



# Navodaya Vidyalaya Samiti

(An Autonomous Body Under MHRD) Government of India



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|------------------|-----------------|
| Roll No.         |                 |
| Participant Name |                 |
| Test Center Name |                 |
| Test Date        |                 |
| Test Time        |                 |
| Subject          | PGT MATHEMATICS |

## Section : General (English & Hindi)

**Q.1** Select the option that expresses the given sentence in direct speech.

Father told his children that he didn't wish to see any of them and ordered them to go away and leave him alone for some time.

Father said to his children:

Ans ☒ 1.

"I didn't wish to see any of you. Go away and leave him alone for some time."

☒ 2.

"He didn't wish to see any of them. They should go away and leave him alone for some time."

☒ 3.

"I am not wishing to see any of you. You may go away and leave me alone for some time."

☒ 4.

"I don't wish to see any of you. Go away and leave me alone for some time."

Question ID : 7193992750

Status : Answered

Chosen Option : 4

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

The natural beauty of the Indus Valley is beyond description but the river \_\_\_\_\_ is very muddy.

Ans ☒ 1. herself

☒ 2. itself

☒ 3. himself

☒ 4. oneself

Question ID : 7193992736

Status : Answered

Chosen Option : 2

**Q.3** In the following sentence four words or phrases have been underlined. One of them is incorrect. Choose the INCORRECT word or phrase from the given options:

Once I saw five townsmen getting to hold of a peasant and tearing at him like a pack of dogs.

Ans ☒ 1. Once I saw

☒ 2. pack of dogs

☒ 3. getting to hold

☒ 4. tearing at him

Question ID : 7193992747  
Status : **Answered**  
Chosen Option : 4

Q.4 Select the most appropriate option to fill in the blank:

This is one the \_\_\_\_\_ rooms in this hotel.

- Ans
- ☒ 1. more nice
  - ☒ 2. nice
  - ☒ 3. nicest
  - ☒ 4. nicer

Question ID : 7193992734  
Status : **Answered**  
Chosen Option : 3

Q.5 Select the option that is NOT an antonym of another word by way of adding the prefix 'un-'.

- Ans
- ☒ 1. Underhand
  - ☒ 2. Unmeasured
  - ☒ 3. Unfamiliar
  - ☒ 4. Undecided

Question ID : 7193992744  
Status : **Answered**  
Chosen Option : 1

Q.6 Select the INCORRECTLY spelt word:

- Ans
- ☒ 1. Cautious
  - ☒ 2. Conspicuous
  - ☒ 3. Conscious
  - ☒ 4. Conscencious

Question ID : 7193992746  
Status : **Answered**  
Chosen Option : 1

Q.7 Select the most appropriate option to fill in the blank:

Their house is under repair. They \_\_\_\_\_ with us nowadays.

- Ans
- ☒ 1. have lived
  - ☒ 2. lived
  - ☒ 3. were living
  - ☒ 4. are living

Question ID : 7193992731  
Status : **Answered**  
Chosen Option : 4

Q.8

Select the option that expresses the given sentence in reported speech.

"I don't like the pattern of the dress you have made for me," Esha said to me.

Esha told me that:

Ans  1.

she didn't like the pattern of the dress you have made for her.

 2.

she didn't like the pattern of the dress you had made for me.

 3. I don't like the pattern of the dress you have made for me.

 4. she didn't like the pattern of the dress I had made for her.

Question ID : 7193992749

Status : Answered

Chosen Option : 4

Q.9 Select the correct passive form of the given sentence:

The landowners allowed the peasants only a few weeks to simply pack and leave the land.

Ans  1.

The peasants were allowed by the landowners only a few weeks to simply pack and leave the land.

 2.

The landowners were allowed by the peasants only a few weeks to simply pack and leave the land.

 3.

Only a few weeks are being allowed by the landowners to the peasants to simply pack and leave the land.

 4.

The peasants have been allowed by the landowners only a few weeks to simply pack and leave the land.

Question ID : 7193992740

Status : Answered

Chosen Option : 4

Q.10 Select the correctly spelt word:

Ans  1. Preferrable

 2. Priferable

 3. Preferable

 4. Prefarable

Question ID : 7193992745

Status : Answered

Chosen Option : 1

Q.11 Select the most appropriate synonym of the given word:

OBLIGATORY

Ans  1. Essential

 2. Exclusive

 3. Flexible

 4. Open

Question ID : 7193992741

Status : Answered

Chosen Option : 1

Q.12

- Ans
- ☐ 1. they
  - ☐ 2. their
  - ☐ 3. us
  - ☒ 4. them

Question ID : 7193992735

Status : Answered

Chosen Option : 4

Q.13 Select the most appropriate option to fill in the blank:

The conductor of the bus swam towards the \_\_\_\_\_ child in an effort to save him.

- Ans
- ☐ 1. drowned
  - ☐ 2. sunken
  - ☒ 3. drowning
  - ☐ 4. sunk

Question ID : 7193992733

Status : Answered

Chosen Option : 3

Q.14 Select the most appropriate ANTONYM of the given word:

INTEGRITY

- Ans
- ☐ 1. Reliability
  - ☒ 2. Dishonesty
  - ☐ 3. Truthfulness
  - ☐ 4. Dependability

Question ID : 7193992743

Status : Answered

Chosen Option : 2

Q.15 Select the most appropriate option to fill in the blank:

No country lets you enter it \_\_\_\_\_ you have proper documents.

- Ans
- ☐ 1. because
  - ☐ 2. so that
  - ☐ 3. if
  - ☒ 4. unless

Question ID : 7193992737

Status : Answered

Chosen Option : 4

Q.16 Select the most appropriate synonym of the given word:

FARCICAL

Ans

- 1.
- ✓ 2. Absurd
- ✗ 3. Sarcastic
- ✗ 4. Persistent

Question ID : 7193992742

Status : Answered

Chosen Option : 3

Q.17 Select the correct passive form of the given sentence:

The new findings of the space scientists will improve existing models of solar systems.

Ans

- ✓ 1. Existing models of solar systems will be improved by the new findings of the space scientists.
- ✗ 2. Existing models of space scientists will be improved by the new findings of the solar systems.
- ✗ 3. Existing models of solar systems will improve the new findings of the space scientists.
- ✗ 4. Existing models of solar systems have been improved by the new findings of the space scientists.

Question ID : 7193992739

Status : Answered

Chosen Option : 1

Q.18 Select the most appropriate option to fill in the blank:

I gave my address to some friends in Croatia, \_\_\_\_\_ they decided to visit me when they came to Mumbai.

Ans

- ✓ 1. in case
- ✗ 2. as though
- ✗ 3. so that
- ✗ 4. whereas

Question ID : 7193992738

Status : Answered

Chosen Option : 2

Q.19 Select the most appropriate option to fill in the blank:

Tomorrow, definitely, I \_\_\_\_\_ this telephone to VSNL. It just doesn't work.

Ans

- ✗ 1. have surrendered
- ✓ 2. will surrender
- ✗ 3. surrender
- ✗ 4. surrendered

Question ID : 7193992732

Status : Answered

Chosen Option : 2

Q.20 In the following sentence four words or phrases have been underlined. One of them is incorrect. Choose the INCORRECT word or phrase from the given options:

On Monday, six special trains meant to transport stranded labourers from Kerala to three eastern states was pressed into service.

Ans

- ✗ 1. On Monday



2.

✗ 3. from Kerala

✓ 4. was pressed

Question ID : 7193992748

Status : Answered

Chosen Option : 4

Q.21 स्वेच्छा का संधि विच्छेद है:

Ans ✗ 1. स्व + ईच्छा

✗ 2. स्वा + ईच्छा

✓ 3. स्व + इच्छा

✗ 4. स + इच्छा

Question ID : 7193992763

Status : Answered

Chosen Option : 3

Q.22 शे + अन = शयन का संधि भेद है:

Ans ✓ 1. अयादि संधि

✗ 2. यण संधि

✗ 3. गुण संधि

✗ 4. विसर्ग संधि

Question ID : 7193992764

Status : Answered

Chosen Option : 3

Q.23 लोक के लिए अर्पण का समस्तपद है:

Ans ✓ 1. लोकार्पण

✗ 2. लोक है अर्पण

✗ 3. लोक को अर्पण

✗ 4. लोकमय

Question ID : 7193992766

Status : Answered

Chosen Option : 1

Q.24 नृत्य का तद्भव रूप होगा:

Ans ✗ 1. नट

✗ 2. नाटक

✗ 3. नाचना

✓ 4. नाच

Question ID : 7193992753

Status : Answered

Q.25 अब मैंने चलने की आज्ञा दीजिए। वाक्य का शुद्ध रूप है:

- Ans
- ☒ 1. चलने की अब मुझे आज्ञा दीजिए।
  - ☒ 2. आज्ञा दीजिए अब मुझे चलने की।
  - ☒ 3. अब मुझे चलने की आज्ञा दीजिए।
  - ☒ 4. मुझे चलने की आज्ञा दीजिए अब।

Question ID : 7193992762

Status : Answered

Chosen Option : 3

Q.26 निम्नलिखित में से एकवचन कौन सा है?

- Ans
- ☒ 1. गुरुजन
  - ☒ 2. अध्यापिकाएँ
  - ☒ 3. पुड़ियाँ
  - ☒ 4. बिटिया

Question ID : 7193992769

Status : Answered

Chosen Option : 4

Q.27 'गुड़ गोबर करना' मुहावरे का अर्थ होगा:

- Ans
- ☒ 1. काम बनाना
  - ☒ 2. काम करते जाना
  - ☒ 3. काम पर ध्यान न देना
  - ☒ 4. बने बनाए काम को बिगाड़ना

Question ID : 7193992759

Status : Answered

Chosen Option : 4

Q.28 यात्री का पर्याय नहीं है:

- Ans
- ☒ 1. राहगीर
  - ☒ 2. मुसाफ़िर
  - ☒ 3. हमसफ़र
  - ☒ 4. राही

Question ID : 7193992755

Status : Answered

Chosen Option : 3

Q.29 स्त्रीलिंग पुल्लिंग का अशुद्ध युग्म है:

Ans

- 1.
- ☒ 2. लाला - ललाइन
- ☒ 3. संचालक - संचालिका
- ☒ 4. सेठ - सेठनी

Question ID : 7193992770

Status : Answered

Chosen Option : 4

Q.30 कौन सा शब्द युग्म वचन कि दृष्टि से शुद्ध है:

Ans

- ☒ 1. शाखा - शाखाएँ
- ☒ 2. सज्जनता - सज्जनों
- ☒ 3. रात - रात्री
- ☒ 4. वर्षा - वर्षाओं

Question ID : 7193992768

Status : Answered

Chosen Option : 1

Q.31 'वैध' का विलोम होगा:

Ans

- ☒ 1. भद्र
- ☒ 2. वैधानिक
- ☒ 3. सार्थक
- ☒ 4. अवैध

Question ID : 7193992758

Status : Answered

Chosen Option : 4

Q.32 निम्नलिखित में से कौन सा तद्भव शब्द है:

Ans

- ☒ 1. तीरथ
- ☒ 2. नयन
- ☒ 3. पक्षी
- ☒ 4. पत्र

Question ID : 7193992754

Status : Answered

Chosen Option : 1

Q.33 गेहूँ का तत्सम रूप है:

Ans

- ☒ 1. फ़सल
- ☒ 2. अनाज
- ☒ 3. आटा
- ☒ 4. गोधूम

Question ID : 7193992752



Q.34 आज वह \_\_\_\_\_ में भाग ले रहा है। सही शब्द से रिक्त स्थान भरिए:

- Ans
- ☒ 1. घुड़दौड़
  - ☐ 2. घुड़दौड़ी
  - ☐ 3. घोड़ा दौड़
  - ☐ 4. घोड़े दौड़

Question ID : 7193992767  
Status : **Answered**  
Chosen Option : 1

Q.35 विलोम शब्द का कौन सा युग्म सही है:

- Ans
- ☐ 1. शोक-शौक
  - ☐ 2. पक्ष-पक्षधर
  - ☐ 3. ज्ञान-विज्ञान
  - ☒ 4. खरा-खोटा

Question ID : 7193992757  
Status : **Answered**  
Chosen Option : 4

Q.36 घड़ी के लिए तत्सम शब्द होगा:

- Ans
- ☐ 1. घड़ा
  - ☐ 2. घटा
  - ☐ 3. घट
  - ☒ 4. घटिका

Question ID : 7193992751  
Status : **Answered**  
Chosen Option : 4

Q.37 'बढ़ा चढ़ाकर बात करना' वाक्यांश के लिए उचित मुहावरा होगा:

- Ans
- ☒ 1. नमक मिर्च लगाना
  - ☐ 2. चार चाँद लगाना
  - ☐ 3. नानी याद आना
  - ☐ 4. ज़हर उगलना

Question ID : 7193992760  
Status : **Answered**  
Chosen Option : 1

Q.38 सोना का पर्याय है:

- Ans
- ☐ 1. ताम्र

2.

☒ 3. रजत

☒ 4. हीरक

Question ID : 7193992756

Status : Answered

Chosen Option : 2

Q.39 यमक अलंकार का उदाहरण है:

Ans

☒ 1. लगा दी किसने आकर आग।

☒ 2. यह काया है या शेष उसी की छाया।

☒ 3. सागर सा गंभीर हृदय हो।

☒ 4. कनक कनक ते सौ गुनी, मादकता अधिकाय।

Question ID : 7193992765

Status : Answered

Chosen Option : 3

Q.40 'चमड़ी जाए पर दमड़ी न जाए' लोकोक्ति का अर्थ होगा:

Ans

☒ 1. आपस में फूट पड़ना

☒ 2. धन की हानि होना

☒ 3. चोट लगना

☒ 4. अत्यधिक कंजूस होना

Question ID : 7193992761

Status : Answered

Chosen Option : 4

Section : General Awareness

Q.1 Which of the following chief ministers has been conferred the Skoch Chief Minister of the Year Award for 2018?

Ans

☒ 1. Naveen Patnaik

☒ 2. Vijay Rupani

☒ 3. Nitish Kumar

☒ 4. Mamata Banerjee

Question ID : 7193992773

Status : Answered

Chosen Option : 1

Q.2 A cell is enclosed by a thin outer layer called:

Ans

☒ 1. Cell membrane

☒ 2. Nucleus

☒ 3. Celluloid

☒ 4. Cell guard

Question ID : 7193992796

Status : **Answered**

Chosen Option : 1

**Q.3** Which of the following Indian women weightlifters won gold medal in the Commonwealth Games 2018?

- Ans**
- ☐ 1. Vandna Gupta
  - ☐ 2. Saraswati Rout
  - ☐ 3. Purnima Pandey
  - ☒ 4. Punam Yadav

Question ID : 7193992779

Status : **Answered**

Chosen Option : 4

**Q.4** Which country has ventured into the Internet of Things (IoT) with the launch of a new satellite system named 'Marathon'?

- Ans**
- ☒ 1. Russia
  - ☐ 2. China
  - ☐ 3. United Kingdom
  - ☐ 4. United States of America

Question ID : 7193992777

Status : **Answered**

Chosen Option : 1

**Q.5** Which country won the FIFA Football World Cup 2018 held in Russia?

- Ans**
- ☐ 1. Croatia
  - ☐ 2. India
  - ☒ 3. France
  - ☐ 4. Germany

Question ID : 7193992781

Status : **Answered**

Chosen Option : 3

**Q.6** Department of Industrial Policy and Promotion (DIPP), in partnership with energy companies, has launched the \_\_\_\_\_ Programme for startups in energy sector.

- Ans**
- ☐ 1. Collaborate to Innovate
  - ☒ 2. Integrate to Innovate
  - ☐ 3. Integrate to Excel
  - ☐ 4. Collaborate to Excel

Question ID : 7193992792

Status : **Answered**

Chosen Option : 1

**Q.7** Which one of the following is the most populous city or urban agglomeration by population in India?

- Ans**
- ☐ 1. Chennai
  - ☐ 2. Kolkata
  - ☐ 3. New Delhi
  - ☒ 4. Mumbai

Question ID : 7193992799  
Status : **Answered**  
Chosen Option : 3

Q.8 Which Indian city is declared the first World Heritage City by UNESCO?

- Ans
- ☒ 1. Hyderabad
  - ☐ 2. Ahmedabad
  - ☐ 3. Banaras
  - ☐ 4. Delhi

Question ID : 7193992797  
Status : **Answered**  
Chosen Option : 3

Q.9 What is the amount of dividend paid by RBI to Indian Government for FY 2018?

- Ans
- ☒ 1. ₹ 50,000 Crore
  - ☐ 2. ₹ 20,000 Crore
  - ☐ 3. ₹ 10,000 Crore
  - ☐ 4. ₹ 80,000 Crore

Question ID : 7193992791  
Status : **Answered**  
Chosen Option : 1

Q.10 Who has been appointed as interim director of the Central Bureau of Investigation (CBI) in October 2018?

- Ans
- ☐ 1. Manish Sinha
  - ☐ 2. Rakesh Asthana
  - ☐ 3. Dineswar Prasad
  - ☒ 4. M. Nageswara Rao

Question ID : 7193992774  
Status : **Answered**  
Chosen Option : 4

Q.11 Which country has unveiled the world's first floating nuclear power station?

- Ans
- ☐ 1. United Kingdom
  - ☐ 2. Germany
  - ☒ 3. Russia
  - ☐ 4. United States of America

Question ID : 7193992778  
Status : **Answered**  
Chosen Option : 3

Q.12 Name the novel that features India's national song 'Vande Mataram'?

- Ans
- ☒ 1. Anand Math
  - ☐ 2. Kapalkundala
  - ☐ 3. Rajsimha
  - ☐ 4. Durgeshnandini

Question ID : 7193992785  
Status : Answered  
Chosen Option : 1

Q.13 Which among the following is a base?

- Ans ☒ 1. NaOH  
☒ 2. HCl  
☒ 3. H<sub>2</sub>SO<sub>4</sub>  
☒ 4. HNO<sub>3</sub>

Question ID : 7193992794  
Status : Answered  
Chosen Option : 1

Q.14 Where there is only one House of the Legislature of a state, it is known as:

- Ans ☒ 1. The Legislative Assembly  
☒ 2. The Council of States  
☒ 3. The Legislative Council  
☒ 4. The House of the People

Question ID : 7193992787  
Status : Answered  
Chosen Option : 1

Q.15 How many security and intelligence agencies have been authorised by the government to intercept, monitor and decrypt any information generated, transmitted, received or stored in any computer, as per government notification dated 20<sup>th</sup> December 2018?

- Ans ☒ 1. 6  
☒ 2. 10  
☒ 3. 8  
☒ 4. 12

Question ID : 7193992772  
Status : Answered  
Chosen Option : 3

Q.16 What is the name of the app launched by Union Ministry of Commerce and Industry for exporters and importers of the country?

- Ans ☒ 1. Vyapar Vikas  
☒ 2. Vyapar Mitra  
☒ 3. Aayat Mitra  
☒ 4. Niryat Mitra

Question ID : 7193992793  
Status : Answered  
Chosen Option : 4

Q.17 Which of the following sportspersons was given Khel Ratna Award 2018?

- Ans ☒ 1. Mirabai Chanu  
☒ 2. P. V. Sindhu

3.

 4. M. C. Mary Kom

Question ID : 7193992782

Status : **Answered**

Chosen Option : 1

**Q.18** Which of the following articles of the Constitution of India deals with the creation of Legislative Councils in States?

**Ans**  1. Article 233

 2. Article 121

 3. Article 169

 4. Article 223

Question ID : 7193992788

Status : **Answered**

Chosen Option : 4

**Q.19** Which Nawab of Bengal was defeated by the British forces in the Battle of Plassey in 1757?

**Ans**  1. Mir Jafar

 2. Sarfaraz Khan

 3. Siraj-ud-daula

 4. Mir Qasim

Question ID : 7193992783

Status : **Answered**

Chosen Option : 4

**Q.20** Which military communication satellite was launched by the Indian Space Research Organization (ISRO) in December 2018?

**Ans**  1. GSAT-7A

 2. GSAT-11

 3. GSAT-17

 4. GSAT-6A

Question ID : 7193992775

Status : **Answered**

Chosen Option : 4

**Q.21** Which of the following countries has introduced a contribution-based social security scheme for formal sector workers in November 2018?

**Ans**  1. Maldives

 2. Myanmar

 3. Nepal

 4. Sri Lanka

Question ID : 7193992776

Status : **Answered**

Chosen Option : 1

**Q.22** Who penned the novel 'A Suitable Boy'?

**Ans**  1. Amitav Ghosh

 2. Vikram Seth



3.

☒ 4. Vikram Chandra

Question ID : 7193992800

Status : Answered

Chosen Option : 2

**Q.23** The total number of ministers, including the Chief Minister, in the Council of Ministers in a state cannot exceed \_\_\_\_\_ of the total number of members of \_\_\_\_\_.

- Ans
- ☒ 1. 10 %; the Lok Sabha
  - ☒ 2. 10 %; the Legislative Assembly of that state
  - ☒ 3. 20 %; the Lok Sabha
  - ☒ 4. 15 %; the Legislative Assembly of that state

Question ID : 7193992786

Status : Answered

Chosen Option : 4

**Q.24** Which of the following Articles of the Constitution of India deals with ancillary powers of the Supreme Court?

- Ans
- ☒ 1. Article 85
  - ☒ 2. Article 186
  - ☒ 3. Article 140
  - ☒ 4. Article 63

Question ID : 7193992790

Status : Answered

Chosen Option : 1

**Q.25** An Ordinance promulgated under Article 213 of the Constitution of India can be withdrawn by the:

- Ans
- ☒ 1. Home Minister
  - ☒ 2. Vice-President
  - ☒ 3. Governor
  - ☒ 4. Finance Minister

Question ID : 7193992789

Status : Answered

Chosen Option : 3

**Q.26** Name the Sultan of Delhi who shifted his capital from Delhi to Deogiri?

- Ans
- ☒ 1. Muhammad Bin Tughlak
  - ☒ 2. Qutbuddin Aibak
  - ☒ 3. Alauddin Khilji
  - ☒ 4. Ibrahim Lodhi

Question ID : 7193992784

Status : Answered

Chosen Option : 1

**Q.27** The distance-time graph is steeper for \_\_\_\_\_ objects.

- Ans
- ☒ 1. oscillating

2.

✓ 3. faster

✗ 4. slower

Question ID : 7193992795

Status : Answered

Chosen Option : 3

Q.28 Which country's player has P. V. Sindhu defeated to win her maiden World Tour Finals title in December 2018?

Ans ✗ 1. China

✓ 2. Japan

✗ 3. South Korea

✗ 4. Indonesia

Question ID : 7193992780

Status : Answered

Chosen Option : 2

Q.29 Which former Indian diplomat has been elected to an Asia Pacific seat on the UN's Committee on Economic, Social and Cultural Rights (CESCR)?

Ans ✗ 1. Shivshankar Menon

✗ 2. Vikas Swarup

✗ 3. Lakshmi Puri

✓ 4. Preeti Saran

Question ID : 7193992771

Status : Answered

Chosen Option : 1

Q.30 Where is the Gahirmatha Marine Wildlife Sanctuary located?

Ans ✗ 1. Kerala

✗ 2. Goa

✗ 3. Maharashtra

✓ 4. Odisha

Question ID : 7193992798

Status : Answered

Chosen Option : 4

Section : General Aptitude

Q.1 The total number of factors of  $8 \times 18^4 \times (35)^8$  is:

Ans ✓ 1. 5832

✗ 2. 1792

✗ 3. 3584

✗ 4. 90

Question ID : 7193992821

Status : Answered

Chosen Option : 1

Q.2

- Ans
- ☒ 1. 16.25%
  - ☒ 2. 15.75%
  - ☒ 3. 15.25%
  - ☒ 4. 14.75%

Question ID : 7193992827  
Status : Answered  
Chosen Option : 2

**Q.3** The average of 19 numbers is 72. The average of the first 10 numbers is 65 and the average of the last 10 numbers is 74. If the 10<sup>th</sup> number is excluded, what is the average of the remaining numbers, correct to one decimal place?

- Ans
- ☒ 1. 75.1
  - ☒ 2. 74.6
  - ☒ 3. 75.3
  - ☒ 4. 74.8

Question ID : 7193992826  
Status : Answered  
Chosen Option : 3

**Q.4** The HCF of two numbers is 18 and their product is 13608. If both are three-digit numbers, what is the sum of their reciprocals?

- Ans
- ☒ 1.  $\frac{13}{378}$
  - ☒ 2.  $\frac{13}{756}$
  - ☒ 3.  $\frac{15}{756}$
  - ☒ 4.  $\frac{15}{378}$

Question ID : 7193992822  
Status : Answered  
Chosen Option : 2

**Q.5** Study the following sequence carefully and select the number that will correctly replace the question mark (?) in it.  
628 : 16 , 593 : 17 , 495 : 18 , 315 : ?

- Ans
- ☒ 1. 15
  - ☒ 2. 29
  - ☒ 3. 10
  - ☒ 4. 09

Question ID : 7193992806  
Status : Answered  
Chosen Option : 4

**Q.6** Two vessels A and B contain spirit and water in the ratio 3 : 4 and 5 : 8 respectively. Their contents are mixed in the ratio 7 : 13. In 200 ml of this solution, how much water should be mixed to get a solution containing spirit and water in the ratio 4 : 9?

- Ans
- ☒ 1. 42 ml
  - ☒ 2. 49 ml
  - ☒ 3. 56 ml

4.

Question ID : 7193992828

Status : Answered

Chosen Option : 3

Q.7 If  $\sqrt{52 - 30\sqrt{3}} = a + b\sqrt{3}$ , then  $(a + b)$  is equal to:

- Ans
- ☒ 1. 4
  - ☒ 2. -4
  - ☒ 3. -2
  - ☒ 4. 2

Question ID : 7193992819

Status : Answered

Chosen Option : 3

Q.8 Select the option that is related to the third term in the same way as the second term is related to the first term.

Reading : Knowledge :: Work : ?

- Ans
- ☒ 1. Employment
  - ☒ 2. Engagement
  - ☒ 3. Experience
  - ☒ 4. Experiment

Question ID : 7193992803

Status : Answered

Chosen Option : 3

Q.9 Sakshi is the wife of Nilesh. Ravi is the only grandson of Saroj, who is the wife of Dinesh and Mother-in-law of Sakshi. How is Nilesh related to Dinesh?

- Ans
- ☒ 1. Nephew
  - ☒ 2. Son
  - ☒ 3. Son-in-law
  - ☒ 4. Grandson

Question ID : 7193992815

Status : Answered

Chosen Option : 2

Q.10 Arrange the following words to form a meaningful sentence.

|           |    |   |       |      |
|-----------|----|---|-------|------|
| Taj Mahal | at | A | quick | look |
| 5         | 1  | 3 | 2     | 4    |

- Ans
- ☒ 1. 1, 2, 3, 4, 5
  - ☒ 2. 4, 3, 2, 1, 5
  - ☒ 3. 5, 1, 2, 3, 4
  - ☒ 4. 3, 2, 4, 1, 5

Question ID : 7193992811

Status : Answered

Chosen Option : 4

Q.11

Ans

- 1.
- ☐ 2. 12
- ☐ 3. 15
- ☒ 4. 16

Question ID : 7193992816

Status : Answered

Chosen Option : 1

Q.12 In a code language, SUNSET is written as RTMRDS. How will CHALK be written as in that language?

Ans

- ☐ 1. JKZJB
- ☐ 2. BJZKJ
- ☒ 3. BGZKJ
- ☐ 4. JKZGB

Question ID : 7193992808

Status : Answered

Chosen Option : 3

Q.13 Ram's mother is also my sister's mother. How is Ram related to me?

Ans

- ☐ 1. Sister
- ☐ 2. Uncle
- ☐ 3. Cousin
- ☒ 4. Brother

Question ID : 7193992812

Status : Answered

Chosen Option : 4

Q.14 Select the option that is related to the third term in the same way as the second term is related to the first term.

Horse : Jockey :: Car : ?

Ans

- ☐ 1. Brake
- ☒ 2. Chauffeur
- ☐ 3. Steering
- ☐ 4. Mechanic

Question ID : 7193992802

Status : Answered

Chosen Option : 2

Q.15 Arrange the following words in the order in which they appear in an English dictionary.

| Funny | Fantastic | Fictitious | Frivolous | Fickle |
|-------|-----------|------------|-----------|--------|
| 5     | 1         | 3          | 2         | 4      |

Ans

- ☐ 1. 1, 2, 4, 3, 5
- ☐ 2. 1, 3, 4, 2, 5
- ☐ 3. 1, 5, 2, 4, 3
- ☒ 4. 1, 4, 3, 2, 5

Question ID : 7193992804

Status : Answered

**Q.16** Select the option that is related to the third term in the same way as the second term is related to the first term.

Man : Nose :: Fish : ?

- Ans**  1. Gills  
 2. Lungs  
 3. Fins  
 4. Scales

Question ID : 7193992801

Status : Answered

Chosen Option : 1

**Q.17** A person covers first 100 km with a speed of 60 km/h and next 150 km with a speed of 45 km/h. What is his average speed for the whole journey (in km/h)?

- Ans**  1. 50  
 2. 52.5  
 3. 52.8  
 4. 53.5

Question ID : 7193992829

Status : Answered

Chosen Option : 1

**Q.18** Five friends, Avanti, Vishakha, Kiran, Deena and Hansika, are sitting around a circular table facing the centre. Vishakha is sitting second to the right of Deena. Avanti is sitting third to the left of Kiran, who is not sitting immediately next to Hansika. Who is sitting to the immediate right of Deena?

- Ans**  1. Hansika  
 2. Vishakha  
 3. Kiran  
 4. Avanti

Question ID : 7193992814

Status : Answered

Chosen Option : 1

**Q.19** If '+' means 'multiplication', '-' means 'division', '\*' means 'addition' and '/' means 'subtraction', then what will be the value of the following expression?

$$190 - 19 + 6 * 8 / 3$$

- Ans**  1. 155  
 2. 380  
 3. 65  
 4. 472

Question ID : 7193992809

Status : Answered

Chosen Option : 3

**Q.20** Select the option that will replace the question mark (?) in the following series.

21, 32, 43, ?, 65, 76

- Ans**  1. 50  
 2. 62  
 3. 66



4.

Question ID : 7193992805

Status : Answered

Chosen Option : 4

**Q.21** Arjun is facing towards the south. From there, he walks 15 m towards the east, then 20 m towards the north, then 15 m towards the east and then 20 m towards the north to reach point B. What is the shortest distance between his starting point and point B?

- Ans
- ☒ 1. 70 m
  - ☒ 2. 25 m
  - ☒ 3. 50 m
  - ☒ 4. 60 m

Question ID : 7193992813

Status : Answered

Chosen Option : 3

**Q.22** The value of  $0.\bar{6} + 0.4\bar{9} + 0.4\bar{3}\bar{2}$  is equal to:

- Ans
- ☒ 1.  $1.5\bar{8}\bar{9}$
  - ☒ 2.  $1.5\bar{9}\bar{8}$
  - ☒ 3.  $1.4\bar{8}\bar{9}$
  - ☒ 4.  $1.6\bar{0}\bar{3}$

Question ID : 7193992820

Status : Answered

Chosen Option : 3

**Q.23** The unit's digit in the result of  $(41)^{20} + (23)^{41} - 27^{18}$  is:

- Ans
- ☒ 1. 4
  - ☒ 2. 3
  - ☒ 3. 9
  - ☒ 4. 5

Question ID : 7193992818

Status : Answered

Chosen Option : 4

**Q.24** If  $a : b = 4 : 5$  and  $c : b = 2 : 3$ , then what is the value of  $a : b : c$ ?

- Ans
- ☒ 1. 15 : 10 : 8
  - ☒ 2. 12 : 5 : 10
  - ☒ 3. 12 : 15 : 10
  - ☒ 4. 8 : 10 : 15

Question ID : 7193992824

Status : Answered

Chosen Option : 3

**Q.25** A sum of ₹ 16,600 is invested at the rate of 10 % per annum, interest being compounded half yearly, for 15 months. What is the percentage increase in the sum at the end of 15 months, correct to one decimal place?

- Ans
- ☒ 1. 12.8 %
  - ☒ 2. 13.2 %

3.

✓ 4. 13 %

Question ID : 7193992825

Status : Answered

Chosen Option : 2

**Q.26** The efficiency of A is 30 % less than that of B. If working together, they can complete a certain piece of work in 20 days, in how many days A alone will complete 70 % of that same work?

Ans ✗ 1. 36

✓ 2. 34

✗ 3. 35

✗ 4. 32

Question ID : 7193992830

Status : Answered

Chosen Option : 3

**Q.27** With which smallest digit should letter 'x' in the number 538x25 be substituted so that the number becomes divisible by 15?

Ans ✓ 1. 1

✗ 2. 7

✗ 3. 4

✗ 4. 5

Question ID : 7193992823

Status : Answered

Chosen Option : 3

**Q.28** If 1 January 2018 was a Monday, then what day was it on 1 January 2019?

Ans ✓ 1. Tuesday

✗ 2. Monday

✗ 3. Wednesday

✗ 4. Sunday

Question ID : 7193992810

Status : Answered

Chosen Option : 1

**Q.29** In a code language, SUN is written as NUS. How will MAT be written as in that language?

Ans ✗ 1. MUT

✓ 2. TAM

✗ 3. MAT

✗ 4. TUM

Question ID : 7193992807

Status : Answered

Chosen Option : 2

**Q.30** The sum of the first 40 terms of  $\frac{1}{4 \times 8} + \frac{1}{8 \times 12} + \frac{1}{12 \times 16} + \dots$  is:

Ans ✓ 1.  $\frac{5}{82}$

2.

 3.  $\frac{5}{164}$

 4.  $\frac{39}{41}$

Question ID : 7193992817

Status : Answered

Chosen Option : 3

Section : Teaching Aptitude

**Q.1** Teaching about the currency used by the Cholas by showing a coin of that time kept in a museum in the real time is an example of \_\_\_\_\_ teaching.

- Ans**
-  1. working model
  -  2. sectional model
  -  3. Realia
  -  4. Diorama

Question ID : 7193992848

Status : Answered

Chosen Option : 1

**Q.2** Which of the following should be an objective of teaching social science at secondary level?

- Ans**
-  1.  
To enable children to critically examine social and economic issues and challenges like poverty, child labour, destitution, illiteracy and various other dimensions of inequality
  -  2.  
To develop in the children an understanding about the earth as the habitat of humankind and other forms of life
  -  3.  
To sensitise the children to social issues and develop in them a respect for difference and diversity
  -  4.  
To develop in the children skills of observation, identification and classification

Question ID : 7193992846

Status : Answered

Chosen Option : 3

**Q.3** The subsystem of a language that deals with the rules of word order and word combinations to form phrases and sentences is known as:

- Ans**
-  1. morphology
  -  2. phonology
  -  3. syntax
  -  4. semantics

Question ID : 7193992841

Status : Answered

Chosen Option : 4

**Q.4** While teaching science to students, knowledge about cognitive tasks, including appropriate contextual and conditional knowledge, falls under \_\_\_\_\_.

- Ans**
-  1. metacognitive knowledge
  -  2. procedural knowledge
  -  3. factual knowledge

4.

Question ID : 7193992847

Status : Answered

Chosen Option : 2

**Q.5** Mary is a seventh grade teacher. She has a unique ability to sense the feelings and experiences of her students and fully appreciates them as if they are her feelings. What is the correct term that can be used to describe Mary's personality?

- Ans**
- ☒ 1. Empathetic
  - ☐ 2. Reflective
  - ☐ 3. High acceptance
  - ☐ 4. Genuine

Question ID : 7193992850

Status : Answered

Chosen Option : 1

**Q.6** Which of the following attributes of educational objectives of teaching science falls under the psychomotor domain?

- Ans**
- ☐ 1. Responding
  - ☐ 2. Valuing
  - ☐ 3. Receiving
  - ☒ 4. Articulation

Question ID : 7193992843

Status : Answered

Chosen Option : 4

**Q.7** Identify the model of inclusive education in which a student is included during regular education classroom instruction to provide the student appropriate interaction with non-disabled peers. The student is given shortened assignments.

- Ans**
- ☐ 1. Non-academic model
  - ☒ 2. Social mainstreaming model
  - ☐ 3. Self-contained model
  - ☐ 4. Pull-out (resource) model

Question ID : 7193992845

Status : Answered

Chosen Option : 2

**Q.8** Who quoted the following on education?

“Education which will offer the tools whereby one can live for the divine, for the country, for oneself and for others and this must be the ideal of every school which calls itself national.”

- Ans**
- ☐ 1. Rabindranath Tagore
  - ☒ 2. Sri Aurobindo
  - ☐ 3. Mahatma Gandhi
  - ☐ 4. Swami Vivekananda

Question ID : 7193992835

Status : Answered

Chosen Option : 2

**Q.9** Which of the following is the first law or primary law of learning as per Thorndike?

- Ans**
- ☐ 1. Law of Multiple Response

2.

☒ 3. Law of Exercise

☒ 4. Law of Effect

Question ID : 7193992837

Status : Answered

Chosen Option : 2

Q.10 Which of the following is NOT a factor affecting social development?

Ans

☒ 1. Socio-economic status

☒ 2. Imitation and identification

☒ 3. School experiences

☒ 4. Evolutionary impact

Question ID : 7193992833

Status : Answered

Chosen Option : 4

Q.11 The processing of cognition influenced by stored knowledge brought through senses is called:

Ans

☒ 1. lateral processing

☒ 2. sideways processing

☒ 3. top-down processing

☒ 4. bottom-down processing

Question ID : 7193992834

Status : Answered

Chosen Option : 4

Q.12 Anil, a 4-year-old, looks at two jars meant to be filled with candies. One is a tall, thin jar and the other one is a short, wide jar. Equal number of candies are filled in each of these jars. Anil infers that the tall, thin jar has more candies than the short, wide one. Which of the following aspects has Anil NOT acquired as per Piaget?

Ans

☒ 1. Memory

☒ 2. Imagination

☒ 3. Concept of conservation

☒ 4. Social concept

Question ID : 7193992832

Status : Answered

Chosen Option : 3

Q.13 Which of the following is a NOT a characteristic of a usable hypothesis?

Ans

☒ 1. It has to be lengthy with high vocabulary usage.

☒ 2. It should be capable of being tested.

☒ 3. It should have conceptual clearness.

☒ 4. It should be closest to things observable.

Question ID : 7193992849

Status : Answered

Chosen Option : 2



Q.14

- Ans
- ☐ 1. NIOS
  - ☐ 2. NAS
  - ☐ 3. IDMI
  - ☒ 4. SPQEM

Question ID : 7193992836

Status : Answered

Chosen Option : 3

Q.15 Anoop uttered the first word at the age of 11 months and began to play alone with her doll at the age of 2 years. These schedules of development are called:

- Ans
- ☐ 1. learning phases
  - ☐ 2. stepwise development
  - ☐ 3. growth phases
  - ☒ 4. milestones of development

Question ID : 7193992831

Status : Answered

Chosen Option : 3

Q.16 When the function of a language is to cause or prevent actions, it is called the \_\_\_\_\_ function of a language.

- Ans
- ☐ 1. expressive
  - ☒ 2. directive
  - ☐ 3. explorative
  - ☐ 4. informative

Question ID : 7193992840

Status : Answered

Chosen Option : 2

Q.17 A student trying to solve a mathematical problem to get 'A' grade in his assignment is an example of \_\_\_\_\_. Identify the type of attention as described by psychologist Ross.

- Ans
- ☒ 1. volitional attention
  - ☐ 2. focused attention
  - ☐ 3. non-volitional attention
  - ☐ 4. involuntary attention

Question ID : 7193992838

Status : Answered

Chosen Option : 2

Q.18 The first step in the acquisition of a language is through:

- Ans
- ☒ 1. listening
  - ☐ 2. reading
  - ☐ 3. speaking
  - ☐ 4. writing

Question ID : 7193992842

Status : Answered



Q.19 Which of the following instruments is used to measure attention span?

- Ans
- ☒ 1. Stroboscope
  - ☒ 2. Kinetoscope
  - ☒ 3. Tachistoscope
  - ☒ 4. Stereoscope

Question ID : 7193992839

Status : Answered

Chosen Option : 1

Q.20 The ability to perceive existing gender differences and issues and incorporate them into strategies and actions is called:

- Ans
- ☒ 1. gender equity
  - ☒ 2. gender sensitivity
  - ☒ 3. gender parity
  - ☒ 4. gender awareness

Question ID : 7193992844

Status : Answered

Chosen Option : 4

Section : Concerned Subject Knowledge

Q.1 The principal value of  $\sin^{-1}\left(-\frac{\sqrt{3}}{2}\right) + \cos^{-1}\left(\cos\left(\frac{7\pi}{6}\right)\right)$  is:

- Ans
- ☒ 1.  $\frac{\pi}{2}$
  - ☒ 2.  $\frac{3\pi}{2}$
  - ☒ 3.  $\frac{5\pi}{6}$
  - ☒ 4.  $\frac{\pi}{3}$

Question ID : 7193992884

Status : Answered

Chosen Option : 1

Q.2 If y is a solution of the equation  $(1+x)\frac{dy}{dx} - xy = 1, y(0) = -1$ , then y(1) is equal to:

- Ans
- ☒ 1.  $1/2$
  - ☒ 2.  $e + 1/2$
  - ☒ 3.  $-1/2$
  - ☒ 4.  $e - 1/2$

Question ID : 7193992891

Status : Answered

Chosen Option : 2

Q.3 The value of x for  $\sin[\cot^{-1}(x+1)] = \cos[\tan^{-1}(x)]$  is:

- Ans
- ☒ 1. 0

- 2.
- ☐ 3.  $1/2$
- ☒ 4.  $-1/2$

Question ID : 7193992883  
 Status : Answered  
 Chosen Option : 4

Q.4 The value of the expression  $\frac{1}{(\sqrt{3})\sin 250^\circ} + \frac{1}{\cos 290^\circ}$  equals:

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

Question ID : 7193992879  
 Status : Answered  
 Chosen Option : 1

Q.5 Which of the following functions is differentiable at  $x = 0$ ?

- Ans ☐ 1.  $\cos(|x|) + |x|$
- ☒ 2.  $\sin(|x|) - |x|$
- ☐ 3.  $\sin(|x|) + |x|$
- ☐ 4.  $\cos(|x|) - |x|$

Question ID : 7193992887  
 Status : Answered  
 Chosen Option : 1

Q.6 Let a and b be two positive integers. Then  $\gcd(a,b)$ .  $\text{lcm}(a,b)$  equals:

- Ans ☐ 1.  $a - b$
- ☐ 2.  $a + b$
- ☒ 3.  $ab$
- ☐ 4.  $a / b$

Question ID : 7193992865  
 Status : Answered  
 Chosen Option : 3

Q.7 If A is the area formed by the positive x-axis, and the normal and tangent to the circle  $x^2 + y^2 = 4$  at  $(1, \sqrt{3})$ , then  $\frac{A}{\sqrt{3}}$  equals:

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

Question ID : 7193992888

Q.8 If the mean of a set of 10 observations  $x_1, x_2, \dots, x_{10}$  is 30, then the mean of  $x_1 + 5, x_2 + 10, \dots, x_{10} + 50$  is:

- Ans
- ☒ 1. 27.5
  - ☒ 2. 57.5
  - ☒ 3. 53.5
  - ☒ 4. 59.5

Question ID : 7193992899  
Status : **Answered**  
Chosen Option : 2

Q.9 If  $3x + 2y + z = 0, x + 4y + z = 0, 2x + y + 4z = 0$  is a system of equations, then:

- Ans
- ☒ 1. it can be reduced to a single equation and therefore a solution does not exist.
  - ☒ 2. it has only the trivial solution  $x = 0, y = 0, z = 0$ .
  - ☒ 3. the determinant of the matrix coefficient is zero.
  - ☒ 4. it is inconsistent.

Question ID : 7193992873  
Status : **Answered**  
Chosen Option : 2

Q.10 A basis for the range of the transformation  $T : R^3 \rightarrow R^3, T \left( \begin{bmatrix} x \\ y \\ z \end{bmatrix} \right) = \begin{bmatrix} x \\ y \\ 0 \end{bmatrix}$  is given by:

- Ans
- ☒ 1.  $\left\{ \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix}, \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} \right\}$
  - ☒ 2.  $\left\{ \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} \right\}$
  - ☒ 3.  $\left\{ \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} \right\}$
  - ☒ 4.  $\left\{ \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix} \right\}$

Question ID : 7193992908  
Status : **Answered**  
Chosen Option : 3

Q.11 In a class of 25 students, 12 have taken mathematics, 8 have taken mathematics and computer science. The number of students who have taken computer science but NOT mathematics is:

- Ans
- ☒ 1. 13
  - ☒ 2. 8
  - ☒ 3. 4
  - ☒ 4. 17

Question ID : 7193992852  
Status : **Answered**

**Q.12** Two girls and four boys are to be seated in a row in such a way that the girls do NOT sit together. In how many different ways can it be done?

- Ans
- ☒ 1. 360
  - ☒ 2. 480
  - ☒ 3. 240
  - ☒ 4. 720

Question ID : 7193992855

Status : Answered

Chosen Option : 2

**Q.13** If  $\vec{a} + \vec{b} + \vec{c} = 0$ ,  $|\vec{a}| = 3$ ,  $|\vec{b}| = 5$  and  $|\vec{c}| = 7$ , then the angle between  $\vec{a}$  and  $\vec{b}$  is:

- Ans
- ☒ 1.  $\frac{\pi}{6}$
  - ☒ 2.  $\frac{2\pi}{3}$
  - ☒ 3.  $\frac{3\pi}{2}$
  - ☒ 4.  $\frac{\pi}{3}$

Question ID : 7193992892

Status : Answered

Chosen Option : 4

**Q.14** If  $\tan(A - B) = \frac{1}{\sqrt{3}}$  and  $\tan(A + B) = \sqrt{3}$ , then the values of A and B are respectively:

- Ans
- ☒ 1.  $45^\circ, 15^\circ$
  - ☒ 2.  $30^\circ, 60^\circ$
  - ☒ 3.  $30^\circ, 30^\circ$
  - ☒ 4.  $40^\circ, 20^\circ$

Question ID : 7193992878

Status : Answered

Chosen Option : 1

**Q.15** The radius of a sphere whose centre is  $(4, 4, -2)$  and which passes through the origin is:

- Ans
- ☒ 1. 6
  - ☒ 2. 4
  - ☒ 3. 1
  - ☒ 4. 5

Question ID : 7193992897

Status : Answered

Chosen Option : 1

**Q.16** The points with the position vectors  $60\vec{i} + 3\vec{j}$ ,  $40\vec{i} - 8\vec{j}$ ,  $a\vec{i} - 52\vec{j}$  are collinear if the value of 'a' equals:

- Ans
- ☒ 1. 40
  - ☒ 2. -40
  - ☒ 3. -20
  - ☒ 4. 20

Question ID : 7193992893

Status : Answered

Chosen Option : 2

**Q.17** AB is a straight line and O is a point on the line AB. If one draws a line OC NOT coinciding with OA or OB, then the  $\angle AOC$  and  $\angle BOC$  are:

- Ans
- ☒ 1. complementary
  - ☒ 2. together equal to  $130^\circ$
  - ☒ 3. supplementary
  - ☒ 4. equal

Question ID : 7193992875

Status : Answered

Chosen Option : 1

**Q.18** If  $A = f_{xx}(a, b)$ ,  $B = f_{xy}(a, b)$  and  $C = f_{yy}(a, b)$ , then the function  $f(x, y)$  will have a maximum at the point  $(a, b)$  if:

- Ans
- ☒ 1.  $f_x = 0, f_y = 0, AC < B^2$  and  $A > 0$
  - ☒ 2.  $f_x = 0, f_y = 0, AC > B^2$  and  $A > 0$
  - ☒ 3.  $f_x = 0, f_y = 0, AC < B^2$  and  $A < 0$
  - ☒ 4.  $f_x = 0, f_y = 0, AC > B^2$  and  $A < 0$

Question ID : 7193992909

Status : Answered

Chosen Option : 1

**Q.19** The lines  $\frac{x-1}{k} = \frac{y-4}{2} = \frac{z-5}{1}$  and  $\frac{x-2}{1} = \frac{y-3}{1} = \frac{z-4}{-k}$  are coplanar if the value of  $k$  is:

- Ans
- ☒ 1. 1
  - ☒ 2. 2
  - ☒ 3. -2
  - ☒ 4. -3

Question ID : 7193992898

Status : Answered

Chosen Option : 2

**Q.20**  $\frac{\sin 7x + 6 \sin 5x + 17 \sin 3x + 12 \sin x}{\sin 6x + 5 \sin 4x + 12 \sin 2x}$  equals:

- Ans
- ☒ 1.  $\sin x$
  - ☒ 2.  $2 \sin x$
  - ☒ 3.  $\cos x$
  - ☒ 4.  $2 \cos x$

Question ID : 7193992881

Status : Answered

Chosen Option : 2

**Q.21** Let  $A = \begin{pmatrix} 2 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 2 \end{pmatrix}$  and  $B = \begin{pmatrix} 1 & 2 & 3 \\ 0 & 1 & 3 \\ 0 & 0 & 2 \end{pmatrix}$  be matrices. Then the determinant of  $AB$  equals:

- Ans
- ☒ 1. 8

2.  
 3. 4  
 4. 16

Question ID : 7193992872  
Status : Answered  
Chosen Option : 4

Q.22 The nature of singularity of the function  $\tan(1/z)$ :

- Ans  1.  $z = 0$  is an isolated singularity  
 2.  $z = 0$  is an isolated essential singularity  
 3.  $z = 0$  is a non-isolated essential singularity  
 4.  $z = 0$  is a removable singularity

Question ID : 7193992910  
Status : Answered  
Chosen Option : 1

Q.23 Let  $f(x)$  be a continuous function defined for all  $x > 0$  that satisfy  $f(x/y) = f(x) - f(y)$  for all  $x, y$  and  $f(e) = 1$ . Then:

- Ans  1.  $f(x)$  is bounded  
 2.  $f(x) = \log x$   
 3.  $xf(x) \rightarrow 1$  as  $x \rightarrow 0$   
 4.  $f\left(\frac{1}{x}\right) \rightarrow 0$  as  $x \rightarrow 0$

Question ID : 7193992886  
Status : Answered  
Chosen Option : 2

Q.24 If from each of the three boxes containing 3 red and 1 green; 2 red and 2 green; 1 red and 3 green balls, one ball is drawn at random, then the probability that 2 red and 1 green ball will be drawn, is given by:

- Ans  1.  $1/32$   
 2.  $1/4$   
 3.  $3/16$   
 4.  $13/32$

Question ID : 7193992905  
Status : Answered  
Chosen Option : 4

Q.25 The coefficient of  $x^{2009}$  in the expansion of  $(1-x)^{2008}(1+x+x^2)^{2007}$  is given by:

- Ans  1. 3  
 2. 0  
 3. -1  
 4. 1

Question ID : 7193992860  
Status : Answered  
Chosen Option : 2

Q.26



Ans

1. ☐
2. ☒  $-\frac{3}{2}$
3. ☐ 0
4. ☐  $-1$

Question ID : 7193992880

Status : Answered

Chosen Option : 2

Q.27 The angle between the planes  $2x + y + z = 7$  and  $x - y + 2z = 9$  is:

Ans

1. ☒  $60^\circ$
2. ☐  $120^\circ$
3. ☐  $90^\circ$
4. ☐  $30^\circ$

Question ID : 7193992895

Status : Answered

Chosen Option : 1

Q.28 The number of solutions of  $z^3 + \bar{z} = 0$  is:

Ans

1. ☐ 3
2. ☐ 4
3. ☐ 2
4. ☒ 5

Question ID : 7193992856

Status : Answered

Chosen Option : 1

Q.29 If  $I = \int \ln(x^2 + x) dx = x \ln x + (x + 1) = K$ , then the value of K is equal to:

Ans

1. ☒  $C - 2x$
2. ☐  $2x - \ln(x+1) + C$
3. ☐  $2x + \ln(x+1) + C$
4. ☐ constant

Question ID : 7193992890

Status : Answered

Chosen Option : 3

Q.30 The standard deviation of 8 observations 4.8, 4.2, 5.1, 3.8, 4.4, 4.7, 4.1 and 4.5 is:

Ans

1. ☒ 0.39
2. ☐ 0.41
3. ☐ 0.37
4. ☐ 0.32

Question ID : 7193992903

Status : Answered

Chosen Option : 3

Q.31 A person walking along a straight road observes that at two points 1 km apart, the angle of elevation of a pole in front of the person is  $30^\circ$  and  $75^\circ$ . The height of the pole is:

Ans

1.

✓ 2.  $250(\sqrt{3} + 1)$  m

✗ 3.  $250(\sqrt{3} - 1)$  m

✗ 4.  $250(\sqrt{2} - 1)$  m

Question ID : 7193992882

Status : Answered

Chosen Option : 3

Q.32 The sum of the 24 terms of the series  $\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots$  is:

Ans ✗ 1.  $100\sqrt{2}$

✓ 2.  $300\sqrt{2}$

✗ 3.  $200\sqrt{2}$

✗ 4.  $500\sqrt{2}$

Question ID : 7193992862

Status : Answered

Chosen Option : 2

Q.33 The diagonal of a rectangular field is 60 m more than the shorter side. If the longer side 30 m more than the shorter side, then the length of longer and shorter sides are:

Ans ✓ 1. 120 m, 90 m

✗ 2. 90 m, 60 m

✗ 3. 150 m, 120 m

✗ 4. 105 m, 75 m

Question ID : 7193992869

Status : Answered

Chosen Option : 1

Q.34 If  $A = \begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}$  and  $B = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$  are matrices, then  $AB + BA$  is:

Ans ✗ 1. a diagonal matrix

✗ 2. an invertible matrix

✗ 3. a unit matrix

✓ 4. a null matrix

Question ID : 7193992870

Status : Answered

Chosen Option : 1

Q.35 Two consecutive positive integers, the sum of whose square is 365, are:

Ans ✗ 1. 14, 15

✓ 2. 13, 14

✗ 3. 12, 13

✗ 4. 11, 12

Question ID : 7193992868

Status : **Answered**  
Chosen Option : 2

Q.36 Suppose a random variable X follows a Binomial distribution with parameters  $n = 6$  and  $p$ . If  $9P(X = 4) = P(X = 2)$ , then the value of  $p$  is:

- Ans
- ☐ 1.  $1/3$
  - ☐ 2.  $1/2$
  - ☐ 3.  $1$
  - ☒ 4.  $1/4$

Question ID : 7193992906  
Status : **Answered**  
Chosen Option : 2

Q.37 The least common multiple of 119 and 272 is:

- Ans
- ☐ 1. 102
  - ☐ 2. 119
  - ☐ 3. 272
  - ☒ 4. 1904

Question ID : 7193992866  
Status : **Answered**  
Chosen Option : 4

Q.38 For what values of  $k$ , the equations  $x + y + z = 1$ ,  $2x + y + z = k$ ,  $4x + y + 10z = k^2$  have a solution?

- Ans
- ☐ 1. 3, 4
  - ☒ 2. 1, 2
  - ☐ 3. 0, 3
  - ☐ 4.  $-1, 3$

Question ID : 7193992874  
Status : **Answered**  
Chosen Option : 3

Q.39 The logarithm of  $\frac{1}{256}$  to the base  $2\sqrt{2}$  is:

- Ans
- ☐ 1.  $\frac{8}{3}$
  - ☒ 2.  $\frac{-16}{3}$
  - ☐ 3.  $\frac{-14}{3}$
  - ☐ 4.  $\frac{-8}{3}$

Question ID : 7193992863  
Status : **Answered**  
Chosen Option : 4

Q.40 If  $A = \begin{pmatrix} 1 & 0 & 2 \\ 5 & 1 & x \\ 1 & 1 & 1 \end{pmatrix}$  is a singular matrix, then the value of  $x$  is equal to:

- Ans
- ☐ 1.  $-11$

- 2.
- ✓ 3. 9
- ✗ 4. -9

Question ID : 7193992871  
Status : Answered  
Chosen Option : 3

Q.41 Let  $A = \{a, b, c, d\}$  and  $B = \{1, 2, 3, 4, 5, 6\}$ . Then the number of one-to-one functions from A to B is:

- Ans ✓ 1. 360
- ✗ 2. 120
- ✗ 3. 24
- ✗ 4. 180

Question ID : 7193992853  
Status : Answered  
Chosen Option : 1

Q.42 The singular values of a matrix  $A = \begin{bmatrix} 1 & 1 \\ 0 & 1 \\ 1 & 0 \end{bmatrix}$  are :

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

Question ID : 7193992907  
Status : Answered  
Chosen Option : 3

Q.43 The equation of a plane passing through the point  $(1, -1, 2)$  and parallel to the plane  $3x + 4y - 5z = 0$  is:

- Ans ✗ 1.  $3x + 4y - 5z + 1 = 0$
- ✓ 2.  $3x + 4y - 5z + 11 = 0$
- ✗ 3.  $3x + 4y - 5z - 1 = 0$
- ✗ 4.  $3x + 4y - 5z - 11 = 0$

Question ID : 7193992894  
Status : Answered  
Chosen Option : 2

Q.44 The mean deviation from the mean of the  $2n$  observations  $a, a + d, a + 2d, \dots, a + 2nd$  is:

- Ans ✓ 1.  $\frac{n(n+1)|d|}{2n+1}$
- ✗ 2.  $\frac{n(n+1)d^2}{2}$
- ✗ 3.  $a + \frac{n(n+1)d^2}{2}$
- ✗ 4.  $\frac{n(n+1)d^2}{3}$

Question ID : 7193992901

Status : **Answered**  
Chosen Option : 3

Q.45 The distance between two parallel lines  $5x - 12y + 2 = 0$  and  $5x - 12y - 3 = 0$  is given by:

- Ans
- ☒ 1.  $1/17$
  - ☒ 2.  $5/13$
  - ☒ 3.  $1/13$
  - ☒ 4.  $5/14$

Question ID : 7193992876  
Status : **Answered**  
Chosen Option : 2

Q.46 If  $a, b, c$  are in A.P. as well as in G.P., then:

- Ans
- ☒ 1.  $a = b \neq c$
  - ☒ 2.  $a \neq b \neq c$
  - ☒ 3.  $a \neq b = c$
  - ☒ 4.  $a = b = c$

Question ID : 7193992861  
Status : **Answered**  
Chosen Option : 4

Q.47 If  $\gcd(a, b) = 1$ , then for any  $c$ :

- Ans
- ☒ 1.  $\gcd(ac, b) = c \gcd(a, b)$
  - ☒ 2.  $\gcd(ac, b) = \gcd(a, b/c)$
  - ☒ 3.  $\gcd(ac, b) = \gcd(a, c)$
  - ☒ 4.  $\gcd(ac, b) = \gcd(c, b)$

Question ID : 7193992864  
Status : **Answered**  
Chosen Option : 3

Q.48  $\lim_{x \rightarrow 0} \frac{\sin(\pi \cos^2 x)}{x^2}$  equals:

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

Question ID : 7193992885  
Status : **Answered**  
Chosen Option : 4

Q.49 A letter is taken at random from the letters of the word "STATISTICS" and another letter is taken from the letters of the word "ASSISTANT". The probability that they are the same letter is:

- Ans
- ☒ 1.  $19/90$
  - ☒ 2.  $1/15$
  - ☒ 3.  $1/45$
  - ☒ 4.  $1/10$

Question ID : 7193992904

Status : Answered

Chosen Option : 1

Q.50 The discriminant of the equation  $x^2 + \frac{x}{\sqrt{2}} + 1 = 0$  is:

- Ans
- ☒ 1. 7
  - ☒ 2. -5
  - ☒ 3. -7
  - ☒ 4. 4

Question ID : 7193992867

Status : Answered

Chosen Option : 3

Q.51 If a, b, c are nonnegative real numbers, then the minimum value of  $\frac{a}{b+c} + \frac{b}{c+a} + \frac{c}{a+b}$  is:

- Ans
- ☒ 1. 2
  - ☒ 2. 5/2
  - ☒ 3. 3/2
  - ☒ 4. 1

Question ID : 7193992858

Status : Answered

Chosen Option : 3

Q.52 Let a, b, c > 0 and abc = 1. Then the least value of  $\frac{1}{a^2(b+c)} + \frac{1}{b^2(c+a)} + \frac{1}{c^2(a+b)}$  is given by:

- Ans
- ☒ 1. 1.5
  - ☒ 2. 1
  - ☒ 3. 0.5
  - ☒ 4. 2

Question ID : 7193992859

Status : Answered

Chosen Option : 3

Q.53 The largest integer n for which 35! is divisible by  $3^n$ , is given by:

- Ans
- ☒ 1. 11
  - ☒ 2. 15
  - ☒ 3. 3
  - ☒ 4. 1

Question ID : 7193992854

Status : Answered

Chosen Option : 2

Q.54 In a group of 70 persons, 37 like coffee, 52 like tea and each person likes at least one of the two drinks. How many like coffee but NOT tea?

- Ans
- ☒ 1. 18
  - ☒ 2. 17
  - ☒ 3. 13
  - ☒ 4. 16



Question ID : 7193992851

Status : Answered

Chosen Option : 1

Q.55 The variance of the first 20 natural numbers is:

- Ans
- ☒ 1.  $133/4$
  - ☐ 2.  $131/4$
  - ☐ 3.  $369/4$
  - ☐ 4.  $133/2$

Question ID : 7193992900

Status : Answered

Chosen Option : 1

Q.56 If  $z \neq 0$  and  $2 + \cos \theta + i \sin \theta = 3/z$ , then the value of  $2(z + \bar{z}) - |z|^2$  equals:

- Ans
- ☒ 1. 3
  - ☐ 2. 2
  - ☐ 3. 1
  - ☐ 4. 4

Question ID : 7193992857

Status : Answered

Chosen Option : 2

Q.57 The incentre of a triangle with vertices  $(0, 0)$ ,  $(1, \sqrt{3})$  and  $(2, 0)$  is:

- Ans
- ☐ 1.  $\left(\frac{2}{3}, \frac{1}{\sqrt{3}}\right)$
  - ☒ 2.  $\left(1, \frac{1}{\sqrt{3}}\right)$
  - ☐ 3.  $\left(1, \frac{\sqrt{3}}{2}\right)$
  - ☐ 4.  $\left(\frac{2}{3}, \frac{\sqrt{3}}{2}\right)$

Question ID : 7193992877

Status : Answered

Chosen Option : 2

Q.58 The equation of a sphere on the line joining the points  $(1, 5, 6)$  and  $(-2, 1, 1)$  as diameter is:

- Ans
- ☐ 1.  $x^2 + y^2 + z^2 + 2x - 4y - 7z - 9 = 0$
  - ☐ 2.  $x^2 + y^2 + z^2 - x + 6y + 7z - 9 = 0$
  - ☒ 3.  $x^2 + y^2 + z^2 + x - 6y - 7z + 9 = 0$
  - ☐ 4.  $x^2 + y^2 + z^2 + 6x - y - 4z + 5 = 0$

Question ID : 7193992896

Status : Answered

Chosen Option : 3

Q.59  $\lim_{x \rightarrow 0} \left( \sqrt{x + \sqrt{x + \sqrt{x}}} - \sqrt{x} \right)$  is equal to :

Ans

1.

 2. 2

 3.  $\log_e(2)$

 4. 0

Question ID : 7193992889

Status : Answered

Chosen Option : 3

**Q.60** The mean of 5 items of an observation is 4 and the variance is 5.2. If three of the items are 1, 2 and 6, then the other two items are:

Ans

 1. 3, 8

 2. 4, 7

 3. 5, 6

 4. 9, 2

Question ID : 7193992902

Status : Answered

Chosen Option : 3