।

Ans
✔ 1. ଜୀବନରେ
✗ 2. ବାସରେ
✗ 3. ଭ୍ରମଣରେ
✗ 4. ଖାଦ୍ୟରେ

Ques
Opti
Opti
Opti
Opti
Chosen

Q.11 ଶୁଦ୍ଧ ଶବ୍ଦଟିକୁ ଚିହ୍ନାଇ ଦିଅ ।

Ans
✔ 1. ଗୋଲୋକବିହାରୀ
✗ 2. ଗୋଲୋକବିହାରି
✗ 3. ଗୋଲୋକବୀହାରୀ
✗ 4. ଗୋଲକବିହାରୀ

Ques
Opti
Opti
Opti
Opti
Chosen

Q.12 'ଆଖିରେ ନାଚିବା' ରୁଢ଼ି କେଉଁ ଅର୍ଥରେ ବ୍ୟବହୃତ ହୁଏ?

Ans
✗ 1. ଠାରିକରି କହିବା
✗ 2. ଦେଖିପାରିବା
✗ 3. ଦେଖେଇ ହେବା
✔ 4. ମନେପଡ଼ିବା

Q.13 କର୍ତ୍ତୃବାଚ୍ୟର ବାକ୍ୟକୁ କର୍ମବାଚ୍ୟରେ ରୂପାନ୍ତରିତ କଲାବେଳେ ମୂଳ ବାକ୍ୟର କର୍ତ୍ତାଠାରେ କେଉଁ ବିଭକ୍ତି ହୋଇଥାଏ?

Ans
✗ 1. ପ୍ରଥମା
✗ 2. ଚତୁର୍ଥୀ
✗ 3. ଚତୁର୍ଥୀ ବା ପଞ୍ଚମୀ
✓ 4. ଦ୍ୱିତୀୟା ବା ତୃତୀୟା

Q.14 ବର୍ଷାରେ ରାସ୍ତା _____ କରୁଛି ।

Ans
✓ 1. ପତ୍‌ପତ୍
✗ 2. ଚକଚକ
✗ 3. ଟପ୍‌ଟପ
✗ 4. ପିତ୍‌ପିତ୍

Q.15 ଲୀଳାବତୀ ଗୁଣରେ _____ ଥିଲେ ।

Ans
✗ 1. ଗରିୟସି
✗ 2. ଗରିୟସୀ
✗ 3. ଗରୀୟସି
✓ 4. ଗରୀୟସୀ

Q.16 _____ ଭକ୍ତଙ୍କୁ ଶୈବ କୁହାଯାଏ । - ନିମ୍ନମଧ୍ୟରୁ ଉପଯୁକ୍ତ ଶବ୍ଦ ଯୋଗରେ ଶୂନ୍ୟସ୍ଥାନ ପୂରଣ କର ।

Ans
✗ 1. ସୁରପତିଙ୍କର
✓ 2. ଶିବଙ୍କର
✗ 3. ପାର୍ବତୀଙ୍କର
✗ 4. ସହସ୍ରାକ୍ଷଙ୍କର

Ques
Opti
Opti
Opti
Opti
Chosen

Q.17 'ଯତି ପଡ଼ିବା' ରୁଢ଼ିର ଅର୍ଥ କ'ଣ?

Ans
✗ 1. ମିଳିତ ହେବା
✗ 2. ମିତ ବସିବା
✓ 3. ମେଳ ଖାଇବା
✗ 4. ଏକାଠି ରହିବା

Ques
Opti
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Chosen

Q.18 ସେ _____ପାଣିରେ ଗୋଡ ଦେବା ଲୋକ ନୁହନ୍ତି । - ନିମ୍ନମଧ୍ୟରୁ ଉପଯୁକ୍ତ ଶବ୍ଦ ଯୋଗରେ ଶୂନ୍ୟସ୍ଥାନ ପୂରଣ କର ।

Ans
✗ 1. ଭାସିଲା
✗ 2. ସ୍ଥିର
✗ 3. ବୋହିଲା
✓ 4. ହଲିଲା

Q.19 ଯେଉଁ ବାକ୍ୟରେ ଗୋଟିଏ ପ୍ରଧାନବାକ୍ୟ ଓ ଏକ ବା ଏକାଧିକ ଅପ୍ରଧାନ ବାକ୍ୟ ଥାଆନ୍ତି ଏବଂ ଏଗୁଡ଼ିକ ପ୍ରଧାନ ବାକ୍ୟ ଉପରେ ଅର୍ଥବୋଧ ପାଇଁ ନିର୍ଭର କରୁଥାନ୍ତି- ତାକୁ କେଉର୍ ବାକ୍ୟ କୁହାଯାଏ?

Ans
✗ 1. ମିଶ୍ର
✗ 2. ସରଳ
✗ 3. ଯୌଗିକ
✓ 4. ଜଟିଳ

Questi
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Optio
Optio
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Q.20 'ମେଘ'ର ସମାର୍ଥବୋଧକ ଶବ୍ଦଟି କ'ଣ ?

Ans
✗ 1. ମହୀଧର
✗ 2. ଅମ୍ବୁଧି
✓ 3. ବଳାହକ
✗ 4. ଆପଗା

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Section : **Current Affairs**

Q.1 India and _____ have made plans to strengthen cooperation in the fields of skill development and education through joint collaborations in April 2022.

Ans
✗ 1. Australia
✗ 2. the United Kingdom
✓ 3. the United States of America
✗ 4. China

Q.2 Agricultural and Processed Food Export Development Authority (APEDA) is participating in the 28th edition of Gulfood 2023, which will be held in _____.

Ans
✗ 1. China
✗ 2. United Kingdom
✗ 3. Japan
✓ 4. United Arab Emirates

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Q.3 Scientists have recently discovered a new form of corrosion known as the _____ corrosion. This type of corrosion is characterised by a wormhole-like _____ morphology that can serve as a mass-flow pathway.

Ans
✗ 1. 2D wormhole; 2D
✓ 2. 1D wormhole; 1D
✗ 3. 4D wormhole; 4D
✗ 4. 3D wormhole; 3D

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Q.4 The Gujarat Forest Department, BCSG (Bird Conservation Society of Gujarat) and the Adams Nature Retreat Resort together organised a two-day bird survey in _____ in February 2023.

Ans
✗ 1. Jamnagar
✓ 2. Dharoi
✗ 3. Dholera
✗ 4. Rajkot

Q.5 The Ministry of Culture's flagship initiative, _____, has completed its first year during this year 2022-23.

Ans
✗ 1. 'Ganga: An Ode to Indian Knowledge Systems'
✓ 2. 'Dhara: An Ode to Indian Knowledge Systems'
✗ 3. 'Swara: An Ode to Indian Knowledge Systems'
✗ 4. 'Jaltarang: An Ode to Indian Knowledge Systems'

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Q.6 For the next fiscal year 2023-24, the Union Budget has pegged disinvestment revenue at ₹_____ crore.

Ans
✓ 1. 51,000
✗ 2. 45,000
✗ 3. 25,000
✗ 4. 35,000

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Q.7 The Calcutta high court on 29th September 2022 declared the _____ Scheme of the West Bengal government is ultra vires to the National Food Security Act, 2013 and is legally void.

Ans
✗ 1. Unnat Jeevan
✗ 2. Ayushman Bharat
✓ 3. Duare Ration
✗ 4. Grameen Kaushalya

Q.8 Prime Minister Narendra Modi recently inaugurated the Shivamogga airport in the state of Karnataka in Feb 2023. The airport was built at a cost of around ₹____ crore.

Ans
✗ 1. 300
✗ 2. 150
✗ 3. 220
✓ 4. 450

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Q.9 2023 ISSF Shooting World Cup was held in Cairo. India's two players won gold. This is the first time India won gold in this competition. Name the two players.

Ans
✗ 1. Ruturaj Singh and Gagan Narang
✗ 2. Saurabh Chaudhary and Heena Sindhu
✓ 3. Rudrankksh Patil and R Narmada Nithin
✗ 4. Abhinav Bindra and Manu Bhaker

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Q.10 India's Central Board of Indirect Taxes and Customs (CBIC) celebrated International Customs Day on _____ 2023, where the theme for this year, as given by the World Customs Nurturing the Next Generation: Promoting a Culture of Knowledge-sharing and Professional Pride in Customs' Organisation (WCO), was '

Ans
✗ 1. 15 Feb
✓ 2. 27 Jan
✗ 3. 31 Jan
✗ 4. 12 Feb

Q.11 A tripartite peace agreement was recently signed between the Centre, Assam Government and _____ tribal groups of Assam in the presence of Union Home Minister Amit Shah in New Delhi.

Ans
✗ 1. nine
✗ 2. seven
✗ 3. ten
✓ 4. eight

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Q.12 New members joined the UNSC on 3 January 2023.Which of the following is NOT one of them?

Ans
✓ 1. Chile
✗ 2. Ecuador
✗ 3. Japan
✗ 4. Malta

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Q.13 The Ministry of Culture announced in March 2023 that the Government of India will launch yearlong celebrations marking the _____ birth anniversary of the reformer Sevala Maharaj.

Ans
✗ 1. 465th
✓ 2. 284th
✗ 3. 154th
✗ 4. 312th

Q.14 The Archaeological Survey of India recently discovered a 1300-year-old Buddhist stupa at Khondalite stone mining site in _____ during a mining operation.

Ans
✗ 1. Assam
✗ 2. Bihar
✓ 3. Odisha
✗ 4. Uttar Pradesh

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Q.15 The Government of India notified the National Geospatial Policy 2022 in December last year as replacements for the _____ to strengthen the location-centric industry to assist with information economy.

Ans
✗ 1. National Women Policy, 2016
✗ 2. National Education Policy, 2020
✗ 3. National Health Policy, 2017
✓ 4. National Map Policy, 2005

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Q.16 Prime Minister Narendra Modi inaugurated the _____ cultural festival at Talkatora Stadium in Delhi on 25th February 2023.

Ans
✗ 1. Baisakhi
✓ 2. Barisu Kannada Dim Dimava
✗ 3. Hemis
✗ 4. Thrissur Pooram

Q.17 In the first-ever SDG Gender Index, which measures progress made in achieving gender commitments against internationally set targets, India was ranked _____ out of a total 129 countries.

Ans
✗ 1. 121st
✓ 2. 95th
✗ 3. 85th
✗ 4. 110th

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Q.18 The Reserve Bank of India's Monetary Policy Committee (MPC) recently announced the first bi-monthly monetary policy of FY2023-24 where the RBI Governor Shaktikanta Das revealed that the MPC has unanimously decided to keep the repo rate unchanged at ____%.

Ans
✓ 1. 6.50
✗ 2. 3.65
✗ 3. 5.45
✗ 4. 4.87

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Q.19 Legendary sprinter _____ became the first woman president of the Indian Olympic Association (IOA) in the sports body's 95-year-long history on 10 December 2022.

Ans
✓ 1. PT Usha
✗ 2. Dhanalakshmi
✗ 3. Dutee Chand
✗ 4. Hima Das

Q.20 To reduce pollution in the Ganga river, the Namami Gange Executive Committee approved nine projects. These projects are to be implemented at a cost of ₹_____.

Ans
✗ 1. 2,500 crore
✗ 2. 3,200 crore
✗ 3. 3,000 crore
✓ 4. 1,200 crore

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Q.21 The jets _____ crashed near Morena's Pahargarh area after taking off from Gwalior air base in January 2023.

Ans
✗ 1. Sukhoi-40 and Mirage 20
✗ 2. SU-20 and MiG-39
✗ 3. MiG-29 and SU-30
✓ 4. Sukhoi-30 and Mirage 2000

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Q.22 The International Monetary Fund recently unveiled a Crypto Action plan to safeguard monetary sovereignty in the world, which will help countries to frame their crypto policies in a _____-point action plan.

Ans
✗ 1. 12
✗ 2. 18
✗ 3. 5
✓ 4. 9

Q.23 The Prime Minister released the 13th instalment amount of more than ₹16,800 crore to more than _____ beneficiary farmers under the PM-KISAN at Belagavi, Karnataka in February 2023.

Ans
✗ 1. 1 crore
✗ 2. 7 crore
✓ 3. 8 crore
✗ 4. 6 crore

Q.24 Sethrichem Sangtam, who helped triple the incomes of 1200 marginalised farmers in Eastern _____, was awarded the first Rohini Nayyar prize for outstanding contribution to rural development.

Ans
✗ 1. Sikkim
✗ 2. Assam
✓ 3. Nagaland
✗ 4. Orissa

Q.25 The Chinese Government has decided to block the popular search engine _____ in the country, citing concerns about propaganda and censorship.

Ans
✗ 1. AOL.com
✗ 2. Ecosia
✓ 3. ChatGPT
✗ 4. Baidu

Q.26 The International Day of Innocent Children Victims of Aggression will be observed on _____ to acknowledge the pain suffered by children throughout the world who are the victims of physical, mental and emotional abuse.

Ans
✗ 1. 4 September
✓ 2. 4 June
✗ 3. 4 August
✗ 4. 4 July

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Q.27 _____ defeated South Africa in T20 Women's World Cup 2023 at Newlands in Cape Town.

Ans
✗ 1. Sri Lanka
✗ 2. New Zealand
✓ 3. Australia
✗ 4. Bangladesh

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Q.28 Olympic medallist _____ has been unanimously chosen as chairman of the Indian Olympic Association's (IOA) Athletes Commission in November 2022.

Ans
✗ 1. Tejaswin Shankar
✓ 2. Mary Kom
✗ 3. Achanta Sharath Kamal
✗ 4. Manika Batra

Q.29 The Central Government has decided to set up language centres to prepare study material and courses for each of the _____ languages in the eighth schedule of the Constitution.

Ans
✗ 1. 32
✗ 2. 12
✗ 3. 19
✓ 4. 22

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Q.30 Fossils of the oldest known insect and the world's first plant pollinators called _____ were discovered recently in Russia in March 2023.

Ans
✗ 1. Nasturtium
✗ 2. Calendula
✗ 3. Marigold
✓ 4. Tillyardembiids

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Section : **Reasoning**

Q.1 There are seven persons P, Q, R, S, T, U and V. Each of them has different heights. R is taller than only V. The number of persons shorter than Q is equal to the number of persons taller than S. Neither P nor T is the tallest. Who among the following is the tallest?

Ans
✓ 1. U
✗ 2. Q
✗ 3. V
✗ 4. R

Q.2 Four word pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.

Ans

1. ✗ Oncology - Cancer
2. ✗ Entomology - Insects
3. ✗ Psychology - Human behaviour
4. ✓ Zoology - Plants

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Q.3 Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the one that is different.

Ans

1. ✗ FXD
2. ✗ BVK
3. ✓ GOB
4. ✗ IAC

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Q.4 Select the term from among the given options that can replace the question mark (?) in the following series.

W324X, T361S, ?, N441I, K484D

Ans

1. ✗ I629R
2. ✓ Q400N
3. ✗ P484V
4. ✗ F534K

Q.5 Select the option that is related to the third term in the same way as the second term is related to the first term.

D196R : S169C :: J289W : ?

Ans

1. ✗ K629G
2. ✗ N455Z
3. ✓ Y256H
4. ✗ P729E

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Q.6 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:

A. All towels are fabric.
B. Some fabric is cotton.
C. Some towels are paper.

Conclusions:

I. All cotton is fabric.
II. Some papers are towels.
III. All fabric is towel.

Ans

1. ✗ Only conclusion III follows.
2. ✗ Only conclusions I and II follow.
3. ✗ Only conclusion I follows.
4. ✓ Only conclusion II follows.

Q.7 Eight people, Sarika, Nisha, Chirag, Deepak, Ayesha, Rekha, Garima and Hina, are seated around a circular table at equal distance but not in the same order, and all are facing the centre of the table such that Sarika is opposite to Nisha, who is to the immediate left of Rekha. Rekha is 3rd to the right of Chirag, who is opposite to Ayesha. Garima is 2nd to the right of Hina, who is opposite to Rekha.

How many people are between Ayesha and Hina when counted from the left of Hina?

Ans
- ✗ 1. 1
- ✓ 2. 2
- ✗ 3. 4
- ✗ 4. 3

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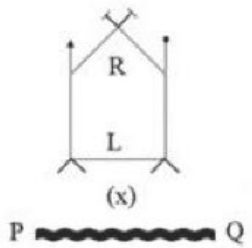
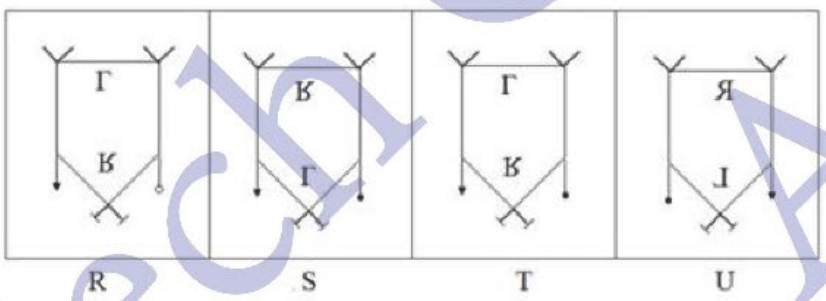
Q.8 Choose the correct water image of the given figure from the given four figures.





Ans
- ✓ 1. T
- ✗ 2. S
- ✗ 3. U
- ✗ 4. R

Q.9 Select the option that is related to the third term in the same way as the second term is related to the first term.

X784K : N324A :: T169V : ?

Ans

✗ 1. W49P

✗ 2. L23Y

✗ 3. F81R

✓ 4. J9L

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Q.10 A group of numbers and symbols is coded using letter codes as per the codes given below and the conditions that follow. Study the given codes and conditions and answer the question that follows.

Codes	P	Y	N	R	U	B	X
Numbers/symbols	2	?	5	#	3	8	0

Conditions:

i) If first and last elements are consonants, then the last element is to be coded as the code used for the 4th element.

ii) If the group of elements contains any vowel, then the vowel is to be coded as the code used for the first element.

iii) If the last element is a vowel, then it is to be coded as 1.

Decode 'BYPRUN'.

Ans

✗ 1. ?3#2#?

✓ 2. 8?2#8#

✗ 3. 03?28#

✗ 4. 5#2#8?

Q.11 Select the option that is related to the third term in the same way as the second term is related to the first term.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/consonants/vowels in the word.)

Soprano : Opera :: Mime : ?

Ans

✗ 1. Cricket

✓ 2. Drama

✗ 3. Music

✗ 4. Dance

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Q.12 Eight persons, A, C, P, M, R, Y, T and Z, are sitting around a square table in such a way that four of them are sitting in the middle of the sides facing the centre, while four of them are sitting at the four corners facing outside the centre. A is sitting 2nd to the right of C. P is sitting 2nd to the left of M. R is sitting 3rd to the right of Y. R is facing outside. T is sitting 3rd to the right of C. R is not an immediate neighbour of M.

Which of the following statements is FALSE?

Ans

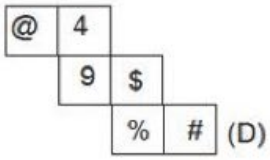
✗ 1. A is the immediate neighbour of R.

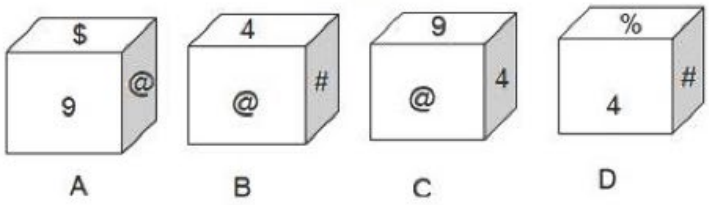
✗ 2. T is 2nd to the right of M.

✓ 3. Two people are sitting between A and C.

✗ 4. P is the immediate neighbour of C.

Q.13 Select the box/boxes that can be formed by folding the given sheet (Figure D) along the lines.





Ans

✔ 1. Only B and C

✗ 2. Only C and D

✗ 3. Only B

✗ 4. Only A

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Q.14 A certain number of people are sitting in a row facing north. There are three persons sitting between K and L. M is sitting second from one of the extreme ends. Four persons are sitting between L and P. There are more than three persons between M and P. P is sitting fourth from the left end. K is not sitting third to the right of P. Only three persons are between K and M. O is sitting exactly between K and L. R is sitting second to the left of P. Only two persons are sitting between L and S.

How many persons are sitting in the row?

Ans

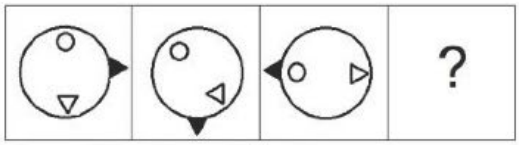
✗ 1. 20

✗ 2. 19

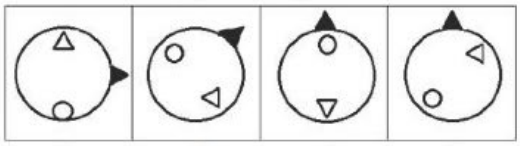
✔ 3. 18

✗ 4. 21

Q.15 Select the figure from among the given options that can replace the question mark (?) in the following series (X).



(X)



A B C D

Ans

✗ 1. A

✓ 2. D

✗ 3. C

✗ 4. B

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Q.16 Ten friends, P, Q, R, S, T, U, V, W, X and Y, are seated in a row at equal distance but not necessarily in the same order; all are facing south such that

S is to the immediate right of one who is third to the left of R.

Y is fourth to the right of R.

There are only two people between T and U.

P is not sitting with either R or S.

T is to the immediate left of W, who is at an extreme end.

X is to the immediate right of the one who is third to the left of Q.

Who is sitting between P and R?

Ans

✗ 1. U and X

✗ 2. T and Y

✓ 3. U and Q

✗ 4. S and V

Q.17 Eight persons, Rishi, Anita, Rima, Babita, Shivani, Charu, Gogi and Tarun, are living in an eight-storey building where the lowermost floor is numbered 1, the floor just above it is numbered as 2 and so on. Only one person lives on one floor. Only one person lives between the floors of Tarun and Rima, who lives on any floor below the floor of Charu. Shivani lives immediately above Gogi's floor. Tarun lives on the third floor. Only one person lives between the floors of Charu and Babita. Charu lives above Babita. Only two persons live between Tarun and Rishi's floors.

Who lives on the 5th floor?

Ans
- ✗ 1. Shivani
- ✗ 2. Gogi
- ✗ 3. Rima
- ✓ 4. Anita

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Q.18 In a certain code language, 'QUICK' is coded as 'OSSWGKAEIM' and 'WORLD' is coded as 'UYMQPTJNBF'. How will 'SLICE' be coded in that language?

Ans
- ✗ 1. UWKMGRBAJK
- ✗ 2. SYWLQALPSC
- ✓ 3. QUJNGKAECG
- ✗ 4. CGAENKGJUQ

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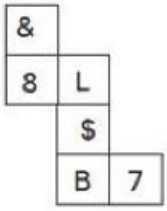
Chosen C

Q.19 Select the term from among the given options that can replace the question mark (?) in the following series.

IK17, LP26, ?, RO67

Ans
- ✗ 1. ME49
- ✓ 2. OL42
- ✗ 3. KW56
- ✗ 4. VS35

Q.20 Select the box/boxes that can be formed by folding the given sheet (Figure Y) along the lines.



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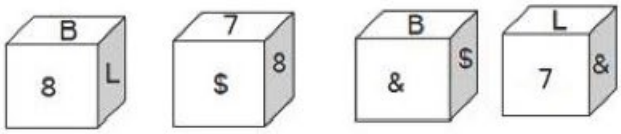

(u) (v) (w) (x)

Ans

1. ✗ Only v and w
2. ✗ Only u and x
3. ✓ Only x
4. ✗ Only w

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Q.21 In a certain code language, COW is written as 9-45-69 and BIRD is written as 8-36-72-16. How will WHALE be written in that language?

Ans

1. ✓ 115-40-5-60-25
2. ✗ 115-40-5-60-30
3. ✗ 115-24-5-60-25
4. ✗ 69-40-5-60-25

Q.22 Select the number pairs from among the given options that can replace the question marks (?) in the following series sequentially.

9, 4, 57,16, 153, ?, 297, 76, ?, 124

Ans
✔ 1. 40, 489
✘ 2. 48, 654
✘ 3. 67, 386
✘ 4. 53, 723

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Q.23 In a row of girls, Shilpa is 14^{th} from the left end, whereas Aarti is 10^{th} from the right end. If Revati is sitting exactly between Shilpa and Aarti and holds the 15^{th} rank from the right end, then find the rank of Revati from the left end?

Ans
✘ 1. 22
✘ 2. 18
✔ 3. 19
✘ 4. 20

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Q.24 Select the number from among the given options that can replace the question mark (?) in the following series.

3, 12, 156, ?

Ans
✘ 1. 13453
✘ 2. 25697
✔ 3. 24492
✘ 4. 16240

Q.25 Pratham goes 6 m towards south from his college and then he turns to his left and walks 8 m. How far and in which direction is he now from his college?

Ans

✔ 1. 10 m and south-east
✘ 2. 12 m and south-east
✘ 3. 8 m and north-east
✘ 4. 14 m and north-west

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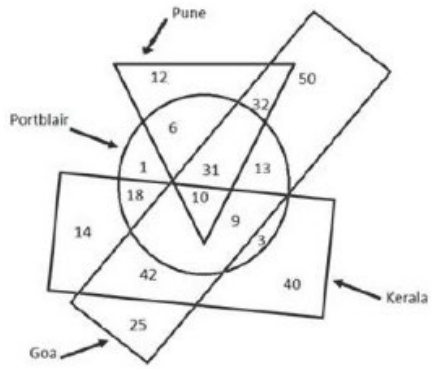
Q.26 Radhika walks 10 km towards the east and then turns left and walks 20 km. She turns right and walks 15 km and then turns left and walks 5 km and again turns left and walks 30 km. Again she turns left and walks 10 km. In which direction is she now with respect to her starting point?

Ans

✘ 1. North-east
✘ 2. South-west
✔ 3. North-west
✘ 4. East

Q.27 In the Venn diagram given below, different shapes represent different places where students of a college want to go for an educational trip. What is the ratio of students who like to go to Kerala, Port Blair and Goa and students who like to go Pune and Goa?



Ans

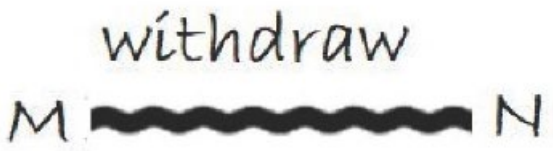
✗ 1. 9 : 48

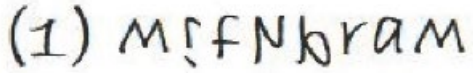
✗ 2. 8 : 67

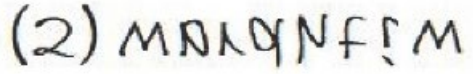
✓ 3. 9 : 32

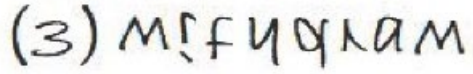
✗ 4. 11 : 76

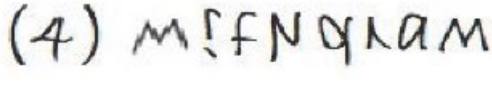
Q.28 Choose the correct water image of the given figure from the given four figures.



(1) 

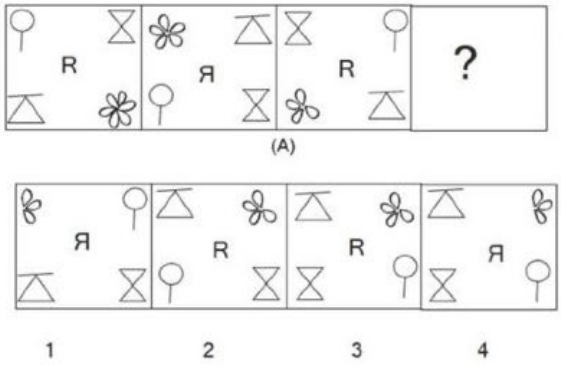
(2) 

(3) 

(4) 

Ans
✗ 1. 1
✗ 2. 3
✗ 3. 2
✓ 4. 4

Q.29 Select the figure from among the given options that can replace the question mark (?) in the following series (A).



1 2 3 4

Ans

✗ 1. 3
✗ 2. 2
✗ 3. 1
✓ 4. 4

Ques
Opti
Opti
Opti
Opti

Chosen

Q.30 R is 8 ranks ahead of S, who ranks 20th in a class of 50 students. What is R's rank from the last?

Ans

✗ 1. 36
✗ 2. 45
✓ 3. 39
✗ 4. 29

Ques
Opti
Opti
Opti
Opti

Chosen

Section : **Subject Content & Methodology**

Q.1 The difference between $5.\overline{76}$ and $2.\overline{3}$ is:

Ans
✔ 1. $3.\overline{43}$
✗ 2. $2.\overline{54}$
✗ 3. $3.\overline{73}$
✗ 4. $3.\overline{46}$

Qu
Op
Op
Op
Op
Chose

Q.2 The volume of a cube is numerically equal to some of its edges. What is the total surface area of the cube(in square units)?

Ans
✔ 1. 72
✗ 2. 36
✗ 3. 144
✗ 4. 12

Qu
Op
Op
Op
Op
Chose

Q.3 **In a class of 40 students, a teacher runs fast to cover the syllabus only. He has to maintain records of all the activities held during concession. Which of the following factors of continuous evaluation is NOT mentioned here?**

Ans
✗ 1. Large class size
✔ 2. Unqualified personal
✗ 3. Teachers integrity
✗ 4. Continuous record keeping

Q.4 If the polynomial $6x^3 + 13x^2 + x - 2$ is divided by $2x + 1$, then what will be the quotient and the remainder?

Ans

✗ 1. $Q = 3x^2 + 5x - 2, R = 1$

✓ 2. $Q = 3x^2 + 5x - 2, R = 0$

✗ 3. $Q = 3x^2 - 5x - 2, R = 0$

✗ 4. $Q = 3x^2 - 5x + 2, R = 0$

Quest
Optio
Optio
Optio
Optio
Chosen

Q.5 **Which of the following is a road map or a guideline prepared by a teacher to present a particular lesson?**

Ans

✓ 1. Daily lesson plan

✗ 2. Unit plan

✗ 3. Weekly lesson plan

✗ 4. Yearly lesson plan

Quest
Optio
Optio
Optio
Optio
Chosen

Q.6 Find the coordinates of the points of trisection of the straight line joining the points $A(1, -2)$ and $B(-3, 4)$.

Ans

✗ 1. $\left(\frac{-5}{3}, 2\right)$ and $\left(\frac{1}{3}, 0\right)$

✓ 2. $\left(\frac{-5}{3}, 2\right)$ and $\left(\frac{-1}{3}, 0\right)$

✗ 3. $\left(\frac{5}{3}, 2\right)$ and $\left(\frac{1}{3}, 0\right)$

✗ 4. $\left(\frac{5}{3}, -2\right)$ and $\left(\frac{1}{3}, 0\right)$

Q.7 Which of the following is Euclid's Postulate 4?

A)A circle can be drawn with any centre and any radius.

B)All right angles are equal to one another.

C)A straight line may be drawn from any one point to any other point.

D)A terminated line (that is, a line segment) can be produced indefinitely on either side.

Ans
✗ 1. D
✗ 2. C
✓ 3. B
✗ 4. A

Ques
Opti
Opti
Opti
Opti
Chosen

Q.8 If n > 1 is a positive integer, then

Ans
✗ 1. $n(n+1)^2 < 4(n!)^{\frac{3}{n}}$
✓ 2. $n(n+1)^2 > 4(n!)^{\frac{3}{n}}$
✗ 3. $n(n+1)^2 < 4(n!)^{\frac{2}{n}}$
✗ 4. $n(n+1)^2 > 4(n!)^{\frac{4}{n}}$

Q.9 **Which of the following does NOT describe the need of teaching learning material (TLM) at primary level?**

Ans

✗ 1. To upgrade creativity

✗ 2. To make new ideas simpler

✗ 3. To promote self-learning

✓ 4. To make the class teacher-centred

Quest
Optic
Optic
Optic
Optic
Chosen

Q.10 The point which divides the line segment joining the points $(7,-6)$ and $(3,4)$ in the ratio $1:2$ internally lies in the:

Ans

✗ 1. III quadrant

✗ 2. II quadrant

✗ 3. I quadrant

✓ 4. IV quadrant

Quest
Optic
Optic
Optic
Optic
Chosen

Q.11 Which of the following is good for assessing the level of thinking among students?

Ans

✗ 1. How many types of blood groups are known in humans?

✗ 2. What are conventional and non-conventional energy?

✓ 3. Write a story by looking at a picture

✗ 4. Why does the sky appear blue?

Q.12 The value of a for which the sum of the squares of the roots of the equation $x^2 - (a-2)x - a - 1 = 0$ assumes the least value is:

Ans
✗ 1. 2
✗ 2. 3
✗ 3. 0
✓ 4. 1

Questi
Optior
Optior
Optior
Optior
S
Chosen O

Q.13 The quadratic equations $x^2 - 6x + a = 0$ and $x^2 - cx + 6 = 0$ have one root in common. The other roots of the first and second equations are integers in the ratio 4 : 3. What is the common root?

Ans
✗ 1. 1
✓ 2. 2
✗ 3. 4
✗ 4. 3

Questi
Optior
Optior
Optior
Optior
S
Chosen O

Q.14 Consider the linear transformation $T: \mathbb{R}^4 \to \mathbb{R}^4$ defined by $T(x, y, z, w) = (-x, y, -z, 0), (x, y, z, w) \in \mathbb{R}^4$. If nullity and rank of T are n and r, respectively, then which of the following is correct?

Ans
✗ 1. $r = n = 2$
✗ 2. $r = 1, n = 3$
✗ 3. $r = n = 3$
✓ 4. $r = 3, n = 1$

Q.15 Which of the following statements is NOT related to the reason for giving a special place to mathematics in the curriculum?

Ans
1. The language of mathematics is universal ✗
2. Mathematics is not for ordinary people ✓
3. Mathematics is an exact science ✗
4. Mathematics generates logical attitude in children ✗

Questio
Option
Option
Option
Option
Sta
Chosen Opt

Q.16 If x and y are positive real numbers such that $x^2y^3 = 32$, then the least value of $2x + 3y$ is:

Ans
1. 5 ✗
2. 15 ✗
3. 10 ✓
4. 20 ✗

Questio
Option
Option
Option
Option
Sta
Chosen Opt

Q.17 Select the correct value of $\frac{1}{\sqrt{9}+\sqrt{10}} + \frac{1}{\sqrt{10}-\frac{1}{\sqrt{11}}} + \frac{1}{\sqrt{11}+\sqrt{12}} + \cdots$ upto 91 terms from the following options.

Ans
1. 6 ✗
2. 7 ✓
3. 8 ✗
4. 9 ✗

Q.18 If the number 11^6 is divided by 7, the remainder will be:

Ans
- ✔ 1. 1
- ✘ 2. 4
- ✘ 3. 3
- ✘ 4. 2

Ques
Opti
Opti
Opti
Opti
Chosen

Q.19 The value of $\frac{(1.5)^3+(4.7)^3+(3.8)^3-3\times1.5\times4.7\times3.8}{(1.5)^2+(4.7)^2+(3.8)^2-(1.5\times4.7)-(4.7\times3.8)-(1.5\times3.8)}$ is:

Ans
- ✔ 1. 10
- ✘ 2. 11
- ✘ 3. 8
- ✘ 4. 9

Ques
Opti
Opti
Opti
Opti
Chosen

Q.20 The first and last terms of an AP are 1 and 11. If the sum of its terms is 36, then the number of terms will be:

Ans
- ✘ 1. 5
- ✘ 2. 7
- ✔ 3. 6
- ✘ 4. 8

Q.21 What is the second last digit of 91^{20043} ?

Ans

1. ✗ 8
2. ✓ 7
3. ✗ 6
4. ✗ 5

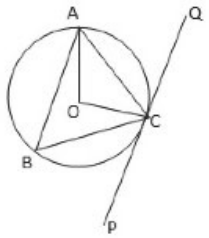
Questi
Optio
Optio
Optio
Optio
S
Chosen O

Q.22 A ball is drawn at random from a box containing 6 red balls, 4 white balls and 5 black balls. The probability that it is not red is:

Ans

1. ✗ $\frac{4}{5}$
2. ✓ $\frac{3}{5}$
3. ✗ $\frac{3}{7}$
4. ✗ $\frac{2}{5}$

Q.23 In the given figure, O is the centre of the circle.If $\angle OAC = 30°$, the acute angle between AC and the tangent PQ at C is:



Ans
1. $30°$
2. $60°$
3. $90°$
4. $45°$

Ques
Opti
Opti
Opti
Opti

Chosen

Q.24 The number $(4312)_5$ when expressed in base 10 is:

Ans
1. 562
2. 592
3. 582
4. 612

Q.25 Find the zeros of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$.

Ans
✔ 1. $2\sqrt{3}, \frac{2}{\sqrt{3}}$

✘ 2. $2\sqrt{3}, \frac{-2}{\sqrt{3}}$

✘ 3. $-2\sqrt{3}, \frac{2}{\sqrt{3}}$

✘ 4. $-2\sqrt{3}, \frac{-2}{\sqrt{3}}$

Quest
Optic
Optic
Optic
Optic
Chosen

Q.26 **Select the correct definition of problem solving according to the National Council of Teachers of Mathematics (NCTM, 2000) from among the following.**

Ans
✘ 1. Problem solving is the activity called into play when there is a demand to apply knowledge, skill, and experience to unfamiliar situations.

✘ 2. Problem solving is cognitive processing directed at achieving a goal when no solution method is obvious to the problem solver.

✘ 3. Problem solving is an integral part of all mathematical learning, and so it should be an isolated part of the mathematical programme.

✔ 4. Problem solving is engaging in a task for which the solution method is not known in advance.

Quest
Optic
Optic
Optic
Optic
Chosen

Q.27 The pair of the linear equations $kx + 2y = 5$ and $3x + y = 1$ has a unique solution if:

Ans
✘ 1. $k = 0$

✘ 2. $k = 6$

✘ 3. k has any value

✔ 4. $k \neq 6$

Q.28 Let T_r be the r^{th} term of an AP, where the first term is a and the common difference is d. If, for some positive integers, $m \neq n, T_m = \frac{1}{n}$ and $T_n = \frac{1}{m}$, then $a - d$ is equal to:

Ans

✗ 1. 1

✗ 2. $\frac{1}{mn}$

✗ 3. $\frac{1}{m} + \frac{1}{n}$

✓ 4. 0

Questior
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.29 Consider that α and β are zeros of $x^2 - 6x + k$. What is the value of k if $3\alpha + 2\beta = 20$?

Ans

✗ 1. -8

✓ 2. -16

✗ 3. -2

✗ 4. 8

Questior
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.30 The solution of the system of congruence $x = 3(mod\ 5), x = 5(mod\ 7)$ is:

Ans

✗ 1. $x = 27(mod\ 35)$

✗ 2. $x = 23(mod\ 35)$

✗ 3. $x = 29(mod\ 35)$

✓ 4. $x = 33(mod\ 35)$

Q.31 If a and b are positive real numbers such that $ab = 1$, then the least value of the expression $(1 + a)(1 + b)$ will be:

Ans

✗ 1. 3

✗ 2. 2

✓ 3. 4

✗ 4. 6

Ques
Opti
Opti
Opti
Opti
Chosen

Q.32 Let X be a normal random variable with mean zero and variance 9. If a $= P(X \geq 3)$, then P(|X|≤3) is equal to:

Ans

✗ 1. 2a

✗ 2. 1 − a

✓ 3. 1 − 2a

✗ 4. a

Ques
Opti
Opti
Opti
Opti
Chosen

Q.33 If the roots of the quadratic equation $x^2 + px + q = 0$ are $\tan 30°$ and $\tan 15°$, respectively, then the value of $2 + q - p$ is:

Ans

✗ 1. 1

✗ 2. 2

✗ 3. 0

✓ 4. 3

Q.34 If the roots of the quadratic equation $x^2 - 4x - \log_3 a = 0$ are real, then the least value of a is:

Ans

✗ 1. $\frac{1}{64}$

✗ 2. 64

✓ 3. $\frac{1}{81}$

✗ 4. 81

Ques
Opti
Opti
Opti
Opti
Chosen

Q.35 **Select the correct option that a teacher should follow to assess the mathematical reasoning ability of the students.**

Ans

✗ 1. Synthesising, Developing, Justifying

✗ 2. Beginning, Analysing, Justifying

✓ 3. Analysing, Generalising, Justifying.

✗ 4. Developing, Extending, Justifying

Ques
Opti
Opti
Opti
Opti
Chosen

Q.36 **Which of the following steps is provided the maximum time in the micro-teaching cycle?**

Ans

✗ 1. Feedback

✗ 2. Re-feedback

✗ 3. Re-teach

✓ 4. Re-plan

Q.37 Vatsala plays an aeroplane in a fancy dress competition but becomes upset when she cannot actually fly with her wings. Which of the following stages given by Jean Piaget applies to this child's level of development?

Ans
✗ 1. Concrete operational
✓ 2. Pre-operational
✗ 3. Formal operational
✗ 4. Sensory motor

Quest
Optio
Optio
Optio
Optio
S
Chosen C

Q.38 If the sum of n terms of an AP is $3n^2 + 5n$, then which of its terms is 164?

Ans
✓ 1. 27^{th}
✗ 2. 29^{th}
✗ 3. 28^{th}
✗ 4. 26^{th}

Quest
Optio
Optio
Optio
Optio
S
Chosen C

Q.39 If X is a Poisson random variable with mean 3, then P(|X − 3|<1) will be:

Ans
✗ 1. $\frac{99e^{-3}}{8}$
✗ 2. $3\,e^{-3}$
✓ 3. $\frac{9e^{-3}}{2}$
✗ 4. $\frac{e^{-3}}{2}$

Q.40 If a variable takes discrete values as $x+4, x-\frac{7}{2}, x-\frac{5}{2}, x-3, x-2, x+\frac{1}{2}, x-\frac{1}{2}, x+5, (x>0)$, then the median is:

Ans

✗ 1. $x-\frac{1}{2}$

✗ 2. $x-2$

✗ 3. $x+\frac{5}{4}$

✓ 4. $x-\frac{5}{4}$

Qu
O
O
O
O
Chos

Q.41 Arrange the following stages of problem-solving approach in a logical order.
(i) Present and discuss
(ii) Grasp the problem
(iii) Summarise and reflect
(iv) Try to solve

Ans

✗ 1. (i) (iii) (ii) (iv)

✗ 2. (ii), (iv), (i), (iv)

✗ 3. (ii), (i), (iv), (iii)

✓ 4. (ii), (iv), (i), (iii)

Qu
O
O
O
O
Chos

Q.42 The maximum sum of the series $20+19\frac{1}{3}+18\frac{2}{3}+18+\cdots$ is:

Ans

✓ 1. 310

✗ 2. 300

✗ 3. 320

✗ 4. 290

Q.43 Three cubes of sides 1 cm, 6 cm and 8 cm are melted to form a new cube. Find half of the surface area of the new cube.

Ans

✗ 1. $486\ cm^2$

✗ 2. $463\ cm^2$

✗ 3. $293\ cm^2$

✓ 4. $243\ cm^2$

Questi
Optior
Optior
Optior
Optior
S
Chosen O

Q.44 **Select the correct option for the two statements given below.**
1) The cost of 100 bags is rupees 30.
We can write: 100 bags = ₹30
2) A box is half opened is half closed.
We can write: Box opened = box closed

Ans

✗ 1. Statement (2) is correct but statement (1) is incorrect.

✗ 2. Both statements are logically correct

✗ 3. Statement (1) is correct but statement (2) is incorrect.

✓ 4. Both statements are logically incorrect

Questi
Optior
Optior
Optior
Optior
S
Chosen O

Q.45 Consider the real vector space R^3. By whichof the following will the subspace $\{(x,y,z) \in R^3 : y = x\}$ of R^3 be generated?

Ans

✓ 1. $\{(1,1,0),(0,0,1)\}$

✗ 2. $\{(1,1,0),(1,0,0)\}$

✗ 3. $\{(1,0,0),(0,1,0)\}$

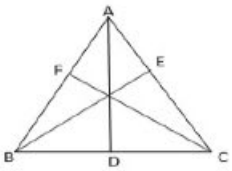
✗ 4. $\{(1,0,1),(0,0,1)\}$

Q.46 The range of ab if $|a| \leq 1$ and $a+b=1, (a,b \in R)$, is:

Ans
✔ 1. $\left[-2, \frac{1}{4}\right]$
✘ 2. $\left[\frac{1}{4}, 2\right]$
✘ 3. $\left[0, \frac{1}{4}\right]$
✘ 4. $[0,2]$

Ques
Opti
Opti
Opti
Opti
Chosen

Q.47 Three concurrent straight lines are drawn from the angular points A, B and C of the triangle ABC to meet the opposite sides at D, E and F, respectively, as shown in the figure below. It is given that $AF : FB = 2 : 3$ and $BD : DC = 3 : 5$. Find $AE : EC$.?



Ans
✘ 1. 4 : 5
✘ 2. 3 : 4
✔ 3. 2 : 5
✘ 4. 5 : 2

Q.48 Given below are two statements. One is labelled as Assertion (A) and the other is labelled as Reason (R).
Assertion (A): ICT integration in mathematical education has a positive impact on both the teaching and learning process.
Reason (R): Schools send their mathematics teachers to attend seminar and workshop in order to update their knowledge.
In light of the above statements, select the correct answer from the options given below.

Ans
✗ 1. (A) is false, but (R) is true.
✗ 2. Both (A) and (R) are true and (R) is the correct explanation of (A).
✗ 3. (A) is true but (R) is false.
✓ 4. Both (A) and (R) are true but (R) is not the correct explanation of (A).

Q.49 Let A be a $3x3$ matrix, whose characteristic roots are $3, 2$ and -1. If $B = A^2 - A$, then $|B|$ is:

Ans
✗ 1. 12
✗ 2. -12
✗ 3. -2
✓ 4. 24

Q.50 If $y = x^{2x}$, then $\frac{dy}{dx} = ?$

Ans
✓ 1. $2x^{2x}(\ln x + 1)$
✗ 2. $2x^{2x} \ln x$
✗ 3. $x^{2x}(\ln x + 2)$
✗ 4. $2x^{2x}$

Q.51 If the difference between the corresponding roots of $x^2 + ax + b = 0$ and $x^2 + bx + a = 0$ is the same and $a \neq b$, then:

Ans

✗ 1. $a - b + 4 = 0$

✗ 2. $a + b - 4 = 0$

✗ 3. $a - b - 4 = 0$

✓ 4. $a + b + 4 = 0$

Ques
Optic
Optic
Optic
Optic
Chosen

Q.52 Let α and β be the roots of the equation $px^2 + qx + r = 0, p \neq 0$. If (p, q, r) are in AP and $\frac{1}{\alpha} + \frac{1}{\beta} = 4$, then the value of $|\alpha - \beta|$ is:

Ans

✗ 1. $\frac{\sqrt{61}}{9}$

✗ 2. $\frac{2\sqrt{17}}{9}$

✓ 3. $\frac{2\sqrt{13}}{9}$

✗ 4. $\frac{\sqrt{34}}{9}$

Q.53 If the eigenvalues of a $3x3$ real matrix of A are $1, 2$ and -3, then:

Ans
1. $A^{-1} = -\frac{1}{6}(7I + A^2)$
2. $A^{-1} = -\frac{1}{6}(7I - A^2)$
3. $A^{-1} = -\frac{1}{6}A^2$
4. $A^{-1} = \frac{1}{6}(7I - A^2)$

Quest
Optic
Optic
Optic
Optic
Chosen

Q.54 In teaching mathematics, ICT covers _____.

Ans
1. spreadsheet
2. calculator
3. advanced geometrical software
4. calculator, spreadsheet, and advanced geometrical software

Quest
Optic
Optic
Optic
Optic
Chosen

Q.55 Which of the following is the most suitable for teaching children the concept of fractions?

Ans
1. Geoboards
2. Abacus
3. Number charts
4. Cuisenaire rods

Q.56 The value of k for which $kx + 3y - k + 3 = 0$ and $12x + ky = k$ have an infinite solution is:

Ans

✗ 1. -6

✓ 2. 6

✗ 3. 1

✗ 4. 0

Ques
Opti
Opti
Opti
Opti
Chosen

Q.57 **A clear statement of what successful students will be able to do at the end of a course is known as ___.**

Ans

✓ 1. learning outcome

✗ 2. conclusion

✗ 3. home-work

✗ 4. course description

Ques
Opti
Opti
Opti
Opti
Chosen

Q.58 If PM is the perpendicular from $p(2,3)$ on the line $x + y = 3$, then the coordinates of M are:

Ans

✗ 1. $(-1, 4)$

✗ 2. $(4, -1)$

✓ 3. $(1, 2)$

✗ 4. $(2, 1)$

Q.59 Let $s = \{(-1,0,1),(2,1,4)\}$. The value of k for which the vectors $(3k+2,3,10)$ belong to the linear span of s will be:

Ans

✔ 1. 2

✘ 2. -2

✘ 3. 8

✘ 4. 3

Ques
Opti
Opti
Opti
Opti
Chosen

Q.60 The value of p for which the polynomial $x^3 + 4x^2 - px + 8$ is exactly divisible by $(x-2)$ is:

Ans

✔ 1. 16

✘ 2. 3

✘ 3. 0

✘ 4. 12

Ques
Opti
Opti
Opti
Opti
Chosen

Q.61 The y intercept of the line passing through $(2,2)$ and perpendicular to the line $3x + y = 3$ is:

Ans

✘ 1. $\frac{2}{3}$

✔ 2. $\frac{4}{3}$

✘ 3. 1

✘ 4. $\frac{1}{3}$

Q.62 Which of the following is NOT a principle for setting up a mathematics laboratory?

Ans
✗ 1. Developing scientific attitude
✓ 2. Teacher centred
✗ 3. Learning by doing
✗ 4. Developing self-confidence

Ques
Opti
Opti
Opti
Opti
Chosen

Q.63 If $x + y = 7$ and $3x + y = 13$, then what is the value of $4x^2 + y^2 + 4xy$?

Ans
✓ 1. 100
✗ 2. 75
✗ 3. 91
✗ 4. 85

Ques
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Chosen

Q.64 The value of x satisfying $85x \equiv 45 \pmod{15}$ is:

Ans
✗ 1. 10
✗ 2. 35
✓ 3. 15
✗ 4. 25

Q.65 The fraction of the recurring decimal $0.\overline{32} + 0.2\overline{6} - 0.\overline{53}$ is :

Ans
✔ 1. $\frac{27}{495}$
✘ 2. $\frac{54}{495}$
✘ 3. $\frac{27}{990}$
✘ 4. $\frac{53}{495}$

Ques
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Q.66 The minimum value of the sum of real numbers $a^{-5}, a^{-4}, 3a^{-3}, 1, a^{8}$ and a^{10}, with $a > 0$, is:

Ans
✘ 1. 6
✔ 2. 8
✘ 3. 9
✘ 4. 7

Ques
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Chosen

Q.67 If the foot of the perpendicular from the origin to a straight line is at the point $(3, -4)$, then the equation of the line is:

Ans
✘ 1. $4x + 3y - 25 = 0$
✘ 2. $3x - 4y + 25 = 0$
✔ 3. $3x - 4y = 25$
✘ 4. $4x - 3y + 25 = 0$

Q.68 The equation of a straight line passing through the point of intersection of $x - y + 1 = 0$ and $3x + y - 5 = 0$, which are perpendicular to one of them, is:

Ans

✔ 1. $x - 3y + 5 = 0$

✘ 2. $x + y + 3 = 0$

✘ 3. $x - 3y - 5 = 0$

✘ 4. $x - y + 3 = 0$

Questio
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Chosen Op

Q.69 A wire is in the shape of a circle of radius 21cm. It is bent to form a square. What will be the side of the square?

[Take$\pi = \frac{22}{7}$.] ?

Ans

✔ 1. 33cm

✘ 2. 44cm

✘ 3. 22cm

✘ 4. 66cm

Questio
Option
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Option
St
Chosen Op

Q.70 If $A = \sqrt[8]{6} - \sqrt[8]{5}$, $B = \sqrt[8]{6} + \sqrt[8]{5}$, $C = \sqrt[6]{6} - \sqrt[6]{5}$, $D = \sqrt[4]{6} + \sqrt[4]{5}$, and $E = \sqrt{6} + \sqrt{5}$, then which of the following is a rational number?

Ans

✘ 1. AB

✘ 2. ABCDE

✘ 3. CD

✔ 4. ABDE

Q.71 The frustum of a right circular cone has the diameter of the base 10cm, diameter of the top 6cm and height 5cm. Find the start height of the frustum.

Ans

✗ 1. $\sqrt{13}$ cm

✗ 2. $3\sqrt{3}$ cm

✓ 3. $\sqrt{29}$ cm

✗ 4. $4\sqrt{3}$ cm

Quest
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Chosen

Q.72 A number in the form of 8^n, where n belongs to natural numbers, can never end with the digit:

Ans

✗ 1. 4

✓ 2. 0

✗ 3. 6

✗ 4. 2

Quest
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Optic
Chosen

Q.73 If $\int \frac{sin^4 x}{cos^8 x} dx = a\, tan^7 x + b\, tan^5 x + c$, then:

Ans

✓ 1. $7a = 5b$

✗ 2. $5a + 7b = 0$

✗ 3. $7a + 5b = 0$

✗ 4. $5a = 7b$

Q.74 If a, b and c are distinct positive real numbers, then:

Ans
✗ 1. $a^2 + b^2 + c^2 \geq ab + bc + ca$
✗ 2. $a^2 + b^2 + c^2 \leq ab + bc + ca$
✗ 3. $a^2 + b^2 + c^2 < ab + bc + ca$
✓ 4. $a^2 + b^2 + c^2 > ab + bc + ca$

Ques
Opti
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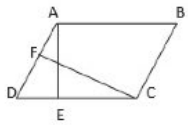
Opti
Chosen

Q.75 The set of points where the function f given by $f(x) = |2x + 7| \sin x$ is differentiable is:

Ans
✗ 1. $\mathbb{R} - \left\{\frac{7}{2}\right\}$
✗ 2. $\left(-\frac{9}{2}, \infty\right)$
✗ 3. $\mathbb{R}$
✓ 4. $\mathbb{R} - \left\{-\frac{7}{2}\right\}$

Q.76 $ABCD$ is a parallelogram as shownin the following figure. $AE \perp DC$ and $CF \perp AD$. If $AB = 16\ cm, AE = 8\ cm$ and $CF = 10\ cm$, then $AD = ?$



Ans
✗ 1. 8 cm
✗ 2. 10 cm
✗ 3. 16 cm
✓ 4. 12.8 cm

Questi
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Chosen O

Q.77 If the mean of the first n odd natural numbers is $\frac{n^2}{81}$, then what is the value of n?

Ans
✗ 1. 27
✓ 2. 81
✗ 3. 9
✗ 4. 40

Questi
Optior
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S
Chosen O

Q.78 The standard deviation and arithmetic mean of the distribution are 12 and 45.5, respectively. The coefficient of variation of the distribution is:

Ans
✗ 1. 12.11
✗ 2. 22.15
✗ 3. 32.43
✓ 4. 26.37

Q.79 The points $(-4,0),(4,0)$ and $(0,3)$ are the vertices of a/an:

Ans
✔ 1. isosceles triangle
✘ 2. scalene triangle
✘ 3. right-angled triangle
✘ 4. equilateral triangle

Question
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.80 The solution to the recurrence equation $T(2^k) = 3T(2^{k-1}) + 1, T(1) = 1$, is _____.

Ans
✘ 1. $2^{\log_3 k}$
✘ 2. 2^k
✔ 3. $\frac{3^{k+1} - 1}{2}$
✘ 4. $3^{\log_2 k}$

Question
Option 1
Option 2
Option 3
Option 4
Sta
Chosen Opt

Q.81 Let $R = (5\sqrt{5} + 11)^{2n+1}$ and f be the fractional part of R, then Rf is equal to:

Ans
✘ 1. 5^{2n+1}
✘ 2. 2^{2n+1}
✔ 3. 4^{2n+1}
✘ 4. 3^{2n+1}

Q.82 Upon dividing $x^3 - 3x^2 + x + 2$ by a polynomial $g(x)$, the quotient and the remainder obtainedare $(x - 2)$ and $(-2x + 4)$, respectively. Find $g(x)$.

Ans
✗ 1. $x^2 - x + 2$
✗ 2. $x^2 + x - 2$
✗ 3. $x^2 - x - 1$
✓ 4. $x^2 - x + 1$

Ques
Opti
Opti
Opti
Opti
Chosen

Q.83 A sector of a circle of radius 15cm has the angle $120°$. It is rolled up so that two bounding radii are joined together to form a cone. Find the height of the cone.

Ans
✗ 1. $7\sqrt{2}$ cm
✓ 2. $10\sqrt{2}$ cm
✗ 3. $10\sqrt{3}$ cm
✗ 4. $5\sqrt{3}$ cm

Ques
Opti
Opti
Opti
Opti
Chosen

Q.84 Which of the following is NOT one of the principles of creating an assessment?

Ans
✓ 1. The level of the questions should be difficult.
✗ 2. The nomenclature of the test should be normal.
✗ 3. The test should be reliable and valid.
✗ 4. The construction of the test should be comprehensive.

Q.85 If the 4^{th} term in the expansion of $(ax+\frac{1}{x})^n$ is $\frac{5}{2}$, for all $x \in R$, then the values of a and n are:

Ans

✗ 1. are $\frac{1}{2}$ and 3, respectively

✓ 2. are $\frac{1}{2}$ and 6, respectively

✗ 3. are 1 and 3, respectively

✗ 4. cannot be found

Quest
Optio
Optio
Optio
Optio
Chosen

Q.86 The range of the function $f(x) = \log_e \sqrt{4-x^2}$? is:

Ans

✓ 1. $(-\infty, \ln 2)$

✗ 2. $(-\infty, \infty)$

✗ 3. $(0, \infty)$

✗ 4. $(\ln 2, \infty)$

Quest
Optio
Optio
Optio
Optio
Chosen

Q.87 A class is a mix of slow learners and intelligent students. Taking into consideration the learning capabilities of different students, the teacher should adjust his teaching pace to ensure that every student benefits from the teaching. Which of the following teaching skills should a teacher possess to become an effective tutor in such a situation?

Ans

✗ 1. Reinforcement

✗ 2. Student involvement

✓ 3. Observation

✗ 4. Classroom management

Q.88 If the distance between two points (4, p) and (1, 0) is 5, then the value of p is:

Ans

✗ 1. -4

✗ 2. 4

✗ 3. 0

✓ 4. ± 4

Questi
Option
Option
Option
Option
St
Chosen Op

Q.89 What should be subtracted from the polynomial $2x^2 - 15x + 55$ so that $x - 25$ is the factor of the resulting polynomial?

Ans

✗ 1. 970

✗ 2. 950

✗ 3. 900

✓ 4. 930

Questi
Option
Option
Option
Option
St
Chosen Op

Q.90 If $f(2a - x) = f(x)$ and $\int_0^a f(x)dx = \lambda$, then $\int_0^{2a} f(x)dx = ?$

Ans

✓ 1. 2λ

✗ 2. λ

✗ 3. 3λ

✗ 4. 0

Q.91 Given that tan A and tan B are the roots of the equation $ax^2 - ax + b = 0$. The value of $sin^2(A+B)$ is:

Ans

✗ 1. $\frac{a^2}{b^2 + (1-a)^2}$

✗ 2. $\frac{a^2}{(a+b)^2}$

✓ 3. $\frac{a^2}{a^2 + (1-b)^2}$

✗ 4. $\frac{a^2}{a^2 + b^2}$

Ques
Opti
Opti
Opti
Opti

Chosen

Q.92 If the system of equations $x - 2y - 3z = 1, (p+2)z = 3$ and $(2p+1)y + z = 2$ is inconsistent, then what will be the value of p?

Ans

✗ 1. 0

✗ 2. -2

✗ 3. 2

✓ 4. $-\frac{1}{2}$

Q.93 If the lines given by $3x + 2ky = 2$ and $2x + 5y + 1 = 0$ are parallel, then the value of k will be:

Ans

✗ 1. $\frac{3}{2}$

✗ 2. $\frac{2}{5}$

✓ 3. $\frac{15}{4}$

✗ 4. $\frac{-5}{4}$

Quest
Optic
Optic
Optic
Optic
Chosen

Q.94 **Which of the following options is NOT the responsibility of a teacher in problem solving method?**

Ans

✗ 1. To build an outline on the board

✓ 2. To collect data

✗ 3. To formulate concise statement of the net outcome of discussion

✗ 4. To define the problem clearly

Q.95 If $3^{x+y} = 81$ and $81^{(x-y)} = 3$, then what is the value of x ?

Ans
1. $\frac{17}{16}$
2. $\frac{17}{8}$
3. $\frac{15}{4}$
4. $\frac{17}{4}$

Questio
Option
Option
Option
Option
Sta
Chosen Op

Q.96 If one of the zeros of the quadratic polynomial $(k-1)x^2 + kx + 1$ is -3, then the value of k is:

Ans
1. $\frac{4}{3}$
2. $\frac{2}{3}$
3. $\frac{-4}{3}$
4. $\frac{-2}{3}$

Q.97 The kernel of a linear transformation $T: \mathbb{R}^p \to \mathbb{R}^q$ is a subspace of:

Ans
1. $\mathbb{R}^{pq}$
2. $\mathbb{R}^p$
3. $\mathbb{R}^q$
4. $\mathbb{R}^{p+q}$

Ques
Opti
Opti
Opti
Opti
Chosen

Q.98 The value of k such that $3x^2 - 11xy + 10y^2 - 7x + 13y + k = 0$ may represent a pair of straight lines is:

Ans
1. 8
2. 3
3. 4
4. 6

Ques
Opti
Opti
Opti
Opti
Chosen

Q.99 If the ratio of the mode and median of a distribution is 6:5, then what is the ratio of its mean and median?

Ans
1. 9 : 7
2. 8 : 11
3. 9 : 10
4. 8 : 9

Q.100 If $A + B = \frac{\pi}{4}$, then $(\tan A + 1)(\tan B + 1)$ is equal to:

Ans
✗ 1. 1
✓ 2. 2
✗ 3. -1
✗ 4. $\sqrt{3}$