DSSSB
AE

Previous Year Paper
(Civil)
30 Jun, 2024 Shift 3

Participant ID	
Participant Name	
Test Center Name	
Test Date	30/06/2024
Test Time	4:30 PM - 6:30 PM
Subject	Assistant Engineer (Civil)

Section : **General intelligence and Reasoning Ability**

Q.1 Each of P, Q, R, S, T, U and V wants to visit the parlour on a different day of the week starting on Monday and ending on Sunday of the same week. P has an exam on Monday so can't visit the parlour on that day. T will visit the parlour immediately after S. R will visit the parlour immediately before S. Q will visit the parlour on the first day of the week. Only P will visit the parlour between Q and R and U will visit the parlour before V.

How many people will visit the parlour before T?

Ans ✗ 1. Three

✗ 2. Two

✗ 3. One

✔ 4. Four

Question ID : **630680399423**
Option 1 ID : **6306801557606**
Option 2 ID : **6306801557605**
Option 3 ID : **6306801557604**
Option 4 ID : **6306801557603**

Q.2 What will come in place of the '?' in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?
28 + 12 − 32 × 16 ÷ 46 = ?

Ans ✗ 1. 138

✗ 2. 106

✗ 3. 98

✔ 4. 108

Question ID : **63068053385**
Option 1 ID : **630680205628**
Option 2 ID : **630680205627**
Option 3 ID : **630680205626**
Option 4 ID : **630680205629**

Q.3 Given below are two sets of numbers. In each set of numbers, a certain mathematical operation on the first number results in the second number. Similarly, a certain mathematical operation on the second number results in the third number and so on. Which of the options follows the same set of operations as given in the question?
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
6 – 36 – 72 – 82; 2 – 4 – 8 – 18

Ans ✗ 1. 1 – 1 – 0 – 10

✓ 2. 3 – 9 – 18 – 28

✗ 3. 4 – 16 – 32 – 64

✗ 4. 3 – 9 – 18 – 36

Question ID : **630680374647**
Option 1 ID : **6306801459758**
Option 2 ID : **6306801459755**
Option 3 ID : **6306801459756**
Option 4 ID : **6306801459757**

Q.4 What should come in place of '?' in the given series?

22 23 26 27 30 ?

Ans ✗ 1. 32

✓ 2. 31

✗ 3. 34

✗ 4. 33

Question ID : **630680554454**
Option 1 ID : **6306802192261**
Option 2 ID : **6306802192260**
Option 3 ID : **6306802192263**
Option 4 ID : **6306802192262**

Q.5 Three of the following four word-pairs are alike in a certain way and thus form a group. Which is the word-pair that does not belong to that group?

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

Ans ✗ 1. Fan - electricity

✓ 2. Aeroplane - wings

✗ 3. Phone - battery

✗ 4. Car - petrol

Question ID : **630680404827**
Option 1 ID : **6306801578801**
Option 2 ID : **6306801578799**
Option 3 ID : **6306801578802**
Option 4 ID : **6306801578800**

Q.6 Select the option in which the letter-clusters share the same relationship as that shared by the given triad of letter-clusters.
THEN-ENHT-NETH

Ans ✅ 1. LAND-NDAL-DNLA

❌ 2. HAND-ANDH-HDNA

❌ 3. CARE-ERAC-RACE

❌ 4. MEDI-IDEM-EMDI

Question ID : **63068083248**
Option 1 ID : **630680322854**
Option 2 ID : **630680322852**
Option 3 ID : **630680322853**
Option 4 ID : **630680322855**

Q.7 Three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?

Ans ✅ 1. DG-KM

❌ 2. HK-OR

❌ 3. PS-WZ

❌ 4. LO-SV

Question ID : **630680352790**
Option 1 ID : **6306801373256**
Option 2 ID : **6306801373254**
Option 3 ID : **6306801373255**
Option 4 ID : **6306801373253**

Q.8 If − means ÷ , ÷ means ×,× means +, + means − , then what will come in place of the question mark (?) in the following equation?

94 ÷ 6 + 126− 18× 9 = ?

Ans ✅ 1. 566

❌ 2. 567

❌ 3. 568

❌ 4. 569

Question ID : **630680500153**
Option 1 ID : **6306801954235**
Option 2 ID : **6306801954236**
Option 3 ID : **6306801954234**
Option 4 ID : **6306801954233**

Q.9 Select the number from among the given options that can replace the question mark (?) in the following series.
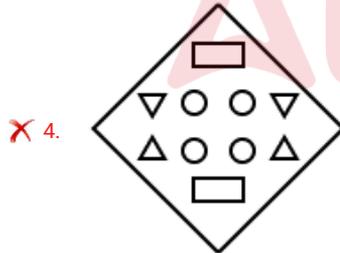54, 63, 68, 77, 82, ?

Ans ❌ 1. 92

❌ 2. 90

✅ 3. 91

❌ 4. 93

Question ID : **63068085597**
Option 1 ID : **630680331895**
Option 2 ID : **630680331894**
Option 3 ID : **630680331893**
Option 4 ID : **630680331892**

Q.10 A paper is folded and cut as shown below. How will it appear when unfolded?

Ans

✗ 1.

✗ 2.

✓ 3.

✗ 4.
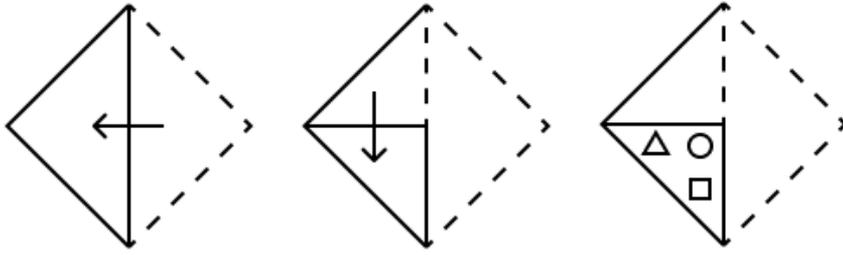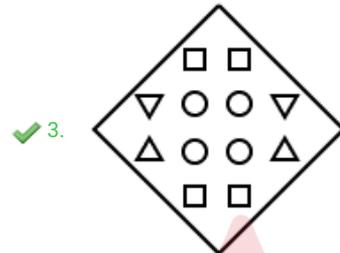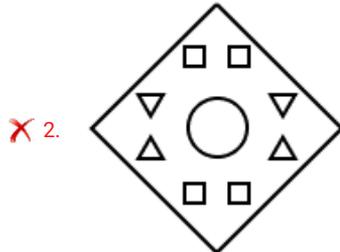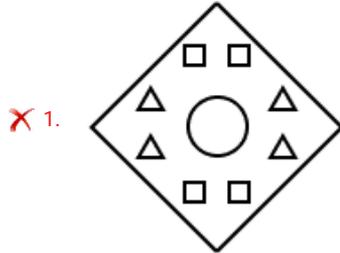
Question ID : **630680531799**
Option 1 ID : **6306802078980**
Option 2 ID : **6306802078977**
Option 3 ID : **6306802078979**
Option 4 ID : **6306802078978**

Q.11 Select the option in which the letter-clusters share the same relationship as that shared by the given triad of letter-clusters.
FOAM-OFMA-MFAO

Ans ✅ 1. CAKE-ACEK-ECKA

❌ 2. BACK-ABCK-KACB

❌ 3. DAMN-ADNM-NDAM

❌ 4. GROW-RGOW-WGOR

Question ID : **63068083249**
Option 1 ID : **630680322857**
Option 2 ID : **630680322856**
Option 3 ID : **630680322858**
Option 4 ID : **630680322859**

Q.12 Ragini is the mother of Vansh. Vansh is the only child of Kishore's son Anoop. Neha is the sister of Anoop. Gitanjali is the mother of Neha. How is Ragini related to Gitanjali?

Ans ❌ 1. Daughter

❌ 2. Son's daughter

❌ 3. Sister

✅ 4. Son's wife

Question ID : **63068050417**
Option 1 ID : **630680193990**
Option 2 ID : **630680193993**
Option 3 ID : **630680193991**
Option 4 ID : **630680193992**

Q.13 This question is based on the five, three-digit numbers given below.

(Left) 174 396 349 679 928 (Right)
(Example: 697 – First digit = 6, second digit = 9 and third digit = 7)
NOTE: All operations to be done from left to right.

If 3 is subtracted from every number, in how many numbers will the third digit be exactly divisible by the first digit?

Ans ❌ 1. 3

✅ 2. 4

❌ 3. 2

❌ 4. 1

Question ID : **630680756542**
Option 1 ID : **6306802965145**
Option 2 ID : **6306802965146**
Option 3 ID : **6306802965144**
Option 4 ID : **6306802965147**

Q.14 Refer to the given letter, number and symbol series and answer the question that follows.

(Left) € H P Δ D L ∑ # 8 ¥ Y @ 4 + = A * √ Q ∏ 6 (Right)

If all the symbols are dropped from the series, which of the following will be 3rd from right?

Ans ✗ 1. Q

✔ 2. A

✗ 3. 4

✗ 4. 8

Question ID : **630680757026**
Option 1 ID : **6306802967067**
Option 2 ID : **6306802967065**
Option 3 ID : **6306802967064**
Option 4 ID : **6306802967066**

Q.15 Select the set in which the numbers are related in the same way as are the numbers of the given sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g., 13 – Operations on 13 such as adding/deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
(12, 19, 21)
(15, 27, 36)

Ans ✗ 1. (24, 21, 87)

✔ 2. (12, 21, 27)

✗ 3. (5, 18, 26)

✗ 4. (11, 10, 24)

Question ID : **630680366430**
Option 1 ID : **6306801427240**
Option 2 ID : **6306801427237**
Option 3 ID : **6306801427238**
Option 4 ID : **6306801427239**

**Q.16** A family consists of 6 members A, B, C, X, Y and Z. B is the son of C, but C is not the mother of B. A and C are a married couple. Y is the brother of C. X is the daughter of A. Z is the brother of A.
Who is the father of B?

Ans ✔ 1. C

✗ 2. A

✗ 3. B

✗ 4. X

Question ID : **63068083713**
Option 1 ID : **630680324468**
Option 2 ID : **630680324469**
Option 3 ID : **630680324470**
Option 4 ID : **630680324471**

Q.17 Select the figure from the options that can replace the question mark (?) and complete the pattern.

Ans

✗ 1.

✔ 2.

✗ 3.

✗ 4.
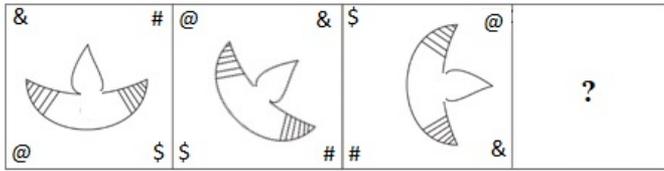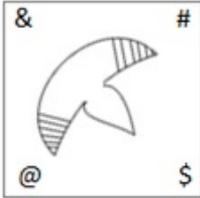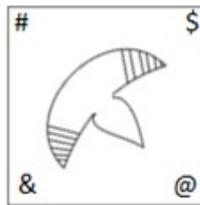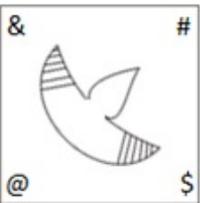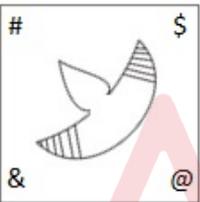
Question ID : **63068058144**
Option 1 ID : **630680224304**
Option 2 ID : **630680224303**
Option 3 ID : **630680224305**
Option 4 ID : **630680224302**

Q.18 This question is based on the following words.
BOND TIME NEST SLIM
If in each of the words, each letter is changed to the preceding letter in the English alphabetical order, how many words thus formed will have no vowel?

Ans ✗ 1. 4

✗ 2. 2

✗ 3. 1

✔ 4. 3

Question ID : **630680394880**
Option 1 ID : **6306801539807**
Option 2 ID : **6306801539805**
Option 3 ID : **6306801539804**
Option 4 ID : **6306801539806**

Q.19 If '+' means '−', '×' means '+', '÷' means '×', '−' means '÷', then what is '?' in the given equation?

5 + 3 ÷ 21 − 3 × 37 = ?

Ans ✅ 1. 21

❌ 2. 32

❌ 3. 46

❌ 4. 51

Question ID : **63068053357**
Option 1 ID : **630680205515**
Option 2 ID : **630680205516**
Option 3 ID : **630680205514**
Option 4 ID : **630680205517**

Q.20 Select the set in which the numbers are related in the same way as are the numbers of the followingsets.

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13, can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

(62, 23, 39)
(56, 15, 41)

Ans ❌ 1. (56, 29, 37)

✅ 2. (55, 18, 37)

❌ 3. (56, 19, 27)

❌ 4. (48, 25, 33)

Question ID : **630680536145**
Option 1 ID : **6306802095896**
Option 2 ID : **6306802095897**
Option 3 ID : **6306802095898**
Option 4 ID : **6306802095899**

Section : **General Awareness**

Q.1 Which of the following is the main objective of microfinance institutions (MFIs) in India?

Ans ✅ 1. To provide access to financial services to low-income individuals and households

❌ 2. To provide access to credit to small and marginal farmers

❌ 3. To provide subsidies to small and medium enterprises

❌ 4. To promote entrepreneurship and self-employment

Question ID : **630680324072**
Option 1 ID : **6306801260782**
Option 2 ID : **6306801260781**
Option 3 ID : **6306801260784**
Option 4 ID : **6306801260783**

Q.2 **High powered money is the sum of:**

Ans ✗ 1. cash held by the banks in their values and their deposits with the central bank

✓ 2. demand deposits with banks and cash held by the public

✗ 3. loans given to private people and government bonds held by the banks

✗ 4. currency held by the non-bank public and bank reserves

Question ID : **630680314398**
Option 1 ID : **6306801223396**
Option 2 ID : **6306801223395**
Option 3 ID : **6306801223394**
Option 4 ID : **6306801223393**

Q.3 **The 'Karewas' are the important geomorphological features of which State or Union Territory of India?**

Ans ✗ 1. Ladakh

✗ 2. Uttarakhand

✗ 3. Himachal Pradesh

✓ 4. Jammu & Kashmir

Question ID : **630680511149**
Option 1 ID : **6306801997729**
Option 2 ID : **6306801997727**
Option 3 ID : **6306801997726**
Option 4 ID : **6306801997728**

Q.4 **India has emerged as the world's _____ most polluted country in 2023 according to the 6th Annual World Air Quality Report 2023 by Swiss organisation IQAir.**

Ans ✗ 1. Fourth

✗ 2. Second

✓ 3. Third

✗ 4. First

Question ID : **630680749364**
Option 1 ID : **6306802936987**
Option 2 ID : **6306802936985**
Option 3 ID : **6306802936986**
Option 4 ID : **6306802936984**

Q.5 **As of 2022, which state records the lowest infant mortality rate (IMR) in India?**

Ans ✗ 1. Uttarakhand

✓ 2. Mizoram

✗ 3. Tripura

✗ 4. Meghalaya

Question ID : **630680216410**
Option 1 ID : **630680839616**
Option 2 ID : **630680839618**
Option 3 ID : **630680839617**
Option 4 ID : **630680839615**

Q.6 **Which state is on its way to become the first state to implement Uniform Civil Code (UCC) after the state cabinet approved the UCC panel's draft report?**

Ans ✗ 1. Haryana

✗ 2. Madhya Pradesh

✗ 3. Uttar Pradesh

✓ 4. Uttarakhand

Question ID : **630680629449**
Option 1 ID : **6306802463867**
Option 2 ID : **6306802463868**
Option 3 ID : **6306802463866**
Option 4 ID : **6306802463869**

Q.7 **Which of the following statements is INCORRECT about the Estimates Committee?**

Ans ✓ 1. The Committee consists of 22 members elected annually by the Lok Sabha from amongst its members.

✗ 2. The Chairperson of the Committee is appointed by the Speaker from amongst the Members of the Committee.

✗ 3. Whenever estimates relating to the Ministry of Defence are taken up for examination a sub-Committee is constituted from amongst the members of the Committee.

✗ 4. A Minister is not eligible to be elected as a member of the Committee.

Question ID : **630680134754**
Option 1 ID : **630680521834**
Option 2 ID : **630680521835**
Option 3 ID : **630680521837**
Option 4 ID : **630680521836**

Q.8 **Which state does Chami Murmu, who was awarded Padma Shri in 2024 for her contribution to environment, belong to?**

Ans ✗ 1. Chhattisgarh

✗ 2. Odisha

✗ 3. West Bengal

✓ 4. Jharkhand

Question ID : **630680749143**
Option 1 ID : **6306802936104**
Option 2 ID : **6306802936107**
Option 3 ID : **6306802936106**
Option 4 ID : **6306802936105**

Q.9 **Which is the oldest book on Sanskrit grammar from among the following?**

Ans ✓ 1. Asthadhyayi by Panini

✗ 2. Mricchakatika by Sudraka

✗ 3. Mudrarakṣhasa by Vishakhadatta

✗ 4. Swapnavasavadattam by Bhasa

Question ID : **63068076844**
Option 1 ID : **630680297474**
Option 2 ID : **630680297475**
Option 3 ID : **630680297476**
Option 4 ID : **630680297473**

Q.10 Which of the following laws is set to replace the Indian Penal Code, 1860?

Ans ✗ 1. Bharatiya Nagarik Suraksha Sanhita

✓ 2. Bharatiya Nyaya Sanhita

✗ 3. Bharatiya Sakshya Sanhita

✗ 4. Bharatiya Suraksha Sanhita

Question ID : **630680859019**
Option 1 ID : **6306803364286**
Option 2 ID : **6306803364287**
Option 3 ID : **6306803364288**
Option 4 ID : **6306803364289**

Q.11 When is the Beating Retreat Ceremony held at Vijay Chowk, Delhi every year?

Ans ✗ 1. 26th January

✓ 2. 29th January

✗ 3. 25th January

✗ 4. 23rd January

Question ID : **630680157723**
Option 1 ID : **630680610423**
Option 2 ID : **630680610421**
Option 3 ID : **630680610422**
Option 4 ID : **630680610420**

Q.12 Who among the following proposed the name of Sachchidanand Sinha the senior most member of the Constituent Assembly for the temporary chairmanship of the assembly?

Ans ✓ 1. JB Kriplani

✗ 2. Pupul Jaykar

✗ 3. Frank Anthony

✗ 4. Govind Ballabh Pant

Question ID : **63068059644**
Option 1 ID : **630680230147**
Option 2 ID : **630680230146**
Option 3 ID : **630680230149**
Option 4 ID : **630680230148**

Q.13 Where did the Chauri Chaura incident occur in British India on 4 February 1922?

Ans ✗ 1. Meerut

✓ 2. Gorakhpur

✗ 3. Lucknow

✗ 4. Agra

Question ID : **63068087068**
Option 1 ID : **630680337664**
Option 2 ID : **630680337661**
Option 3 ID : **630680337663**
Option 4 ID : **630680337662**

Q.14 The Indian Constitution consists of how many parts?

Ans ✗ 1. 24 Parts

✗ 2. 22 Parts

✗ 3. 23 Parts

✓ 4. 25 Parts

Question ID : **630680548000**
Option 1 ID : **6306802142549**
Option 2 ID : **6306802142547**
Option 3 ID : **6306802142548**
Option 4 ID : **6306802142550**

Q.15 Which of the following is the chief facilitator for the National Translation Mission (NTM)?

Ans ✗ 1. Centre for Scientific and Technical Terminologies (CSTT)

✓ 2. Central Institute of Indian languages (CIIL)

✗ 3. National Book Trust (NBT)

✗ 4. Sahitya Academy

Question ID : **630680394006**
Option 1 ID : **6306801536328**
Option 2 ID : **6306801536329**
Option 3 ID : **6306801536327**
Option 4 ID : **6306801536326**

Q.16 Who among the following founded Calcutta Female School in 1849 with the help of some Indian Social Reformers?

Ans ✗ 1. Raja Ram Mohan Roy

✗ 2. Ramakrishna Gopal Bhandarkar

✓ 3. John Elliot Drinkwater Bethune

✗ 4. Mahadev Govind Ranade

Question ID : **630680127654**
Option 1 ID : **630680494873**
Option 2 ID : **630680494872**
Option 3 ID : **630680494874**
Option 4 ID : **630680494875**

Q.17 Match the following rivers with their tributaries:

List 1	List 2
1. Indus	I. Pindar
2. Kaveri	II. Beri
3. Alaknanda	III. Shyok
4. Ghaghara	IV. Amravati

Ans ✗ 1. A-II, B- III, C-IV, D-I

✗ 2. A-I, B-II, C-III, D-IV

✗ 3. A-IV, B-II, C-III, D-I

✓ 4. A-III, B-IV, C-I, D-II

Question ID : **630680117309**
Option 1 ID : **630680454523**
Option 2 ID : **630680454525**
Option 3 ID : **630680454524**
Option 4 ID : **630680454522**

Q.18 What kind of symmetry is found in Annelids?

Ans ✔ 1. Bilateral

✘ 2. Asymmetry

✘ 3. Unilateral

✘ 4. Radial

Question ID : **63068049619**
Option 1 ID : **630680190908**
Option 2 ID : **630680190906**
Option 3 ID : **630680190909**
Option 4 ID : **630680190907**

Q.19 Which of the following is another name of desmids?

Ans ✘ 1. Red algae

✘ 2. Blue algae

✘ 3. Blue green algae

✔ 4. Golden algae

Question ID : **63068099645**
Option 1 ID : **630680387283**
Option 2 ID : **630680387282**
Option 3 ID : **630680387280**
Option 4 ID : **630680387281**

Q.20 Which of the following social reform societies was established by Jyotiba Phule in Pune?

Ans ✔ 1. Satya Shodhak Samaj

✘ 2. Brahma Samaj

✘ 3. Prarthana Samaj

✘ 4. Arya Samaj

Question ID : **630680326448**
Option 1 ID : **6306801269882**
Option 2 ID : **6306801269884**
Option 3 ID : **6306801269883**
Option 4 ID : **6306801269881**

Section : **Arithmetical and Numerical Ability**

Q.1 The average of the first four perfect even square numbers is 30 and first four perfect odd square numbers is 21. Find the average of the eight perfect square numbers.

Ans ✘ 1. 24

✘ 2. 27

✔ 3. 25.5

✘ 4. 28.6

Question ID : **630680628735**
Option 1 ID : **6306802460998**
Option 2 ID : **6306802461000**
Option 3 ID : **6306802460999**
Option 4 ID : **6306802461001**

Q.2 **A boat moving downstream covers a distance of 56 km in 4 hours, while it covers the same distance upstream in 7 hours. Find the speed of the boat in still water.**

Ans ✗ 1. 9 km/hr

✓ 2. 11 km/hr

✗ 3. 7 km/hr

✗ 4. 13 km/hr

Question ID : **630680616496**
Option 1 ID : **6306802412644**
Option 2 ID : **6306802412645**
Option 3 ID : **6306802412643**
Option 4 ID : **6306802412646**

Q.3 **At what rate (in percentage) per year will a sum of money 5 times itself in 10 years on simple interest?**

Ans ✗ 1. 38

✓ 2. 40

✗ 3. 42

✗ 4. 80

Question ID : **630680612314**
Option 1 ID : **6306802395990**
Option 2 ID : **6306802395988**
Option 3 ID : **6306802395991**
Option 4 ID : **6306802395989**

Q.4 **A shopkeeper has one spherical laddoo of radius 14.4 cm. With the same amount of material, how many laddoos of radius 3.6 cm can be made?**

Ans ✗ 1. 12

✓ 2. 64

✗ 3. 36

✗ 4. 512

Question ID : **63068068539**
Option 1 ID : **630680264848**
Option 2 ID : **630680264849**
Option 3 ID : **630680264846**
Option 4 ID : **630680264847**

Q.5 The curved surface of a cone with a radius of 7 units and a height of 14 units is to be painted. If the cost of painting is ₹5 per square unit, then the total cost (in ₹) of painting is _____.

(Take $\pi = \frac{22}{7}$)

Ans ✔ 1. $770\sqrt{5}$

✘ 2. $770\sqrt{3}$

✘ 3. 770

✘ 4. $770\sqrt{2}$

Question ID : 630680367117
Option 1 ID : 6306801429934
Option 2 ID : 6306801429935
Option 3 ID : 6306801429933
Option 4 ID : 6306801429936

Q.6 अक्षत और बरिन ने दो बिंदुओं A और B के बीच दौड़ना शुरू किया। दोनों बिंदुओं के बीच की दूरी 42.6 km है। अक्षत ने 8:23 A.M. पर बिंदु A से शुरुआत की और 14.2 km/h की चाल से दौड़कर बिंदु B तक पहुँच गया और तुरंत उसी चाल से A पर लौट आया। बरिन ने 9:53 A.M. पर बिंदु A से शुरुआत की और 21.3 km/h की चाल से दौड़कर बिंदु B तक पहुँच गया और तुरंत उसी चाल से A पर लौट आया। अक्षत और बरिन पहली बार एक दूसरे से कितने बजे मिले?

Ans ✘ 1. 11:38 A.M.

✔ 2. 11:41 A.M.

✘ 3. 11:42 A.M.

✘ 4. 11:31 A.M.

Question ID : 630680135820
Option 1 ID : 630680526000
Option 2 ID : 630680525999
Option 3 ID : 630680526001
Option 4 ID : 630680525998

Q.7 Sarita alone can complete the embroidery work of a saree in 16 days and Renu alone can do it in 12 days. Starting with Sarita, they work on alternate days. The total work will be completed in:

Ans ✘ 1. 12 days

✘ 2. $13\frac{5}{7}$ days

✔ 3. $13\frac{3}{4}$ days

✘ 4. $13\frac{3}{7}$ days

Question ID : 630680101788
Option 1 ID : 630680395512
Option 2 ID : 630680395514
Option 3 ID : 630680395513
Option 4 ID : 630680395515

Q.8 A and B invest in a business in the ratio 7 : 5. If 12% of the total profit goes to charity and A's share is ₹2,849, then the total profit (in ₹) will be:

Ans
✓ 1. 5,550
✗ 2. 6,660
✗ 3. 7,770
✗ 4. 8,880

Question ID : **630680447825**
Option 1 ID : **6306801748556**
Option 2 ID : **6306801748554**
Option 3 ID : **6306801748553**
Option 4 ID : **6306801748555**

Q.9 Study the following graph and answer the question that follows.
X-axis represents years and Y-axis represents export over the given years (in₹ crore).
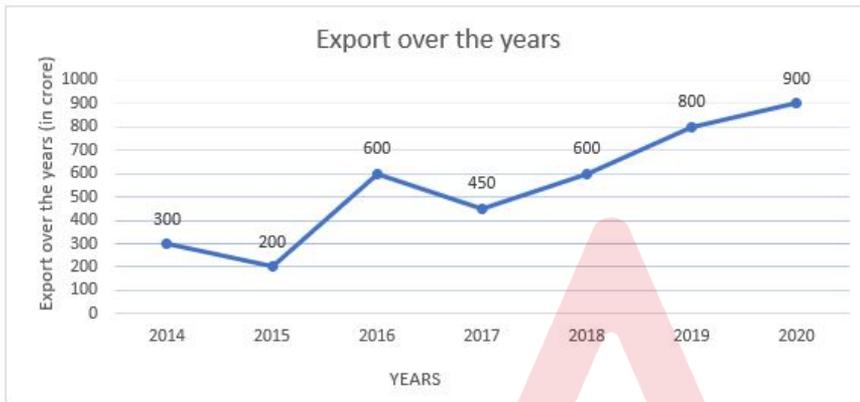
What is the total exports for the given years?

Ans
✓ 1. ₹3,900 crore
✗ 2. ₹4,100 crore
✗ 3. ₹3,050 crore
✗ 4. ₹2,900 crore

Question ID : **630680268972**
Option 1 ID : **6306801045197**
Option 2 ID : **6306801045198**
Option 3 ID : **6306801045196**
Option 4 ID : **6306801045195**

Q.10 The selling price of an item is increased from ₹60,000 to ₹65,000. By how much more would it have to be increased to get 18% profit on the item?

Ans
✓ 1. ₹5,800
✗ 2. ₹5,600
✗ 3. ₹6,100
✗ 4. ₹5,400

Question ID : **63068079143**
Option 1 ID : **630680306610**
Option 2 ID : **630680306612**
Option 3 ID : **630680306611**
Option 4 ID : **630680306609**

Q.11 Four bells ring together at the intervals of 6, 8, 9 and 10 seconds, respectively. All the bells ring simultaneously at the same time. After how many minutes will the bells ring simultaneously for the first time?

Ans ✗ 1. 8

✗ 2. 4

✗ 3. 5

✔ 4. 6

Question ID : **630680631290**
Option 1 ID : **6306802471109**
Option 2 ID : **6306802471106**
Option 3 ID : **6306802471107**
Option 4 ID : **6306802471108**

Q.12 The population of a village is 9200. If 4% of the population migrated and 3% of the population died due to different causes within a year, then what would be the population of the village after a year?

Ans ✔ 1. 8556

✗ 2. 4537

✗ 3. 9222

✗ 4. 7421

Question ID : **630680524222**
Option 1 ID : **6306802049040**
Option 2 ID : **6306802049042**
Option 3 ID : **6306802049041**
Option 4 ID : **6306802049039**

Q.13 $\dfrac{1}{0.004}$ of $\dfrac{2}{5}$ is equal to:

Ans ✗ 1. 25

✔ 2. 100

✗ 3. 500

✗ 4. 10

Question ID : **63068084211**
Option 1 ID : **630680326374**
Option 2 ID : **630680326373**
Option 3 ID : **630680326375**
Option 4 ID : **630680326372**

Q.14 The base of a solid right prism is a triangle, whose sides are 21 cm, 20 cm and 13 cm. The height of the prism is 8 cm. Then the total surface area of the prism is:

Ans ✗ 1. 558 cm^2

✗ 2. 468 cm^2

✔ 3. 684 cm^2

✗ 4. 342 cm^2

Question ID : **630680530366**
Option 1 ID : **6306802073367**
Option 2 ID : **6306802073365**
Option 3 ID : **6306802073366**
Option 4 ID : **6306802073368**

Q.15 From 8.25 L medicine, how many small packets of 55 ml can be made?

Ans   ✔ 1. 150

      ✘ 2. 170

      ✘ 3. 160

      ✘ 4. 140

Question ID : **630680277204**
Option 1 ID : **6306801077290**
Option 2 ID : **6306801077292**
Option 3 ID : **6306801077291**
Option 4 ID : **6306801077289**

Q.16 A rectangular metallic sheet's length is cut by 12% and its breadth is cut by 15%. What is the percentage decrease in its area?

Ans   ✘ 1. 20.6%

      ✘ 2. 27.5%

      ✔ 3. 25.2%

      ✘ 4. 28.7%

Question ID : **630680447265**
Option 1 ID : **6306801746316**
Option 2 ID : **6306801746313**
Option 3 ID : **6306801746314**
Option 4 ID : **6306801746315**

Q.17 If A : B = 9 : 11, and B : C = 15 : 16, what per cent of C is A? (rounded off to 1 decimal place)

Ans   ✔ 1. 76.7%

      ✘ 2. 64.8%

      ✘ 3. 59.9%

      ✘ 4. 85.2%

Question ID : **630680550830**
Option 1 ID : **6306802153563**
Option 2 ID : **6306802153561**
Option 3 ID : **6306802153564**
Option 4 ID : **6306802153562**

Q.18 Two persons A and B started their jobs in a company with equal salaries but the ratio of their percentages expenditures is 3 : 5. Based on their performance, A got an increment of 20% and B got an increment of 15% on their salaries but decided to keep the amount of their expenditures same. The new ratio of their percentage saving is:

Ans   ✘ 1. 18 : 13

      ✘ 2. 38 : 27

      ✔ 3. 69 : 52

      ✘ 4. 42 : 29

Question ID : **630680267435**
Option 1 ID : **6306801039115**
Option 2 ID : **6306801039117**
Option 3 ID : **6306801039116**
Option 4 ID : **6306801039118**

Q.19 Study the given bar graph and answer the question that follows.
The bar graph shows information on employment rates across 6 countries, A, B, C, D, E and F, in 1995 and 2005 where employment rates are calculated as people holding jobs as percentage of employable people.
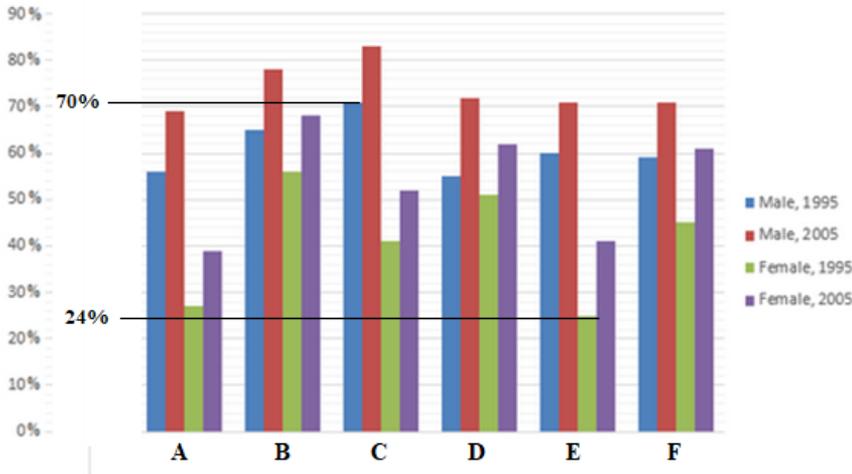
The percentages of employable females in Country E and the employable males in Country C who actually had a job in 1995 can be read from the bar graph given above. In 1995, the ratio of the number of employable males in Country E to the number of employable males in Country C was 5 : 2, while the ratio of employable males to employable females in Country E was 8 : 5. If the number of employed females in Country E in 1995 was 48,000, how many of the employable males in Country C could not find a job during that year?

Ans ✗ 1. 37500

✗ 2. 36000

✗ 3. 38600

✔ 4. 38400

Question ID : **630680406570**
Option 1 ID : **6306801585504**
Option 2 ID : **6306801585502**
Option 3 ID : **6306801585503**
Option 4 ID : **6306801585505**

Q.20 Mr Sharma received an invoice for ₹5,000 dated 05 November 2021 with terms [2/10, E.O.M]. He paid the whole amount on 10 December 2021. How much Mr Sharma did effectively pay for the bill?

Ans ✗ 1. ₹4,400

✔ 2. ₹4,900

✗ 3. ₹4,000

✗ 4. ₹5,000

Question ID : **630680101480**
Option 1 ID : **630680394441**
Option 2 ID : **630680394442**
Option 3 ID : **630680394440**
Option 4 ID : **630680394443**

Section : **English Language and Comprehension**

Q.1 Select the INCORRECTLY spelt word.

Ans   ✔ 1. Beaurucracy

      ✘ 2. Occasion

      ✘ 3. Beautiful

      ✘ 4. Accurate

Question ID : **630680545732**
Option 1 ID : **6306802133509**
Option 2 ID : **6306802133510**
Option 3 ID : **6306802133508**
Option 4 ID : **6306802133511**

Q.2 Select the INCORRECTLY spelt word.

Ans   ✘ 1. Enlightenment

      ✘ 2. Companion

      ✘ 3. Disadvantage

      ✔ 4. Acomodation

Question ID : **630680816404**
Option 1 ID : **6306803197897**
Option 2 ID : **6306803197895**
Option 3 ID : **6306803197894**
Option 4 ID : **6306803197896**

Q.3 Select the most appropriate meaning of the given proverb.
All's fair in love and war.

Ans   ✘ 1. Love and War treats people in a fair manner.

      ✔ 2. Any action taken to win love and war is justifiable.

      ✘ 3. All are happy in love and war.

      ✘ 4. All treat people in love and war equally.

Question ID : **630680186675**
Option 1 ID : **630680723649**
Option 2 ID : **630680723651**
Option 3 ID : **630680723652**
Option 4 ID : **630680723650**

Q.4 Select the most appropriate meaning of the given proverb.
Absence makes the heart grow fonder.

Ans   ✘ 1. Absent people grows.

      ✘ 2. Heart becomes fond of people.

      ✔ 3. Separation strengthens the bond of love.

      ✘ 4. Heart grows in absence.

Question ID : **630680186674**
Option 1 ID : **630680723647**
Option 2 ID : **630680723648**
Option 3 ID : **630680723645**
Option 4 ID : **630680723646**

Q.5 Select the most appropriate option to fill in the blank.
Danny was playing outside in _____ street when he saw a red car go past, driven by a professor from his university.

Ans ✗ 1. up

✗ 2. an

✓ 3. the

✗ 4. a

Question ID : **630680309956**
Option 1 ID : **6306801205971**
Option 2 ID : **6306801205970**
Option 3 ID : **6306801205972**
Option 4 ID : **6306801205969**

Q.6 Select the most appropriate meaning of the underlined proverb in the following sentence.

After serving a five-year sentence in prison due to robbery, John decided to meet his gang again. After all, <u>a leopard can't change its spots</u>.

Ans ✗ 1. The innate qualities of a person are of utmost importance.

✗ 2. A leopard can only be found in its natural habitat.

✗ 3. People who appear threatening are merely harmful.

✓ 4. People cannot change their innate characteristics.

Question ID : **630680134130**
Option 1 ID : **630680519416**
Option 2 ID : **630680519417**
Option 3 ID : **630680519415**
Option 4 ID : **630680519414**

Q.7 In the following sentence, four words have been underlined, out of which one word is MISSPELT. Select the option with the MISSPELT word.
He is so <u>compassoinate</u> that he not only strives for the <u>emancipation</u> of the workers who were <u>subjugated</u> by the employers, but also taught dire consequences of <u>perpetuating</u> such a system to their employers.

Ans ✓ 1. compassoinate

✗ 2. subjugated

✗ 3. emancipation

✗ 4. perpetuating

Question ID : **630680517309**
Option 1 ID : **6306802021632**
Option 2 ID : **6306802021634**
Option 3 ID : **6306802021633**
Option 4 ID : **6306802021635**

Q.8 Select the most appropriate meaning of the given proverb.
Better to wear out than to rust out.

Ans ✗ 1. Buy expensive things as they maintain standard.

✓ 2. It is better to work hard and die than to sit idle.

✗ 3. It is better to sit idle and not face challenges.

✗ 4. The effort we put in is always counted and appreciated.

Question ID : **630680176894**
Option 1 ID : **630680685782**
Option 2 ID : **630680685781**
Option 3 ID : **630680685780**
Option 4 ID : **630680685783**

Q.9 **Select the sentence that does NOT have a spelling error.**

Ans ✗ 1. Who feels comfortable in an embarassing moment?

✗ 2. Who feels comfortable in an embarasing moment?

✓ 3. Who feels comfortable in an embarrassing moment?

✗ 4. Who feels comfortable in an embrassing moment?

Question ID : **630680517566**
Option 1 ID : **6306802022662**
Option 2 ID : **6306802022661**
Option 3 ID : **6306802022663**
Option 4 ID : **6306802022660**

Q.10 **Select the option with the correct spelling to substitute the underlined word in the given sentence.**
My job was to liason between the two companies.

Ans ✗ 1. liaision

✗ 2. lieison

✓ 3. liaison

✗ 4. laison

Question ID : **630680517551**
Option 1 ID : **6306802022600**
Option 2 ID : **6306802022603**
Option 3 ID : **6306802022602**
Option 4 ID : **6306802022601**

Q.11 **Select the most appropriate option to fill in the blank.**

Unlike the others, _____ American occupies the front row of seats in a hall, if available.

Ans ✓ 1. an

✗ 2. those

✗ 3. a

✗ 4. these

Question ID : **63068054645**
Option 1 ID : **630680210614**
Option 2 ID : **630680210616**
Option 3 ID : **630680210615**
Option 4 ID : **630680210617**

Q.12 **Select the most appropriate option to fill in the blank.**
My son has to go to _____ hospital to enquire about the health of a sick friend.

Ans ✓ 1. the

✗ 2. some

✗ 3. any

✗ 4. a

Question ID : **630680296372**
Option 1 ID : **6306801153157**
Option 2 ID : **6306801153156**
Option 3 ID : **6306801153159**
Option 4 ID : **6306801153158**

Q.13 Select the most appropriate option to fill in the blank.
They ran _____ small-scale industry before attaining this huge business success.

Ans ✔ 1. a

✘ 2. all

✘ 3. each

✘ 4. an

Question ID : **63068054648**
Option 1 ID : **630680210627**
Option 2 ID : **630680210628**
Option 3 ID : **630680210629**
Option 4 ID : **630680210626**

Q.14 Select the most appropriate option to fill in the blank.
I thought _____ audio used in the movie was the best part.

Ans ✘ 1. a

✘ 2. of

✘ 3. an

✔ 4. the

Question ID : **630680309958**
Option 1 ID : **6306801205979**
Option 2 ID : **6306801205977**
Option 3 ID : **6306801205978**
Option 4 ID : **6306801205980**

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

Have you read _____ Ramayana?

Ans ✘ 1. that

✘ 2. a

✔ 3. the

✘ 4. an

Question ID : **63068068180**
Option 1 ID : **630680263436**
Option 2 ID : **630680263434**
Option 3 ID : **630680263437**
Option 4 ID : **630680263435**

Comprehension:

Read the given passage and answer the questions that follow.

What is a historical fact? This is a crucial question into which we must look a little more closely. According to the common sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history – the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But when points of this kind are raised, I am reminded of Housman's remark that 'accuracy is a duty, not a virtue'. To praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the 'auxiliary sciences' of history archaeology, epigraphy, numismatics, chronology and so forth. The historian is not required to have the special skills which enable the expert to determine the origin and period of a fragment of pottery or marble, to decipher an obscure inscription or to make the elaborate astronomical calculations necessary to establish a precise date. These so-called basic facts, which are the same for all historians, commonly belong to the category of the raw materials of the historian rather than of history itself. The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on a decision of the historian. In spite of CP Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts, speak only when the historian calls on them: it is he who decides to which facts to give the door, and in what order or context. It was, I think, one of Pirandello's characters who said that a fact is like a sack – it won't stand up till you've put something in it, The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. It is the historian who has decided for his own reasons that Caesar's crossing of that petty stream, the Rubicon, is a fact of history, whereas the crossing of the Rubicon by millions of other people before or since interests nobody at all. The fact that you arrived in this building half an hour ago on foot, or on a bicycle, or in a car, is just as much a fact about the past as the fact that Caesar crossed the Rubicon. But it will probably be ignored by historians. Professor Talcott Parsons once called science 'a selective system of cognitive orientations to reality'.

SubQuestion No : 16

Q.16 Which of the following words is an ANTONYM of 'Elaborate'?

Ans ✔ 1. Plain

✘ 2. Ornate

✘ 3. Careful

✘ 4. Confusing

Question ID : **630680135507**
Option 1 ID : **630680524754**
Option 2 ID : **630680524757**
Option 3 ID : **630680524755**
Option 4 ID : **630680524756**

Comprehension:

Read the given passage and answer the questions that follow.

What is a historical fact? This is a crucial question into which we must look a little more closely. According to the common sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history – the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But when points of this kind are raised, I am reminded of Housman's remark that 'accuracy is a duty, not a virtue'. To praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the 'auxiliary sciences' of history archaeology, epigraphy, numismatics, chronology and so forth. The historian is not required to have the special skills which enable the expert to determine the origin and period of a fragment of pottery or marble, to decipher an obscure inscription or to make the elaborate astronomical calculations necessary to establish a precise date. These so-called basic facts, which are the same for all historians, commonly belong to the category of the raw materials of the historian rather than of history itself. The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on a decision of the historian. In spite of CP Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts, speak only when the historian calls on them: it is he who decides to which facts to give the door, and in what order or context. It was, I think, one of Pirandello's characters who said that a fact is like a sack – it won't stand up till you've put something in it, The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. It is the historian who has decided for his own reasons that Caesar's crossing of that petty stream, the Rubicon, is a fact of history, whereas the crossing of the Rubicon by millions of other people before or since interests nobody at all. The fact that you arrived in this building half an hour ago on foot, or on a bicycle, or in a car, is just as much a fact about the past as the fact that Caesar crossed the Rubicon. But it will probably be ignored by historians. Professor Talcott Parsons once called science 'a selective system of cognitive orientations to reality'.

SubQuestion No : 17

Q.17 An appropriate selection of historical facts is important because:

Ans ✗ 1. facts cannot be manipulated

✓ 2. facts influence opinion

✗ 3. facts are common for everyone

✗ 4. facts are based on scientific discoveries

Question ID : **630680135503**
Option 1 ID : **630680524740**
Option 2 ID : **630680524738**
Option 3 ID : **630680524739**
Option 4 ID : **630680524741**

Comprehension:

Read the given passage and answer the questions that follow.

What is a historical fact? This is a crucial question into which we must look a little more closely. According to the common sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history – the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But when points of this kind are raised, I am reminded of Housman's remark that 'accuracy is a duty, not a virtue'. To praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the 'auxiliary sciences' of history archaeology, epigraphy, numismatics, chronology and so forth. The historian is not required to have the special skills which enable the expert to determine the origin and period of a fragment of pottery or marble, to decipher an obscure inscription or to make the elaborate astronomical calculations necessary to establish a precise date. These so-called basic facts, which are the same for all historians, commonly belong to the category of the raw materials of the historian rather than of history itself. The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on a decision of the historian. In spite of CP Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts, speak only when the historian calls on them: it is he who decides to which facts to give the door, and in what order or context. It was, I think, one of Pirandello's characters who said that a fact is like a sack – it won't stand up till you've put something in it, The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. It is the historian who has decided for his own reasons that Caesar's crossing of that petty stream, the Rubicon, is a fact of history, whereas the crossing of the Rubicon by millions of other people before or since interests nobody at all. The fact that you arrived in this building half an hour ago on foot, or on a bicycle, or in a car, is just as much a fact about the past as the fact that Caesar crossed the Rubicon. But it will probably be ignored by historians. Professor Talcott Parsons once called science 'a selective system of cognitive orientations to reality'.

SubQuestion No : 18

Q.18 **Which of the following statements brings forward the central theme of the passage?**

Ans ✗ 1. The accuracy of historical facts

✓ 2. The role of a historian

✗ 3. The scientific knowledge of history

✗ 4. The Battle of Hastings

Question ID : **630680135504**
Option 1 ID : **630680524743**
Option 2 ID : **630680524744**
Option 3 ID : **630680524742**
Option 4 ID : **630680524745**

Comprehension:

Read the given passage and answer the questions that follow.

What is a historical fact? This is a crucial question into which we must look a little more closely. According to the common sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history – the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But when points of this kind are raised, I am reminded of Housman's remark that 'accuracy is a duty, not a virtue'. To praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the 'auxiliary sciences' of history archaeology, epigraphy, numismatics, chronology and so forth. The historian is not required to have the special skills which enable the expert to determine the origin and period of a fragment of pottery or marble, to decipher an obscure inscription or to make the elaborate astronomical calculations necessary to establish a precise date. These so-called basic facts, which are the same for all historians, commonly belong to the category of the raw materials of the historian rather than of history itself. The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on a decision of the historian. In spite of CP Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts, speak only when the historian calls on them: it is he who decides to which facts to give the door, and in what order or context. It was, I think, one of Pirandello's characters who said that a fact is like a sack – it won't stand up till you've put something in it, The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. It is the historian who has decided for his own reasons that Caesar's crossing of that petty stream, the Rubicon, is a fact of history, whereas the crossing of the Rubicon by millions of other people before or since interests nobody at all. The fact that you arrived in this building half an hour ago on foot, or on a bicycle, or in a car, is just as much a fact about the past as the fact that Caesar crossed the Rubicon. But it will probably be ignored by historians. Professor Talcott Parsons once called science 'a selective system of cognitive orientations to reality'.

SubQuestion No : 19

Q.19 Identify the tone of the passage.

Ans ✗ 1. Provocative

✗ 2. Ominous

✗ 3. Speculative

✓ 4. Sardonic/Critical

Question ID : **630680135505**
Option 1 ID : **630680524746**
Option 2 ID : **630680524749**
Option 3 ID : **630680524747**
Option 4 ID : **630680524748**

Comprehension:

Read the given passage and answer the questions that follow.

What is a historical fact? This is a crucial question into which we must look a little more closely. According to the common sense view, there are certain basic facts which are the same for all historians and which form, so to speak, the backbone of history – the fact, for example, that the Battle of Hastings was fought in 1066. But this view calls for two observations. In the first place, it is not with facts like these that the historian is primarily concerned. It is no doubt important to know that the great battle was fought in 1066 and not in 1065 or 1067, and that it was fought at Hastings and not at Eastbourne or Brighton. The historian must not get these things wrong. But when points of this kind are raised, I am reminded of Housman's remark that 'accuracy is a duty, not a virtue'. To praise a historian for his accuracy is like praising an architect for using well-seasoned timber or properly mixed concrete in his building. It is a necessary condition of his work, but not his essential function. It is precisely for matters of this kind that the historian is entitled to rely on what have been called the 'auxiliary sciences' of history archaeology, epigraphy, numismatics, chronology and so forth. The historian is not required to have the special skills which enable the expert to determine the origin and period of a fragment of pottery or marble, to decipher an obscure inscription or to make the elaborate astronomical calculations necessary to establish a precise date. These so-called basic facts, which are the same for all historians, commonly belong to the category of the raw materials of the historian rather than of history itself. The second observation is that the necessity to establish these basic facts rests not on any quality in the facts themselves, but on a decision of the historian. In spite of CP Scott's motto, every journalist knows today that the most effective way to influence opinion is by the selection and arrangement of the appropriate facts. It used to be said that facts speak for themselves. This is, of course, untrue. The facts, speak only when the historian calls on them: it is he who decides to which facts to give the door, and in what order or context. It was, I think, one of Pirandello's characters who said that a fact is like a sack – it won't stand up till you've put something in it, The only reason why we are interested to know that the battle was fought at Hastings in 1066 is that historians regard it as a major historical event. It is the historian who has decided for his own reasons that Caesar's crossing of that petty stream, the Rubicon, is a fact of history, whereas the crossing of the Rubicon by millions of other people before or since interests nobody at all. The fact that you arrived in this building half an hour ago on foot, or on a bicycle, or in a car, is just as much a fact about the past as the fact that Caesar crossed the Rubicon. But it will probably be ignored by historians. Professor Talcott Parsons once called science 'a selective system of cognitive orientations to reality'.

SubQuestion No : 20

Q.20 The _____ allusions in this passage make it difficult to understand.

Ans   ✗ 1. numismatic

    ✓ 2. obscure

    ✗ 3. chronological

    ✗ 4. epigraphy

Question ID : **630680135506**
Option 1 ID : **630680524751**
Option 2 ID : **630680524752**
Option 3 ID : **630680524753**
Option 4 ID : **630680524750**

Section : **Hindi Language and Comprehension**

Q.1 लोकोक्ति का अर्थ बतावें और उत्तर के रूप में सही विकल्प चुनें।

जिन ढूँढ़ा तिन पाईयाँ गहरे पानी पैठ

Ans   ✗ 1. गहरे पानी में बहुत कुछ मिलता है

    ✗ 2. खोजने पर पानी के अंदर भी कुछ मिलता है

    ✗ 3. गहरे पानी में ढूँढ़ना चाहिए

    ✓ 4. परिश्रम का फल अवश्य मिलता है

Question ID : **630680135419**
Option 1 ID : **630680524438**
Option 2 ID : **630680524440**
Option 3 ID : **630680524441**
Option 4 ID : **630680524439**

Q.2 निम्नलिखित में से कौन सा ऐसा वाक्य है जिसमें वर्तनी सम्बन्धी त्रुटि है?

Ans ✅ 1. अकबर का शाशन काल अच्छा था।

❌ 2. मजदूरों का शोषण हुआ।

❌ 3. बहुतों का कल्याण हुआ।

❌ 4. मेरे साथ धोखा किया गया।

Question ID : 63068064676
Option 1 ID : 630680249671
Option 2 ID : 630680249670
Option 3 ID : 630680249672
Option 4 ID : 630680249673

Q.3 'आग में घी डालना' मुहावरे का अर्थ है -

Ans ❌ 1. कष्ट देना

✅ 2. क्रोध बढ़ाना

❌ 3. विवश करना

❌ 4. संकट मोल लेना

Question ID : 630680125673
Option 1 ID : 630680487352
Option 2 ID : 630680487353
Option 3 ID : 630680487351
Option 4 ID : 630680487350

Q.4 'प्राची में बने रक्तमण्डल के बीच से दक्षीणायन होने को रश्मियाँ स्वर्ण रज्जु की कान्ति लिए पृथ्वी की ओर उतरने लगीं' वाक्य के किस शब्द में वर्तनी की अशुद्धि है-

Ans ❌ 1. प्राची

❌ 2. रश्मियाँ

✅ 3. दक्षीणायन

❌ 4. कान्ति

Question ID : 630680194526
Option 1 ID : 630680754629
Option 2 ID : 630680754631
Option 3 ID : 630680754630
Option 4 ID : 630680754632

Q.5 **निम्नलिखित वाक्य को क्रम में लिखें।**
निंदा करते हैं दूसरे, जो की वे लोग अच्छे नहीं होते।

Ans ✅ 1. जो दूसरे की निंदा करते हैं, वे लोग अच्छे नहीं होते।

❌ 2. निंदा दूसरों की अच्छे लोग वे, होते नहीं जो हैं करते।

❌ 3. अच्छे लोग निंदा दूसरे की, वे करते हैं होते नहीं जो

❌ 4. होते नहीं अच्छे लोग वे, निंदा दूसरे की जो हैं करते।

Question ID : 630680555618
Option 1 ID : 6306802171908
Option 2 ID : 6306802171910
Option 3 ID : 6306802171911
Option 4 ID : 6306802171909

Q.6 निम्नलिखित वाक्यांश को ध्यानपूर्वक पढ़ें और वाक्यांश हेतु सार्थक शब्द प्रस्तुत करें।
जिसका दमन न किया जा सके।

Ans ✅ 1. अदम्य

❌ 2. नष्ट

❌ 3. दमित

❌ 4. दुष्ट

Question ID : **630680343289**
Option 1 ID : **6306801335531**
Option 2 ID : **6306801335529**
Option 3 ID : **6306801335530**
Option 4 ID : **6306801335532**

Q.7 -दिए गए शब्दों में से सार्वनामिक विशेषण भरकर वाक्य पूर्ण करें
घोड़ा अच्छा है। _____

Ans ✅ 1.
यह

❌ 2.
काला

❌ 3.
नया

❌ 4.
दूसरा

Question ID : **63068055343**
Option 1 ID : **630680213393**
Option 2 ID : **630680213390**
Option 3 ID : **630680213391**
Option 4 ID : **630680213392**

Q.8 ज़िया _____ भोजन कर लिया था।
दिए गए वाक्य के रिक्त स्थान को किस कारक की विभक्ति से पूर्ण किया जायेगा ?

Ans ❌ 1. सम्प्रदान कारक

❌ 2. कर्म कारक

❌ 3. करण कारक

✅ 4. कर्त्ता कारक

Question ID : **63068086212**
Option 1 ID : **630680334279**
Option 2 ID : **630680334277**
Option 3 ID : **630680334278**
Option 4 ID : **630680334276**

Q.9 मैं पानी का गिलास _____। - रिक्त स्थान के लिए उचित क्रिया है-

Ans ✅ 1. भरता हूँ

❌ 2. भरी है

❌ 3. भरे हूँ

❌ 4. भरा हूँ

Question ID : **630680337463**
Option 1 ID : **6306801312576**
Option 2 ID : **6306801312575**
Option 3 ID : **6306801312574**
Option 4 ID : **6306801312573**

Q.10 अशुद्ध वर्तनी वाला वाक्य पहचानिए।

Ans ✘ 1. लड़के ने लड़की से काम करवाया।

✘ 2. उषा ने चाय पी।

✔ 3. लड़की ने लड़के से पतर पढवाया।

✘ 4. लड़की ने लड़के को देखा

Question ID : 63068064766
Option 1 ID : 630680250032
Option 2 ID : 630680250031
Option 3 ID : 630680250033
Option 4 ID : 630680250030

Q.11 'जिस पर आक्रमण हो' इस वाक्यांश के लिए सार्थक शब्द है -

Ans ✘ 1. आक्रामक

✘ 2. अनाहूत

✔ 3. आक्रान्त

✘ 4. आततायी

Question ID : 630680294188
Option 1 ID : 6306801144505
Option 2 ID : 6306801144507
Option 3 ID : 6306801144506
Option 4 ID : 6306801144504

Q.12 **निम्नलिखित वाक्य को क्रम में लिखें।**
जा होगा रहा मोहन घर।

Ans ✘ 1. होगा जा घर रहा मोहन।

✘ 2. जा घर रहा मोहन होगा।

✔ 3. मोहन घर जा रहा होगा।

✘ 4. रहा होगा जा मोहन घर।

Question ID : 630680555614
Option 1 ID : 6306802171893
Option 2 ID : 6306802171895
Option 3 ID : 6306802171892
Option 4 ID : 6306802171894

Q.13 ओजस्व ने पाठ पढ़ा में कौन सा कारक है?

Ans ✘ 1. कर्म

✘ 2. सम्प्रदान

✔ 3. कर्त्ता

✘ 4. करण

Question ID : 63068060576
Option 1 ID : 630680233756
Option 2 ID : 630680233757
Option 3 ID : 630680233754
Option 4 ID : 630680233755

Q.14 'कान खड़े होना' मुहावरे का सही अर्थ है-

Ans ✗ 1. शिथिल पड़ना।

✗ 2. नष्ट करना।

✓ 3. होशियार होना।

✗ 4. कमजोर होना।

Question ID : 630680378261
Option 1 ID : 6306801474100
Option 2 ID : 6306801474099
Option 3 ID : 6306801474101
Option 4 ID : 6306801474102

Q.15 '_____ व्यक्ति पानी में डूब गया।' वाक्य में रिक्त स्थान की पूर्ति प्रत्येक बोधक विशेषण से कीजिए।

Ans ✗ 1. पहला

✓ 2. एक-एक

✗ 3. सारे

✗ 4. एक

Question ID : 63068086136
Option 1 ID : 630680333978
Option 2 ID : 630680333979
Option 3 ID : 630680333976
Option 4 ID : 630680333977

Comprehension:

गद्यांश के आधार पर प्रश्न का उत्तर दें।

"प्राचीन काल में जनक महाराज विदेह में राज करते थे। मिथिला विदेह की राजधानी थी। मिथिला नगरी में राजमहल के आस-पास कोई एक हजार सन्यासियों की पर्णकुटिया थीं। मिथिला के सिंहासन पर बैठने के बावजूद जनक को फकीरी का शौक था। कहा जाता है कि महाराज जनक ज्ञानी थे। वे इस तरह राज-काज चलाते थे, मानो स्वयं परमात्मा के विनयशील सेवक हैं। सुबह से शाम तक सारे राज्य का प्रबंध करते, शत्रुओं का पता करते, अपराधी को दण्ड देते, लोक-कल्याण के उपाय करते और इतना सब कुछ करने पर भी वे किसी सांसारिक कार्य में लिप्त नहीं होते थे। इसलिये लोग उनको विदेह जनक कहते थे।"

SubQuestion No : 16

Q.16 महाराज जनक परमात्मा से अपना क्या संबंध रखते थे?

Ans ✗ 1. दास का

✓ 2. विनयशील सेवक का

✗ 3. पुत्र का

✗ 4. मालिक का

Question ID : 630680177718
Option 1 ID : 630680689001
Option 2 ID : 630680689002
Option 3 ID : 630680689000
Option 4 ID : 630680689003

Comprehension:

गद्यांश के आधार पर प्रश्न का उत्तर दें।

"प्राचीन काल में जनक महाराज विदेह में राज करते थे । मिथिला विदेह की राजधानी थी । मिथिला नगरी में राजमहल के आस-पास कोई एक हजार सन्यासियों की पर्णकुटिया थीं । मिथिला के सिंहासन पर बैठने के बावजूद जनक को फकीरी का शौक था । कहा जाता है कि महाराज जनक ज्ञानी थे । वे इस तरह राज-काज चलाते थे, मानो स्वयं परमात्मा के विनयशील सेवक हैं । सुबह से शाम तक सारे राज्य का प्रबंध करते, शत्रुओं का पता करते, अपराधी को दण्ड देते, लोक-कल्याण के उपाय करते और इतना सब कुछ करने पर भी वे किसी सांसारिक कार्य में लिप्त नहीं होते थे । इसलिये लोग उनको विदेह जनक कहते थे ।"

SubQuestion No : 17

Q.17 महाराज जनक राज्य चलाने के लिए इनमें से क्या करते थे?

Ans   ✗ 1. दूसरे राजाओं से युद्ध करते

✗ 2. किसानों का ख्याल रखते

✓ 3. लोक-कल्याण के उपाय करते

✗ 4. प्रजा पर अत्याचार करते

Question ID : **630680177717**
Option 1 ID : **630680688998**
Option 2 ID : **630680688996**
Option 3 ID : **630680688999**
Option 4 ID : **630680688997**

Comprehension:

गद्यांश के आधार पर प्रश्न का उत्तर दें।

"प्राचीन काल में जनक महाराज विदेह में राज करते थे । मिथिला विदेह की राजधानी थी । मिथिला नगरी में राजमहल के आस-पास कोई एक हजार सन्यासियों की पर्णकुटिया थीं । मिथिला के सिंहासन पर बैठने के बावजूद जनक को फकीरी का शौक था । कहा जाता है कि महाराज जनक ज्ञानी थे । वे इस तरह राज-काज चलाते थे, मानो स्वयं परमात्मा के विनयशील सेवक हैं । सुबह से शाम तक सारे राज्य का प्रबंध करते, शत्रुओं का पता करते, अपराधी को दण्ड देते, लोक-कल्याण के उपाय करते और इतना सब कुछ करने पर भी वे किसी सांसारिक कार्य में लिप्त नहीं होते थे । इसलिये लोग उनको विदेह जनक कहते थे ।"

SubQuestion No : 18

Q.18 राजमहल के आसपास किन लोगों की कुटिया थी?

Ans   ✗ 1. व्यापारियों की

✓ 2. सन्यासियों की

✗ 3. अमीरों की

✗ 4. गरीबों की

Question ID : **630680177716**
Option 1 ID : **630680688994**
Option 2 ID : **630680688995**
Option 3 ID : **630680688993**
Option 4 ID : **630680688992**

Comprehension:

गद्यांश के आधार पर प्रश्न का उत्तर दें।

"प्राचीन काल में जनक महाराज विदेह में राज करते थे । मिथिला विदेह की राजधानी थी । मिथिला नगरी में राजमहल के आस-पास कोई एक हजार सन्यासियों की पर्णकुटिया थीं । मिथिला के सिंहासन पर बैठने के बावजूद जनक को फकीरी का शौक था । कहा जाता है कि महाराज जनक ज्ञानी थे । वे इस तरह राज-काज चलाते थे, मानो स्वयं परमात्मा के विनयशील सेवक हैं । सुबह से शाम तक सारे राज्य का प्रबंध करते, शत्रुओं का पता करते, अपराधी को दण्ड देते, लोक-कल्याण के उपाय करते और इतना सब कुछ करने पर भी वे किसी सांसारिक कार्य में लिप्त नहीं होते थे । इसलिये लोग उनको विदेह जनक कहते थे ।"

SubQuestion No : 19

Q.19 उपरोक्त गद्यांश के अनुसार महाराज जनक का क्या शौक था?

Ans ✅ 1. फकीरी का

❌ 2. गरीबी का

❌ 3. अमीरी का

❌ 4. पैसा लुटाने का

Question ID : 630680177715
Option 1 ID : 630680688991
Option 2 ID : 630680688989
Option 3 ID : 630680688988
Option 4 ID : 630680688990

Comprehension:

गद्यांश के आधार पर प्रश्न का उत्तर दें।

"प्राचीन काल में जनक महाराज विदेह में राज करते थे । मिथिला विदेह की राजधानी थी । मिथिला नगरी में राजमहल के आस-पास कोई एक हजार सन्यासियों की पर्णकुटिया थीं । मिथिला के सिंहासन पर बैठने के बावजूद जनक को फकीरी का शौक था । कहा जाता है कि महाराज जनक ज्ञानी थे । वे इस तरह राज-काज चलाते थे, मानो स्वयं परमात्मा के विनयशील सेवक हैं । सुबह से शाम तक सारे राज्य का प्रबंध करते, शत्रुओं का पता करते, अपराधी को दण्ड देते, लोक-कल्याण के उपाय करते और इतना सब कुछ करने पर भी वे किसी सांसारिक कार्य में लिप्त नहीं होते थे । इसलिये लोग उनको विदेह जनक कहते थे ।"

SubQuestion No : 20

Q.20 विदेह की राजधानी कहाँ थी?

Ans ❌ 1. मगध

❌ 2. अयोध्या

❌ 3. पाटलीपुत्र

✅ 4. मिथिला

Question ID : 630680177714
Option 1 ID : 630680688985
Option 2 ID : 630680688987
Option 3 ID : 630680688984
Option 4 ID : 630680688986

Section : **Discipline1**

Q.1 In case of atomic hydrogen emission displays, which rays are NOT a part of the infra-red region?

Ans ❌ 1. Pfund series

❌ 2. Brackett series

✅ 3. Lyman series

❌ 4. Paschen series

Question ID : 630680876304
Option 1 ID : 6306803431986
Option 2 ID : 6306803431985
Option 3 ID : 6306803431983
Option 4 ID : 6306803431984

Q.2 Reynold's number is the ratio of:

Ans ✗ 1. viscous force of fluid to the inertia force of fluid

✗ 2. inertia force of fluid to the gravity force of fluid

✗ 3. gravity force of fluid to the inertia force of fluid

✓ 4. inertia force of fluid to the viscous force of fluid

Question ID : **630680108828**
Option 1 ID : **630680422205**
Option 2 ID : **630680422206**
Option 3 ID : **630680422207**
Option 4 ID : **630680422204**

Q.3 The _____ encloses the dimensioning line.

Ans ✓ 1. extension line

✗ 2. horizontal line

✗ 3. dimension line

✗ 4. leader line

Question ID : **630680876135**
Option 1 ID : **6306803431308**
Option 2 ID : **6306803431310**
Option 3 ID : **6306803431309**
Option 4 ID : **6306803431307**

Q.4 What is the primary characteristic of a multi-user operating system?

Ans ✗ 1. It is designed for embedded systems.

✓ 2. It can manage multiple users concurrently.

✗ 3. It can manage only one user at a time.

✗ 4. It is optimised for real-time processing.

Question ID : **630680876174**
Option 1 ID : **6306803431466**
Option 2 ID : **6306803431464**
Option 3 ID : **6306803431463**
Option 4 ID : **6306803431465**

Q.5 Let $\vec{F} = 2xz\hat{i} + 2x\hat{j} - y^2\hat{k}$. The value of the integral $\iiint_V \vec{F}dv$, where V is the region bounded by $x = 0, y = 0, x = 3, y = 8$ and $x^2 \leq z \leq 6$, is:

Ans ✗ 1. $324\hat{i} - 108\hat{j} - 1536\hat{k}$

✗ 2. $324\hat{i} + 108\hat{j} + 1536\hat{k}$

✓ 3. $324\hat{i} + 108\hat{j} - 1536\hat{k}$

✗ 4. $108\hat{i} + 324\hat{j} + 1536\hat{k}$

Question ID : **63068093716**
Option 1 ID : **630680363562**
Option 2 ID : **630680363561**
Option 3 ID : **630680363560**
Option 4 ID : **630680363559**

Q.6 Which of the following does NOT affect the task work?

Ans ✗ 1. Efficient site organisation and management increases the labour output

✔ 2. Lower wages and more working hours improve the output

✗ 3. Faulty or slack organisation will decrease the labour output

✗ 4. Output of different skilled worker varies considerably according to their skill

Question ID : **630680339596**
Option 1 ID : **6306801320906**
Option 2 ID : **6306801320908**
Option 3 ID : **6306801320907**
Option 4 ID : **6306801320905**

Q.7 Ptygmatic fold may result from viscous flow of incompetent rocks under small stress difference, and hence it is also known as _____.

Ans ✗ 1. Chevron fold

✗ 2. overturned isoclinal fold

✗ 3. zig-zag fold

✔ 4. flow fold

Question ID : **630680876200**
Option 1 ID : **6306803431570**
Option 2 ID : **6306803431569**
Option 3 ID : **6306803431567**
Option 4 ID : **6306803431568**

Q.8 Which of the following is NOT a series connection?

Ans ✗ 1. Fuses

✔ 2. Domestic appliances

✗ 3. Resistance box

✗ 4. Decorative lights

Question ID : **630680340678**
Option 1 ID : **6306801325155**
Option 2 ID : **6306801325153**
Option 3 ID : **6306801325156**
Option 4 ID : **6306801325154**

Q.9 Input offset current for an operational amplifier can be defined as the:

Ans ✗ 1. sum of the input bias currents flowing in the input terminals of the OP-AMP

✔ 2. difference between the input bias currents flowing in the input terminals of the OP-AMP

✗ 3. ratio of the input bias current at the inverting terminal to the input bias current at the non- inverting terminal of the OP-AMP

✗ 4. product of the input bias currents flowing in the input terminals of the OP-AMP

Question ID : **630680395390**
Option 1 ID : **6306801541740**
Option 2 ID : **6306801541741**
Option 3 ID : **6306801541743**
Option 4 ID : **6306801541742**

Q.10 In a tile drainage system, the height of water table above the impervious layer = 9 m, depth of the impervious stratum below the center of drains = 8 m, permeability coefficient = 0.001 cm/s. The total discharge per unit length carried by the drain, q = (0.75 S / (8.64 x 10^6)). Calculate the spacing (S) of the tile drain.

Ans

✗ 1. 85.81 m

✗ 2. 44.25 m

✗ 3. 42.45 m

✔ 4. 88.51 m

Question ID : **630680144456**
Option 1 ID : **630680558893**
Option 2 ID : **630680558890**
Option 3 ID : **630680558891**
Option 4 ID : **630680558892**

Q.11 The flexibility matrix of the beam shown in the figure is given by:
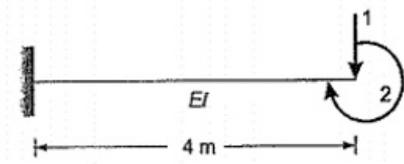
Ans

✗ 1.
$$\begin{bmatrix} -\dfrac{64}{3EI} & \dfrac{8}{EI} \\ \dfrac{8}{EI} & -\dfrac{4}{EI} \end{bmatrix}$$

✗ 2.
$$\begin{bmatrix} \dfrac{64}{EI} & \dfrac{8}{EI} \\ \dfrac{8}{EI} & \dfrac{4}{EI} \end{bmatrix}$$

✔ 3.
$$\begin{bmatrix} \dfrac{64}{3EI} & \dfrac{8}{EI} \\ \dfrac{8}{EI} & \dfrac{4}{EI} \end{bmatrix}$$

✗ 4.
$$\begin{bmatrix} \dfrac{64}{EI} & -\dfrac{8}{EI} \\ \dfrac{8}{EI} & -\dfrac{4}{EI} \end{bmatrix}$$

Question ID : **630680133175**
Option 1 ID : **630680515689**
Option 2 ID : **630680515687**
Option 3 ID : **630680515688**
Option 4 ID : **630680515686**

Q.12 A body of mass 2 kg and C_p = 1.00 KJ/kg-K is at 600 K. If the atmosphere is at 300 K, maximum work obtainable from the body till it comes to equilibrium with the atmosphere is:

Ans
- ✗ 1. 190.5 KJ
- ✗ 2. 142.8 KJ
- ✗ 3. 150.4 KJ
- ✓ 4. 184.2 KJ

Question ID : **630680116723**
Option 1 ID : **630680452181**
Option 2 ID : **630680452179**
Option 3 ID : **630680452178**
Option 4 ID : **630680452180**

Q.13 Which of the following criteria should the material to be used in the drainage layer meet?

Ans

- ✓ 1. $\dfrac{D_{15}\text{ of drainage layer}}{D_{15}\text{ of subgrade layer}} \geq 5$

- ✗ 2. $\dfrac{D_{15}\text{ of drainage layer}}{D_{15}\text{ of subgrade layer}} \geq 6$

- ✗ 3. $\dfrac{D_{15}\text{ of drainage layer}}{D_{15}\text{ of subgrade layer}} \geq 7$

- ✗ 4. $\dfrac{D_{15}\text{ of drainage layer}}{D_{15}\text{ of subgrade layer}} \geq 4$

Question ID : **630680157932**
Option 1 ID : **630680611257**
Option 2 ID : **630680611258**
Option 3 ID : **630680611259**
Option 4 ID : **630680611256**

Q.14 A cantilever beam of span 4 m is subjected to varying distributed load of 200 N/m maximum intensity at the free end and zero at the fixed end. Find the total deflection at free end if flexural rigidity of the beam is taken by 400×10^{12} Nmm^2 .

Ans
- ✗ 1. 1173.33 mm
- ✗ 2. 117.33 mm
- ✗ 3. 11.733 mm
- ✓ 4. 0.01173 mm

Question ID : **630680137599**
Option 1 ID : **630680532765**
Option 2 ID : **630680532764**
Option 3 ID : **630680532763**
Option 4 ID : **630680532762**

Q.15 If in laying an offset, the likely angular error is 3 degree, then the limiting length of the offset for it to be negligible in a plan drawn to a scale of 1 cm = 20 m is (take the plotting accuracy as 0.025 cm):

Ans
❌ 1. 7.55 m

✅ 2. 9.55 m

❌ 3. 8.25 m

❌ 4. 10.25 m

Question ID : **630680121644**
Option 1 ID : **630680471526**
Option 2 ID : **630680471528**
Option 3 ID : **630680471527**
Option 4 ID : **630680471529**

Q.16 Identify the sound absorbing material from the following.

Ans
✅ 1. Glass

❌ 2. Metal sheet

❌ 3. Concrete

❌ 4. Cavity wall

Question ID : **630680876272**
Option 1 ID : **6306803431857**
Option 2 ID : **6306803431856**
Option 3 ID : **6306803431855**
Option 4 ID : **6306803431858**

Q.17 Which of the following is the role of a catalyst in polymerisation reactions?

Ans
❌ 1. Stabilises the polymerisation reaction.

❌ 2. Terminates the polymerisation reaction.

✅ 3. Speeds up the polymerisation reaction.

❌ 4. Breaks down the polymerisation reaction.

Question ID : **630680876290**
Option 1 ID : **6306803431930**
Option 2 ID : **6306803431928**
Option 3 ID : **6306803431929**
Option 4 ID : **6306803431927**

Q.18 The ratio of the water level change to pressure head change is called _____.

Ans
❌ 1. hydraulic efficiency

❌ 2. trap efficiency

❌ 3. well efficiency

✅ 4. barometric efficiency

Question ID : **63068099866**
Option 1 ID : **630680388163**
Option 2 ID : **630680388160**
Option 3 ID : **630680388162**
Option 4 ID : **630680388161**

Q.19 In a 3-coat lime plastering, the second coat is called _____.

Ans   ✗ 1. base coat

      ✗ 2. rendering coat

      ✓ 3. floating coat

      ✗ 4. finishing coat

Question ID : **630680876265**
Option 1 ID : **6306803431829**
Option 2 ID : **6306803431827**
Option 3 ID : **6306803431828**
Option 4 ID : **6306803431830**

Q.20 The rate of emission of radiative flux of a large spherical enclosure through a small opening is 100 W/m^2. The temperature at the inner surface of the sphere will be about _____.

(Assume the Stefan–Boltzmann constant $\sigma = 5.67 \times 10^{-8}$ W/m^{2}K^4).

Ans   ✗ 1. 473 K

      ✗ 2. 373 K

      ✗ 3. 600 K

      ✓ 4. 205 K

Question ID : **630680876311**
Option 1 ID : **6306803432014**
Option 2 ID : **6306803432012**
Option 3 ID : **6306803432013**
Option 4 ID : **6306803432011**

Section : **Discipline2**

Q.1 A heat engine receives heat from a source at 1200 K at a rate of 500 KJ/sec and rejects the waste heat to a medium at 300 K. The power output of the engine is 180 KW. The rate of irreversibility for this process is:

Ans   ✗ 1. 375 KW

      ✗ 2. 125 KW

      ✓ 3. 195 KW

      ✗ 4. 275 KW

Question ID : **630680116720**
Option 1 ID : **630680452166**
Option 2 ID : **630680452169**
Option 3 ID : **630680452168**
Option 4 ID : **630680452167**

Q.2 How many stages of rock weathering can convert fresh rock to residual soil?

Ans   ✗ 1. One

      ✗ 2. Four

      ✓ 3. Six

      ✗ 4. Three

Question ID : **630680876205**
Option 1 ID : **6306803431587**
Option 2 ID : **6306803431589**
Option 3 ID : **6306803431590**
Option 4 ID : **6306803431588**

Q.3 The value of the integral $\int_0^1 \frac{tan^{-1}x}{1+x^2}dx$ is:

Ans

✔ 1. $\frac{\pi^2}{32}$

✘ 2. $\frac{\pi}{32}$

✘ 3. $\frac{\pi}{64}$

✘ 4. $\frac{\pi^2}{64}$

Question ID : **630680139765**
Option 1 ID : **630680541111**
Option 2 ID : **630680541112**
Option 3 ID : **630680541113**
Option 4 ID : **630680541110**

Q.4 Which of the following is NOT a characteristic of good engineering lettering?

Ans ✘ 1. Uniformity in style

✘ 2. Legibility

✘ 3. Consistency in size

✔ 4. Random spacing between letters

Question ID : **630680876133**
Option 1 ID : **6306803431300**
Option 2 ID : **6306803431302**
Option 3 ID : **6306803431299**
Option 4 ID : **6306803431301**

Q.5 Which of the following is the correct unit of transmissibility?

Ans

✔ 1. m^2 / day

✘ 2. m / day

✘ 3. $m^2 - day$

✘ 4. $m - day$

Question ID : **63068099861**
Option 1 ID : **630680388141**
Option 2 ID : **630680388140**
Option 3 ID : **630680388143**
Option 4 ID : **630680388142**

Q.6 In a cable suspended at different levels and loaded with UDL the tension is _____

Ans ✔ 1. minimum at the lowest section

✘ 2. minimum at the lower support

✘ 3. constant throughout

✘ 4. minimum at the mid-span section

Question ID : **630680139528**
Option 1 ID : **630680540165**
Option 2 ID : **630680540164**
Option 3 ID : **630680540163**
Option 4 ID : **630680540162**

Q.7 A layer of clay 3 m thick is subjected to loading of 0.6 kg/cm^2. One year after loading, the average consolidation is 50%. The layer has single drainage. Find out the coefficient of consolidation.

Ans ✔ 1. 1.764 m^2 / year

✗ 2. 1.84 m^2 / year

✗ 3. 3.63 m^2 / year

✗ 4. 1.275 m^2 / year

Question ID : **630680133885**
Option 1 ID : **630680518477**
Option 2 ID : **630680518476**
Option 3 ID : **630680518475**
Option 4 ID : **630680518474**

Q.8 A cube of timber with each side measuring 0.381 m, floats in water with depth of submergence D. The specific gravity of timber is given as 0.6. Determine the value of D (in m).
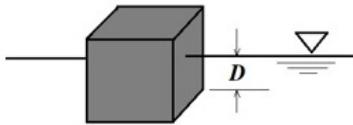
Ans ✔ 1. 0.228

✗ 2. 0.274

✗ 3. 0.319

✗ 4. 0.171

Question ID : **63068082846**
Option 1 ID : **630680321249**
Option 2 ID : **630680321250**
Option 3 ID : **630680321251**
Option 4 ID : **630680321248**

Q.9 As per IS: 800-2007, in calculating the net sectional area, the diameter of a 20 mm bolt hole in case of directly punched hole will be equal to _____.

Ans ✗ 1. 22 mm

✗ 2. 20 mm

✔ 3. 24 mm

✗ 4. 23 mm

Question ID : **630680335161**
Option 1 ID : **6306801303862**
Option 2 ID : **6306801303861**
Option 3 ID : **6306801303864**
Option 4 ID : **6306801303863**

Q.10 A rectangular area of length 'L' and width 'B' is uniformly loaded with load intensity 'q' at the ground surface. The vertical stress at depth 'z' will be given by using the 2 : 1 method of load distribution as:

Ans

✅ 1. $\dfrac{q\,(B \times L)}{(B + z)\,(L + z)}$

❌ 2. $\dfrac{q\,(B \times L)}{(B + z)^2\,(L + z)^2}$

❌ 3. $\dfrac{q\,(B \times L)}{(B + 2z)\,(L + 2z)}$

❌ 4. $\dfrac{q}{(B + z)\,(L + z)}$

Question ID : **630680159107**
Option 1 ID : **630680615898**
Option 2 ID : **630680615897**
Option 3 ID : **630680615896**
Option 4 ID : **630680615899**

Q.11 Which unit of measurement in the MKS system is commonly used for quantifying reinforced cement concrete (RCC) in concrete works?

Ans

✅ 1. Cubic metre (m^3)

❌ 2. Metre (m)

❌ 3. Square metre (m^2)

❌ 4. Square feet (ft^2)

Question ID : **630680876224**
Option 1 ID : **6306803431663**
Option 2 ID : **6306803431665**
Option 3 ID : **6306803431664**
Option 4 ID : **6306803431666**

Q.12 A simply supported beam of span L is subjected to zero intensity load at one supported end and maximum load intensity 'w' at another supported end. What is the bending moment at the section at a distance of L/3 from zero intensity supported end?

Ans

❌ 1. $5wL^4 / 384$

❌ 2. $5wL^3 / 48$

✅ 3. $4wL^2 / 81$

❌ 4. $wL^3 / 24$
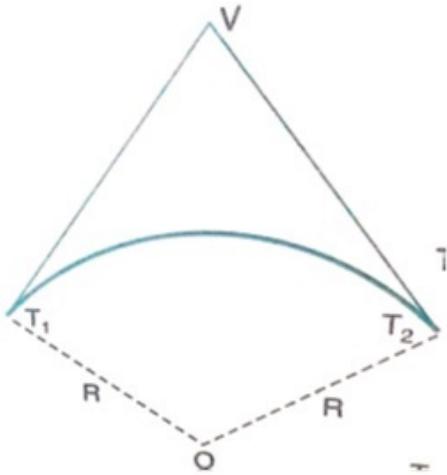
Question ID : **630680137602**
Option 1 ID : **630680532776**
Option 2 ID : **630680532777**
Option 3 ID : **630680532775**
Option 4 ID : **630680532774**

Q.13 Identify the type of curve shown in the following figure.

Ans ✗ 1. Reverse curve

✗ 2. Transition curve

✗ 3. Compound curve

✓ 4. Simple circular curve

Question ID : **630680118495**
Option 1 ID : **630680459084**
Option 2 ID : **630680459085**
Option 3 ID : **630680459083**
Option 4 ID : **630680459082**

Q.14 Which of the following is the primary difference between an electrolytic cell and a galvanic cell?

Ans ✗ 1. Electrolytic cells utilise spontaneous chemical reactions to produce electricity, while galvanic cells use external power sources.

✓ 2. Electrolytic cells generate electrical energy, while galvanic cells consume it.

✗ 3. Electrolytic cells operate under standard conditions, while galvanic cells operate under non-standard conditions.

✗ 4. Electrolytic cells involve oxidation reactions, while galvanic cells involve reduction reactions.

Question ID : **630680876279**
Option 1 ID : **6306803431883**
Option 2 ID : **6306803431884**
Option 3 ID : **6306803431885**
Option 4 ID : **6306803431886**

Q.15 The pavement failures may be due to one or a combination of several causes. The maintenance forms an important component of the entire road system.
Identify the correct statement/s related to operations involved in the pavement maintenance.
1.Assessment of road condition periodically
2.Adopting the most appropriate maintenance steps with least delay

Ans ✗ 1. Statement 1 is true and statement 2 is false

✓ 2. Both statements are true, and statement 2 depends on statement 1

✗ 3. Statement 1 is false and statement 2 true

✗ 4. Both statements are true, and statement 2 does not depend on statement 1

Question ID : **630680114795**
Option 1 ID : **630680444548**
Option 2 ID : **630680444547**
Option 3 ID : **630680444549**
Option 4 ID : **630680444546**

Q.16 Additional strength is to be provided to avoid the spalling of concrete if the concrete cover in a slab exceeds:

Ans ✗ 1. 30 mm

✓ 2. 35 mm

✗ 3. 45 mm

✗ 4. 40 mm

Question ID : **630680217746**
Option 1 ID : **630680844895**
Option 2 ID : **630680844896**
Option 3 ID : **630680844898**
Option 4 ID : **630680844897**

Q.17 Workstations are specialised computers commonly used for tasks such as:

Ans ✓ 1. scientific research and simulations

✗ 2. online shopping

✗ 3. gaming

✗ 4. social media browsing

Question ID : **630680876167**
Option 1 ID : **6306803431438**
Option 2 ID : **6306803431436**
Option 3 ID : **6306803431437**
Option 4 ID : **6306803431435**

Q.18 Match the following surfaces with their suitable primers.

A. Plywood	1. Zinc chromate primer
B. Light alloys	2. Red-oxide Zinc chromate primer
C. Galvanised Iron	3. Cement primer
D. Asbestos	4. Aluminium primer

Ans ✗ 1. A-2, B-3, C-4, D-1

✓ 2. A-4, B-1, C-2, D-3

✗ 3. A-4, B-3, C-2, D-1

✗ 4. A-2, B-1, C-4, D-3

Question ID : **630680876266**
Option 1 ID : **6306803431834**
Option 2 ID : **6306803431831**
Option 3 ID : **6306803431832**
Option 4 ID : **6306803431833**

Q.19 Select the correct option about the following types related to the nature of ground motion.

Type I: Motion of practically single shock type occurs only at short distances from the epicentre, only on a firm ground and only for shallow earthquakes.
Type II: A moderately long, extremely irregular motion type is associated with moderate distance from the focus and occurs only on a firm ground.

Ans ✗ 1. Type I is incorrect, but Type II is correct.

✗ 2. Both the types are incorrect.

✗ 3. Type I is correct, but Type II is incorrect.

✔ 4. Both the types are correct.

Question ID : **630680876114**
Option 1 ID : **6306803431224**
Option 2 ID : **6306803431226**
Option 3 ID : **6306803431223**
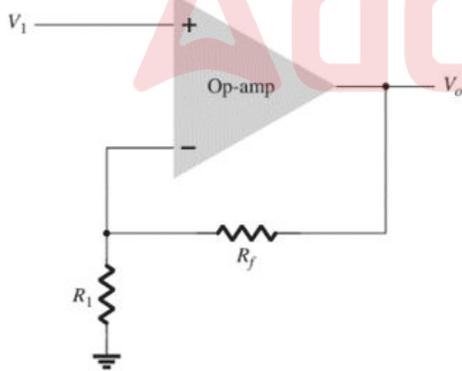Option 4 ID : **6306803431225**

Q.20 The divergence of the vector field $F = 15i + 32xyj + 15xz^2k$ at $a\,(1,1,2)$ is equal to:

Ans ✗ 1. 94

✗ 2. 72

✔ 3. 92

✗ 4. 62

Question ID : **630680876305**
Option 1 ID : **6306803431987**
Option 2 ID : **6306803431990**
Option 3 ID : **6306803431988**
Option 4 ID : **6306803431989**

Section : **Discipline3**

Q.1 Determine the output voltage if the value of $R_F = 4$ kΩ; $R_1 = 2$ kΩ and the input voltage $V_1 = 2$ V.

Ans ✗ 1. 5 V

✗ 2. 4 V

✗ 3. −6 V

✔ 4. 6 V

Question ID : **630680361495**
Option 1 ID : **6306801407825**
Option 2 ID : **6306801407826**
Option 3 ID : **6306801407828**
Option 4 ID : **6306801407827**

Q.2 Which of the following is NOT the reason to cause water logging problem?

Ans ✗ 1. Excessive rainfall

✗ 2. Submergence due to flood

✓ 3. Adequate natural drainage

✗ 4. Over and intensive irrigation

Question ID : **630680111655**
Option 1 ID : **630680432356**
Option 2 ID : **630680432355**
Option 3 ID : **630680432357**
Option 4 ID : **630680432354**

Q.3 The time-history method is applicable to:

Ans ✗ 1. elastic analyses only

✓ 2. both elastic and inelastic analyses

✗ 3. inelastic analyses only

✗ 4. response spectrum analyses

Question ID : **630680876124**
Option 1 ID : **6306803431263**
Option 2 ID : **6306803431265**
Option 3 ID : **6306803431264**
Option 4 ID : **6306803431266**

Q.4 A change in the external moments in the elastic range of a pre-stressed concrete beam results in:

Ans ✗ 1. an increase in the resultant force in the beam

✓ 2. a shift of the pressure line rather than an increase in the resultant force

✗ 3. behaviour like a reinforced concrete section

✗ 4. an increase in tensile force and compressive force due to the constant lever arm

Question ID : **630680206818**
Option 1 ID : **630680801872**
Option 2 ID : **630680801871**
Option 3 ID : **630680801874**
Option 4 ID : **630680801873**

Q.5 The design, construction and interpretation of the _____ and its results are simple to analyse; the similitude conditions are also well satisfied for the model.

Ans ✗ 1. distorted model

✗ 2. undestructed model

✓ 3. undistorted model

✗ 4. destructed model

Question ID : **630680108835**
Option 1 ID : **630680422233**
Option 2 ID : **630680422235**
Option 3 ID : **630680422232**
Option 4 ID : **630680422234**

Q.6 In conjugate beam method, which value provides the new bending moment and the new shear force diagram in a beam?

Ans ✅ 1. Deflection and slope

❌ 2. Slope

❌ 3. Slope and deflection

❌ 4. Deflection

Question ID : **630680137587**
Option 1 ID : **630680532714**
Option 2 ID : **630680532717**
Option 3 ID : **630680532715**
Option 4 ID : **630680532716**

Q.7 How does increasing the surface area of an electrode affect the rate of electrochemical reactions?

Ans ❌ 1. It has no effect on the rate of reaction.

✅ 2. It increases the rate of reaction because it provides more sites for electron transfer.

❌ 3. It decreases the rate of reaction due to increased resistance.

❌ 4. It depends on the nature of the electrolyte.

Question ID : **630680876280**
Option 1 ID : **6306803431887**
Option 2 ID : **6306803431888**
Option 3 ID : **6306803431889**
Option 4 ID : **6306803431890**

Q.8 What is the primary function of an operating system (OS)?

Ans ❌ 1. Creating documents and presentations

✅ 2. Managing hardware resources

❌ 3. Connecting to the Internet

❌ 4. Playing multimedia files

Question ID : **630680876168**
Option 1 ID : **6306803431440**
Option 2 ID : **6306803431439**
Option 3 ID : **6306803431442**
Option 4 ID : **6306803431441**

Q.9 In assumptions made for truss structures, the members are joined by:

Ans ✅ 1. smooth pins

❌ 2. both smooth and rough pins

❌ 3. Neither smooth pins nor rough pins

❌ 4. rough pins

Question ID : **630680103966**
Option 1 ID : **630680404079**
Option 2 ID : **630680404081**
Option 3 ID : **630680404082**
Option 4 ID : **630680404080**

Q.10 What is the primary function of composite masonry?

Ans   ✗ 1. Sound insulation

     ✗ 2. Prevention of termite action

     ✗ 3. Enduring heavy loads

     ✔ 4. Improving appearance

Question ID : **630680876248**
Option 1 ID : **6306803431761**
Option 2 ID : **6306803431762**
Option 3 ID : **6306803431760**
Option 4 ID : **6306803431759**

Q.11 Read the given assertion (A) and reason (R) and select the correct option.
Assertion (A): The pore pressure at failure is controlled by the tendency of the soil to dilate or contract.
Reason (R): Pore pressure parameter (A_f) decreases with decreasing water content at constant initial effective stress.

Ans   ✗ 1. A is true but R is false.

     ✗ 2. Both A and R are true but R is not the correct explanation of A.

     ✔ 3. Both A and R are true and R is the correct explanation of A.

     ✗ 4. A is false but R is true.

Question ID : **630680149167**
Option 1 ID : **630680576946**
Option 2 ID : **630680576945**
Option 3 ID : **630680576944**
Option 4 ID : **630680576947**

Q.12 Which of the following terms does NOT pertain to the purpose of property valuation?

Ans   ✗ 1. Determination of rental rates

     ✗ 2. Insurance assessment

     ✗ 3. Purchase or sale of a property

     ✔ 4. Estimation of construction expenses

Question ID : **630680876231**
Option 1 ID : **6306803431692**
Option 2 ID : **6306803431693**
Option 3 ID : **6306803431691**
Option 4 ID : **6306803431694**

Q.13 Which of the following is NOT a category of metamorphic rocks?

Ans   ✔ 1. Dolomite

     ✗ 2. Schist

     ✗ 3. Phyllite

     ✗ 4. Gneiss

Question ID : **630680876194**
Option 1 ID : **6306803431546**
Option 2 ID : **6306803431543**
Option 3 ID : **6306803431545**
Option 4 ID : **6306803431544**

Q.14 What is the primary difference between an orthographic projection of plane and perspective projection?

Ans   ✗ 1. There is no difference; both terms refer to the same concept.

✗ 2. Orthographic projection is 2D, while perspective projection is 3D.

✅ 3. Orthographic projection uses parallel projectors, while perspective projection uses converging projectors.

✗ 4. Perspective projection preserves the true shape and size of the object, while orthographic projection may result in distortion.

Question ID : **630680876149**
Option 1 ID : **6306803431366**
Option 2 ID : **6306803431364**
Option 3 ID : **6306803431363**
Option 4 ID : **6306803431365**

Q.15 If the soil is completely dry, at the beginning of the rain, water flows into the ground through the soil surface with _____.

Ans   ✗ 1. steady initial infiltration

✗ 2. low initial infiltration

✅ 3. high initial infiltration

✗ 4. no initial infiltration

Question ID : **630680144924**
Option 1 ID : **630680560737**
Option 2 ID : **630680560735**
Option 3 ID : **630680560734**
Option 4 ID : **630680560736**

Q.16 Which of the following is the general solution of Clairaut's equation $y = 2px + yp^2$?

Ans   ✗ 1. $y^2 = 2 + c^2$

✗ 2. $y^2 = 2c + c^2$

✅ 3. $y^2 = 2cx + c^2$

✗ 4. $y^2 = 2x + c^2$

Question ID : **630680386230**
Option 1 ID : **6306801505630**
Option 2 ID : **6306801505633**
Option 3 ID : **6306801505632**
Option 4 ID : **6306801505631**

Q.17 In parking studies, vehicle hour is the unit of:

Ans   ✗ 1. parking turnover

✗ 2. parking volume

✗ 3. parking index

✅ 4. parking load

Question ID : **630680157916**
Option 1 ID : **630680611193**
Option 2 ID : **630680611195**
Option 3 ID : **630680611192**
Option 4 ID : **630680611194**

Q.18 **Arrange the sequential steps of preparation of estimate for a well.**

1)excavation in soft soil
2)excavation in hard murum
3)excavation in hard rock based on the drawings given
4)U.C.R. masonry lining
5)R.C.C. slab, parapet etc.

Ans ✗ 1. 2, 3, 1, 4, 5

✗ 2. 2, 3, 1, 5, 4

✓ 3. 1, 2, 3, 4, 5

✗ 4. 3, 2, 1, 5, 4

Question ID : **630680339580**
Option 1 ID : **6306801320842**
Option 2 ID : **6306801320844**
Option 3 ID : **6306801320841**
Option 4 ID : **6306801320843**

Q.19 **Select the odd option with respect to temporary adjustments of a theodolite (instrument).**

Ans ✗ 1. Levelling up the instrument

✓ 2. Orienting the instrument towards the north

✗ 3. Elimination of parallax

✗ 4. Setting up the instrument over the station

Question ID : **630680118478**
Option 1 ID : **630680459015**
Option 2 ID : **630680459017**
Option 3 ID : **630680459016**
Option 4 ID : **630680459014**

Q.20 **Which of the following parameters is the criterion of equilibrium and stability of a system existing at constant volume and constant temperature?**

Ans ✗ 1. Entropy

✗ 2. Internal energy

✓ 3. Helmholtz function

✗ 4. Gibbs function

Question ID : **630680116728**
Option 1 ID : **630680452198**
Option 2 ID : **630680452201**
Option 3 ID : **630680452200**
Option 4 ID : **630680452199**

Section : **Discipline4**

Q.1 **A solenoid has a magnetic field of 18.84mT, and the number of turns per unit length is 500 turns/ m. Calculate the current if the core is air.**

Ans ✗ 1. 30 mA

✗ 2. 100 A

✗ 3. 300 mA

✓ 4. 30A

Question ID : **630680340695**
Option 1 ID : **6306801325224**
Option 2 ID : **6306801325222**
Option 3 ID : **6306801325223**
Option 4 ID : **6306801325221**

Q.2 Crystallisation of minerals can be grouped into how many systems?

Ans
✗ 1. Four systems

✗ 2. Nine systems

✗ 3. Ten systems

✓ 4. Seven systems

Question ID : **630680876189**
Option 1 ID : **6306803431523**
Option 2 ID : **6306803431525**
Option 3 ID : **6306803431526**
Option 4 ID : **6306803431524**

Q.3 What is the role of the scheduler in an operating system?

Ans
✗ 1. Managing user accounts and access control

✗ 2. Managing the organisation of files and directories

✓ 3. Allocating CPU time to different processes

✗ 4. Providing a graphical user interface

Question ID : **630680876173**
Option 1 ID : **6306803431459**
Option 2 ID : **6306803431461**
Option 3 ID : **6306803431460**
Option 4 ID : **6306803431462**

Q.4 Compute the expenses incurred for M20 grade concrete for a single cubic meter volume. Material costs amount to ₹20,000 per 10 m^3, with labour costs standing at ₹10,000 per 10 m^3. Additionally, include 1.5% of water charges and a contractor profit margin of 10%.

Ans
✗ 1. ₹3,000.00

✗ 2. ₹3,105.00

✗ 3. ₹31,050.00

✓ 4. ₹3,345.00

Question ID : **630680876211**
Option 1 ID : **6306803431613**
Option 2 ID : **6306803431614**
Option 3 ID : **6306803431611**
Option 4 ID : **6306803431612**

Q.5 Which of the following attributes are true for ribbed or hollow tiled flooring compared to RCC floors?
1. It has better sound proofing qualities.
2. Lesser number of skilled labourers required.
3. Lesser weight per area of slab.
4. Provides better thermal insulation.

Ans
✓ 1. 1, 3 and 4

✗ 2. Only 3 and 4

✗ 3. Only 1 and 2

✗ 4. Only 2 and 3

Question ID : **630680876258**
Option 1 ID : **6306803431802**
Option 2 ID : **6306803431801**
Option 3 ID : **6306803431799**
Option 4 ID : **6306803431800**

Q.6 **Which of the following statements is/are correct?**
1. Plastic paint contains a variety of plastic in suspension.
2. Plastic paint is highly temperature resistant.
3. Plastic paints can be applied by spraying.

Ans ✗ 1. Only 1

✗ 2. Only 2 and 3

✗ 3. Only 2

✓ 4. Only 1 and 3

Question ID : **630680876268**
Option 1 ID : **6306803431839**
Option 2 ID : **6306803431842**
Option 3 ID : **6306803431840**
Option 4 ID : **6306803431841**

Q.7 **In a survey alignment, a simple circular curve is to be established. It is found that the direction of a rear tangent is 30°30' with respect to the north and the direction of a forward tangent is 74° with respect to the north. Calculate the deflection angle at the point of intersection.**

Ans ✗ 1. 104°30'

✗ 2. 30°30'

✗ 3. 74°

✓ 4. 43°30'

Question ID : **630680161612**
Option 1 ID : **630680625779**
Option 2 ID : **630680625777**
Option 3 ID : **630680625778**
Option 4 ID : **630680625776**

Q.8 **The water pressure or pore-pressure acts equally in all the directions and it does not press the soil grains against one another. Thus, it will not lead to compression of soil or an increase in its frictional resistance. The stress observed in this case is termed as:**

Ans ✓ 1. neutral stress

✗ 2. direct stress

✗ 3. normal stress

✗ 4. compressive stress

Question ID : **630680145236**
Option 1 ID : **630680561927**
Option 2 ID : **630680561928**
Option 3 ID : **630680561926**
Option 4 ID : **630680561929**

Q.9 **Critical flow is defined as that flow at which:**

Ans ✓ 1. specific energy is minimum

✗ 2. specific energy is zero

✗ 3. specific energy is maximum

✗ 4. specific energy is one

Question ID : **630680103442**
Option 1 ID : **630680402013**
Option 2 ID : **630680402012**
Option 3 ID : **630680402011**
Option 4 ID : **630680402014**

Q.10 In the limiting case of combined direct and bending stresses, the eccentricity 'e' of load F for circular cross section of diameter d as shown in figure is:
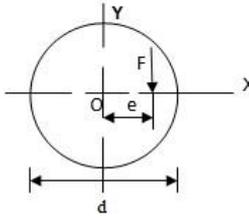
Ans ✗ 1. d/2

✗ 2. d/4

✓ 3. d/8

✗ 4. d/6

Question ID : **630680137581**
Option 1 ID : **630680532691**
Option 2 ID : **630680532690**
Option 3 ID : **630680532692**
Option 4 ID : **630680532693**

Q.11 The deflection in a steel beam of a residential building due to superimposed dead load is 7 mm, due to self-weight is 2 mm and deflection due to live load is 6mm. The value of maximum design deflection for the beam due to vertical loads, to be checked for deflection limits as per IS: 800-2007 is equal to _____.

Ans ✗ 1. 6 mm

✗ 2. 9 mm

✓ 3. 13 mm

✗ 4. 15 mm

Question ID : **630680335164**
Option 1 ID : **6306801303873**
Option 2 ID : **6306801303874**
Option 3 ID : **6306801303875**
Option 4 ID : **6306801303876**

Q.12 A plot between _____and _____is known as rating curve of the gauging station.

Ans ✗ 1. stage;time

✓ 2. stage;discharge

✗ 3. depth;velocity

✗ 4. velocity;time

Question ID : **63068099877**
Option 1 ID : **630680388207**
Option 2 ID : **630680388205**
Option 3 ID : **630680388206**
Option 4 ID : **630680388204**

Q.13 Which of the following alloys is an example of an amorphous alloy?

Ans ✗ 1. Stainless steel

✓ 2. Metallic glass

✗ 3. Brass

✗ 4. Solder

Question ID : **630680876287**
Option 1 ID : **6306803431915**
Option 2 ID : **6306803431917**
Option 3 ID : **6306803431916**
Option 4 ID : **6306803431918**

Q.14 A body is submerged fully in surrounding fluid. If it has low speed with $\dfrac{U}{\sqrt{\frac{E}{\rho}}}$ value less than or equal to 0.3 and if the change in density is insignificant, then by adopting the method of dimensional analysis, which of the following can be neglected to derive the expression for drag and lift?

Ans ✗ 1. Reynolds number, Mach number and Froude number

✗ 2. Reynolds number and Froude number

✓ 3. Mach number and Froude number

✗ 4. Mach number and Reynolds number

Question ID : **630680103425**
Option 1 ID : **630680401946**
Option 2 ID : **630680401945**
Option 3 ID : **630680401944**
Option 4 ID : **630680401943**

Q.15 What geometric property does the perpendicular bisector of a chord of an arc have in relation to the arc?

Ans ✗ 1. It is a tangent to the arc.

✗ 2. It forms a right angle with the arc.

✓ 3. It intersects the arc at its midpoint.

✗ 4. It intersects the arc at a random point.

Question ID : **630680876137**
Option 1 ID : **6306803431315**
Option 2 ID : **6306803431317**
Option 3 ID : **6306803431316**
Option 4 ID : **6306803431318**

Q.16 In dimensioning, what does the term 'leader line' indicate?

Ans ✗ 1. A line used for drawing straight lines.

✗ 2. A line used for adding text to the drawing.

✓ 3. A line connecting dimensions to the feature being measured.

✗ 4. A line used for dimensioning circles.

Question ID : **630680876136**
Option 1 ID : **6306803431312**
Option 2 ID : **6306803431314**
Option 3 ID : **6306803431311**
Option 4 ID : **6306803431313**

Q.17 The thermal conductivity of a material is 4.00 W/m/K and the electrical conductivity of this material is given by $6.32 \times 10^7 \text{Sm}^{-1}$ at a temperature of 200 K. Find the Lorentz number for the material.

Ans
✓ 1. $3.16 \times 10^{-10} \text{ w}\Omega/\text{K}^2$

✗ 2. $6.16 \times 10^{-10} \text{ w}\Omega/\text{K}^2$

✗ 3. $4.16 \times 10^{-10} \text{ w}\Omega/\text{K}^2$

✗ 4. $5.16 \times 10^{-10} \text{ w}\Omega/\text{K}^2$

Question ID : **630680876318**
Option 1 ID : **6306803432040**
Option 2 ID : **6306803432042**
Option 3 ID : **6306803432039**
Option 4 ID : **6306803432041**

Q.18 The value of N_y in Meyerhof's analysis is given by the following expression: _____ .
(Here, N_q and N_y are bearing capacity factors due to surcharge and self-weight, respectively and φ is the angle of internal friction.)

Ans
✓ 1. $N_y = (N_q - 1) \tan(1.4\varphi)$

✗ 2. $N_y = (N_q - 1) \tan\varphi$

✗ 3. $N_y = (N_q - 1) \tan(1.2\varphi)$

✗ 4. $N_y = (N_q - 1) \cot\varphi$

Question ID : **630680159112**
Option 1 ID : **630680615918**
Option 2 ID : **630680615916**
Option 3 ID : **630680615917**
Option 4 ID : **630680615919**

Q.19 The boundary between pavement and shoulder is called:

Ans
✗ 1. a median

✓ 2. a kerb

✗ 3. the right of way

✗ 4. an island

Question ID : **63068083038**
Option 1 ID : **630680322012**
Option 2 ID : **630680322014**
Option 3 ID : **630680322015**
Option 4 ID : **630680322013**

Q.20 For the prevention of piping failure in dam, the value of exit gradient should be:

Ans
✗ 1. $i_e = i_c$

✓ 2. $i_e < i_c$

✗ 3. $i_e > i_c$

✗ 4. i_e not equal to i_c

Question ID : **630680139150**
Option 1 ID : **630680538710**
Option 2 ID : **630680538712**
Option 3 ID : **630680538711**
Option 4 ID : **630680538713**

Q.1 **Which of the following has the highest PCU value?**

Ans ✔ 1. Cycle rickshaw

✘ 2. Pedal cycle

✘ 3. Passenger car

✘ 4. Two-wheeler

Question ID : **630680157915**
Option 1 ID : **630680611190**
Option 2 ID : **630680611191**
Option 3 ID : **630680611188**
Option 4 ID : **630680611189**

Q.2 **Errors due to parallax in a transit theodolite can be eliminated by:**

Ans ✔ 1. focusing the eye piece and the objective properly

✘ 2. levelling the instrument carefully

✘ 3. applying index correction

✘ 4. taking the mean value of both the Vernier readings

Question ID : **630680196005**
Option 1 ID : **630680760410**
Option 2 ID : **630680760409**
Option 3 ID : **630680760407**
Option 4 ID : **630680760408**

Q.3 **The centre of Mohr's circle is at (0.001, 0). The summation of the principal strains is _____.**

Ans ✘ 1. 0.02

✘ 2. 0.003

✘ 3. 0.001

✔ 4. 0.002

Question ID : **630680164071**
Option 1 ID : **630680635422**
Option 2 ID : **630680635423**
Option 3 ID : **630680635420**
Option 4 ID : **630680635421**

Q.4 **To minimise the effect of AC ripples at the output of a rectifier circuit, we generally add a/an _____.**

Ans ✘ 1. attenuator circuit

✘ 2. active filter circuit

✘ 3. amplifier circuit

✔ 4. passive filter circuit

Question ID : **630680361525**
Option 1 ID : **6306801407948**
Option 2 ID : **6306801407946**
Option 3 ID : **6306801407947**
Option 4 ID : **6306801407945**

Q.5 If the median of 8, 5, x, 3, 2 is 4, then the mode of 5, 7, 8, 4, 3, x is:

Ans ✗ 1. 8

✗ 2. 5

✗ 3. 3

✓ 4. 4

Question ID : **63068093951**
Option 1 ID : **630680364500**
Option 2 ID : **630680364499**
Option 3 ID : **630680364502**
Option 4 ID : **630680364501**

Q.6 What will be the mass of the body at rest if it explodes into two objects of mass 3 kg each, moving with the speed of 0.7 c relative to the original body?

Ans ✗ 1. 5.47 kg

✗ 2. 6.23 kg

✓ 3. 8.45 kg

✗ 4. 7.94 kg

Question ID : **630680876321**
Option 1 ID : **6306803432052**
Option 2 ID : **6306803432053**
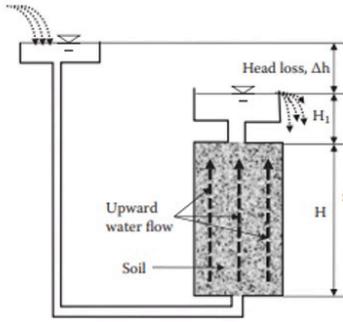Option 3 ID : **6306803432054**
Option 4 ID : **6306803432051**

Q.7 A four-storey reinforced concrete frame structure is situated in Guwahati (Zone V), as shown in the following figure. The height between the floors is 3 m and the total height of the structure is 12 m. The dead load and the regular living load are combined at appropriate floors. The soil beneath the foundation is believed to be hard rock, whose spectral acceleration is 2.50. Assume that the structure is meant to be utilised as a hospital, for which importance factor is 1.5. Determine the total base shear by using IS 1893 (Part 1): 2002. Consider the response reduction factor = 5.0 for the special RC moment-resisting frame and the zone factor = 0.36.
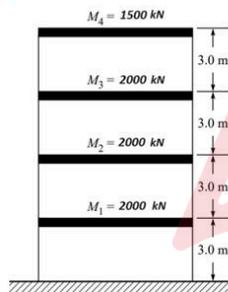
Ans ✗ 1. 1250.5 kN

✗ 2. 956.5 kN

✗ 3. 875.5 kN

✓ 4. 1012.5 kN

Question ID : **630680876123**
Option 1 ID : **6306803431262**
Option 2 ID : **6306803431260**
Option 3 ID : **6306803431259**
Option 4 ID : **6306803431261**

Q.8 For the given flow conditions in the figure, determine the seepage pressure at the bottom of the specimen tube.

Head loss, Δh

H_1

Upward water flow

Soil

H

(Given: $\Delta h = 200$ mm, H = 300 mm, $H_1 = 100$ mm and $\gamma_t = 18.5$ kN/m³.)

Ans

✔ 1. 1.96 kPa

✘ 2. 1.45 kPa

✘ 3. 1.70 kPa

✘ 4. 1.20 kPa

Question ID : **630680145693**
Option 1 ID : **630680563701**
Option 2 ID : **630680563699**
Option 3 ID : **630680563700**
Option 4 ID : **630680563698**

Q.9 Identify whether the given statements is/are true or false.

(A) There exists an analytic function f in unit disk such that $f\left(-\frac{1}{2}\right) = 3$, $f\left(\frac{1}{n^2}\right) = 5$ for $n \geq 2$.

(B) There exists an analytic function f in unit disk such that $f\left(\frac{1}{3n}\right) = \frac{1}{n}$, $f\left(\frac{1}{3n+1}\right) = \frac{1}{n}$ for $n \geq 2$.

Ans

✔ 1. Both (A) and (B) are false

✘ 2. (A) is false but(B) is true

✘ 3. Both (A) and (B) are true

✘ 4. (A) is true but(B) is false
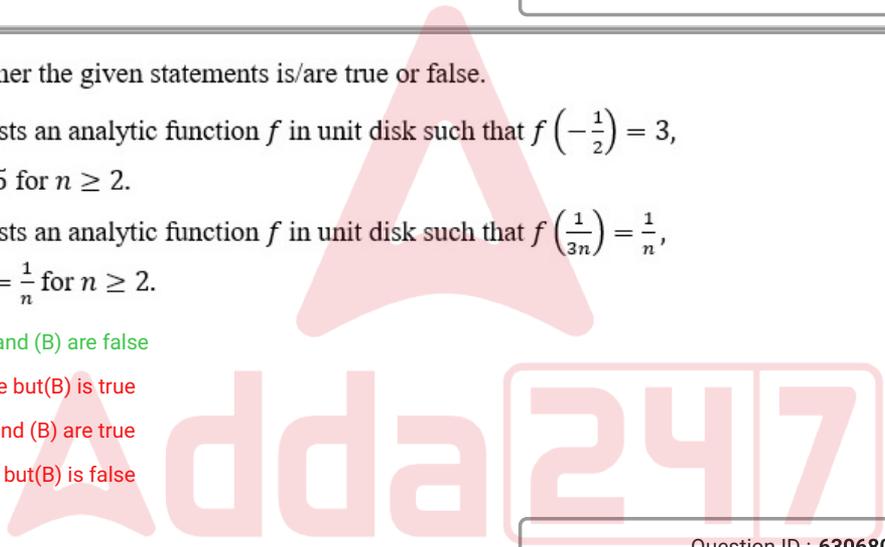
Question ID : **63068094768**
Option 1 ID : **630680367769**
Option 2 ID : **630680367770**
Option 3 ID : **630680367767**
Option 4 ID : **630680367768**

Q.10 Which of the following is NOT a type of boring method used in site exploration?

Ans

✔ 1. Sheep foot boring

✘ 2. Wash boring

✘ 3. Percussion boring

✘ 4. Auger boring

Question ID : **630680159086**
Option 1 ID : **630680615815**
Option 2 ID : **630680615813**
Option 3 ID : **630680615812**
Option 4 ID : **630680615814**

Q.11 As per IRC, the maximum gradient recommended for urban roads is:

Ans ✗ 1. 6%

✓ 2. 4%

✗ 3. 10%

✗ 4. 2%

Question ID : **630680157909**
Option 1 ID : **630680611166**
Option 2 ID : **630680611165**
Option 3 ID : **630680611167**
Option 4 ID : **630680611164**

Q.12 In figure, which quadrant consists the maximum combined stress due to eccentric loading?
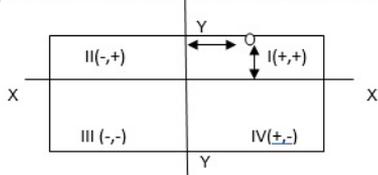
Ans ✓ 1. I quadrant

✗ 2. IV quadrant

✗ 3. III quadrant

✗ 4. II quadrant

Question ID : **630680117131**
Option 1 ID : **630680453810**
Option 2 ID : **630680453813**
Option 3 ID : **630680453812**
Option 4 ID : **630680453811**

Q.13 The ratio of actual operating period of the distributary outlet to the crop period is called:

Ans ✗ 1. crop factor

✓ 2. time factor

✗ 3. safety factor

✗ 4. capacity factor

Question ID : **63068079242**
Option 1 ID : **630680307005**
Option 2 ID : **630680307008**
Option 3 ID : **630680307006**
Option 4 ID : **630680307007**

Q.14 When the permeability of soil is high, then the duty of the crop produced is _____.

Ans ✗ 1. zero

✓ 2. low

✗ 3. high

✗ 4. unity

Question ID : **63068079219**
Option 1 ID : **630680306916**
Option 2 ID : **630680306915**
Option 3 ID : **630680306914**
Option 4 ID : **630680306913**

Q.15 What is the primary function of a compound wall in building construction?

Ans ✓ 1. To demarcate the boundary of the property and provide security

✗ 2. To facilitate drainage and prevent waterlogging around the property

✗ 3. To enhance the aesthetic appeal of the property

✗ 4. To provide structural support to the building.

Question ID : **630680876251**
Option 1 ID : **6306803431772**
Option 2 ID : **6306803431774**
Option 3 ID : **6306803431773**
Option 4 ID : **6306803431771**

Q.16 Which of the following about a prismatic compass is INCORRECT?

Ans ✗ 1.

The graduations are from 0° to 360° in the clockwise direction.

✗ 2. The eye vane has a prism to read the graduated ring.

✗ 3. Sighting and reading are done simultaneously.

✓ 4. It measures quadrantal bearings.

Question ID : **630680121645**
Option 1 ID : **630680471530**
Option 2 ID : **630680471532**
Option 3 ID : **630680471533**
Option 4 ID : **630680471531**

Q.17 Which of the following shall NOT be included in the standard template for construction estimate?

Ans ✗ 1. Material cost

✓ 2. Wastage cost

✗ 3. Direct cost, indirect cost and overhead costs

✗ 4. Labour cost

Question ID : **630680876225**
Option 1 ID : **6306803431668**
Option 2 ID : **6306803431670**
Option 3 ID : **6306803431669**
Option 4 ID : **6306803431667**

Q.18 In a stiffened seated bolted connection between a beam and a column, the stiffener angles are provided to stiffen the_____.

Ans ✗ 1. flange of the column to which the connection is made

✗ 2. bottom flange of the beam

✓ 3. outstanding leg of the seat angle

✗ 4. connected leg (vertical leg) of the seat angle

Question ID : **630680219819**
Option 1 ID : **630680853158**
Option 2 ID : **630680853157**
Option 3 ID : **630680853156**
Option 4 ID : **630680853155**

Q.19 Assuming 'ρ' constant, 2D velocity field is given by u = kx, v = -2y. determine the value of 'k' for the given flow to satisfy continuity equation.

Ans ✔ 1. 2

✘ 2. 0

✘ 3. 1

✘ 4. 1.5

Question ID : **63068082854**
Option 1 ID : **630680321283**
Option 2 ID : **630680321280**
Option 3 ID : **630680321281**
Option 4 ID : **630680321282**

Q.20 Rotary is designed considering superelevation equal to:

Ans ✘ 1. 0.04

✘ 2. 0.01

✘ 3. 0.02

✔ 4. 0

Question ID : **63068083045**
Option 1 ID : **630680322043**
Option 2 ID : **630680322041**
Option 3 ID : **630680322042**
Option 4 ID : **630680322040**