# Previous Year Paper 

## SSC JE

(Civil) Paper-I

09 Oct, 2023 Shift 1

Junior Engineer Civil Mechanical and Electrical Examination 2023 Paper I

| Roll Number |  |
| :--- | :--- |
| Candidate Name |  |
| Venue Name |  |
| Exam Date | $09 / 10 / 2023$ |
| Exam Time | $9: 00$ AM - 11:00 AM |
| Subject | Junior Engineer 2023 Civil Paper I |

Section: General Intelligence and Reasoning
Q. 1 If ' + ' means ' - ', ' - ' means ' $x$ ', ' $x$ ' means ' $\div$ ', ' $\div$ ' means ' + ', then what will come in place of the question mark (?) in the following equation?
$13-145 \times 29 \div 52+11=$ ?
Ans

- 1.106
$\times 2.117$
$\times 3.94$
$\times 4.83$
Q. 2 Vipul departs from his home and walks 20 m towards the east. He then turns left and walks

15 m . He turns left again and walks 10 m . He then takes a right turn and walks 20 m . He
then takes a left turn and walks 14 m . He takes a final left turn and walks 45 m to stop at
Point X. How far is he from a pole which is 10 m to the south of his house?
(Assume that all the turns are $90^{\circ}$ turns only.)
Ans
X 1.10 m
X2. 14 m
X 3.6 m

- 4.4 m
Q. 3 Select the option in which the giverfigure is embedded (rotation is NOT allowed).


Ans


Q． 4 Select the option that is related to the third word in the same way as the second word is related to the first word．（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）
Crew ：Sailor ：：Army ：？
Ans
$X$ 1．Police
X 2．Battlefield
3．Soldier
X4．War

Q． 5 Select the correct mirror image of the given figure when the mirror is placed at MN as shown below．
Ekm37a｜

## N

Ans
$x_{1 .}$ a「3mヵヨ
$\checkmark^{2}$ ธ「Em＞

${ }^{\times 4} \mathbf{4} 7 \boldsymbol{\varepsilon}$ mkE

Q． 6 Alisha is an athlete who runs 10 km towards the south and then turns to the left．After running 6 km ，she again turns to the left and runs 10 km ．Now，In which direction is she from the starting point？

Ans
$X 1$ ．West
$X$ 2．South
$X$ 3．North
4．East
Q. 7 Three statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:
Some chips are wafers.
No wafer is a toffee.
All desserts are chips.
Conclusions:
I. All chips can never be toffees.
II. No dessert is a wafer.
III. Some toffees are desserts.

Ans
X 2. Only III follows
$X$ 3. None follows
$X$ 4. Only I and II follow
Q. 8 Which of the following terms will replace the question mark (?) in the given series? KLJH, FGEC, ABZX, VWUS, ?
Ans
$\times 1$ 1. PQSM
2. QRPN

X 3. QRTV
X4. QRNP
Q. 9 Which of the following numbers will replace the question marks (?) in the given series?
$8,10,24,58,120$, ?
Ans
$\times 1.234$
$\times 2.243$
-3. 218
$\times 4.216$

```
Q. }10\mathrm{ Seven people L, M, N, O, P,Q and R are sitting in a straight line adjacent to one another, facing the
        north (not necessarily in the given order)
        P is sitting third to the left of Q. N is an immediate neighbour of O and Q. L is sitting third to the
        right of Q.R is the immediate neighbour of L and M. Who is sitting to the immediate right of P?
Ans
            < 1.0
            *.0
    <3.N
    <4.R
```

Q. 11 In a certain code language,"MERITORIOUS" is written as " 10 " and "OBJECTIONABLE" is written as "12". How will "PREPATORY" be written in that language?

- 1.8

X2.6
$\times 3.7$
X4.9

Question ID : 264330130326
Option 1 ID : 264330510415
Option 2 ID : 264330510417
Option 3 ID : 264330510418
Option 4 ID : 264330510416
Status: Answered
Chosen Option : 1

Ans
Q. 12 Select the option that is related to the third word in the same way as the second word is related to the first word. (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)

Lyric : Song :: Stanza : ?
Ans
$X_{1 .}$ Essay
$X_{\text {2. English }}$
$\checkmark_{\text {3.poem }}$
$X_{4 .}$ Literature
Q. 13 Select the option that is related to the third word in the same way as the second word is related to the first word (The words must be considered as meaningful English words and must not be related to each other based on the number of letters/consonants/vowels in the word).
Bird : Ornithology :: Plant : $\qquad$
Ans
$X_{1 .}$. Physics
2. Botany
$X_{\text {3. Trees }}$
$X_{\text {4. Chemistry }}$
Question ID : 26433078834
Option 1 ID : 264330309351
Option 2 ID : 264330309348
Option 3 ID : 264330309349
Option 4 ID : 264330309350
Status: Answered
Chosen Option : 2
Q. 14 Select the number from among the given options that can replace the question mark (?) in the following series.
$13,34,63,108,177,278$, ?
X 1.423
$\times 2.491$
$\times 3.432$

- 4.419

Question ID : 26433078933
Option 1 ID : 264330309746
Option 2 ID : 264330309745
Option 3 ID : 264330309747
Option 4 ID : 264330309744
Status: Answered
Chosen Option : 4
Ans
Q. 15 Select the option that is related to the sixth letter-cluster in the same way as the first lettercluster is related to the second letter-cluster and the third letter-cluster is related to the fourth letter-cluster

NTD : OVG : : KPM: LRP :: ? : UXQ
Ans
$X_{1 \text {. SvN }}$
$X_{2 . \operatorname{TVM}}$
3.TVN
$X_{4 . \text { sum }}$
Q. 16 Which letter-cluster will replace the question mark (?) to complete the given series?

XUOA, DYME, JCKI, PGIO, ?
Ans $\quad X_{1 . U K G U}$
$X_{\text {2. ULGU }}$
$X_{3 . \operatorname{VLGU}}$
4. VKGU

Question ID : 264330144630
Option 1 ID : 264330566778
Option 2 ID : 264330566776
Option 3 ID : 264330566775
Option 4 ID : 264330566777
Status: Answered
Chosen Option : 4
Q. 17 Select the option that is related to the fourth term in the same way as the first term is related to the second term and the fifth term is related to the sixth term?
$8: 1::$ ? : 2 :: $200: 5$
Ans $\quad X_{1.78}$
$\chi_{2.64}$

* 3.32
$X_{4.48}$
Q. 18 Select the option figure which is embedded in the given figure as its part (rotation is NOT allowed).


Ans


Question ID : 264330144810
Option 1 ID : 264330567495
Option 2 ID : 264330567498
Option 3 ID : 264330567496
Option 4 ID : 264330567497
Status : Answered
Chosen Option : 1
Q. 19 Select the option that is related to thefifth term in the same way as the second term is related to the first term and the fourth term is related to the third term.
$33: 627$ :: 47 : 893 :: 21:?
Ans
$\times 2.385$
$\times 3.371$
$\times 4.407$
Q. 20 If ' + ' means ' - ', ' - ' means ' $x$ ', ' $x$ ' means ' $\div$ ', ' $\div$ ' means ' + ', what will come in place of the question mark?
$153 \times 9-5+32 \div 90=$ ?
Ans
$\times 1.150$
$\times 2.160$

- 3.143
$\times 4.155$
Q. 21 Select the set in which the numbers are related in the same way as are the numbers of the following 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/subtraction/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) $(6,12,9)$
(16, 10, 13)
Ans

1. $(15,7,11)$
$X_{2 .}(19,24,5)$
$X_{3 .(3,14,8)}$
$X_{\text {4. }(13,38,4)}$
Question ID : 264330144421
Option 1 ID : 264330565941
Option 2 ID : 264330565940
Option 3 ID : 264330565939
Option 4 ID : 264330565942
Status: Answered
Chosen Option :
Q. 22 Which of the following numbers will replace the question mark (?) in the given series?
$17,57,22,52$, ?, 47
Ans $X_{1.23}$

* 2.27
$\times 3.49$
$X_{4.51}$
Question ID : 26433091015
Option 1 ID : 264330357469
Option 2 ID : 264330357471
Option 3 ID : 264330357472
Option 4 ID : 264330357470
Status: Answered
Chosen Option : 2
Q. 23 A paper is folded and cut as shown below. How will it appear when unfolded?


Ans


Question ID : 264330103018
Option 1 ID : 264330404463
Option 2 ID : 264330404464
Option 3 ID : 264330404461
Option 4 ID : 264330404462
Status: Answered
Chosen Option : 3
Q. 24 Select the correct option that indicates the arrangement of the following words in a logical and meaningful order.

1. Country
2. Continent
3. City
4. Municipality
5. State

Ans $\quad X_{1.5,3,2,4,1}$
$X_{2,1,2,5,3,4}$
3,2,1,5,3,4
$X_{4.1,2,5,4,3}$
Question ID : 264330131976
Option 1 ID : 264330516999
Option 2 ID : 264330517001
Option 3 ID : 264330517000
Option 4 ID : 264330517002
Status: Answered
Q. 25 Arrange the following words in a logical and meaningful order.

1. city
2. building
3. state
4. country
5. continent

Ans
$X_{1.2,1,4,3,5}$
$X_{2,3,4,2,1,5}$
3.2,1,3,4,5
$X_{4,2,3,4,5,1}$
Q. 26 Which letter-cluster will replace the question mark (?) to complete the given series?

MCWF, OFUE, ?, SLQC, UOOB
$\times 1$. РНTC
X 2. OHSE
X 3. PITD
4. QISD

Question ID : 264330144506
Option 1 ID : 264330566279
Option 2 ID : 264330566280
Option 3 ID : 264330566281
Option 4 ID : 264330566282
Status: Answered
Chosen Option : 4

## Ans

Q. 27 In a code language, 'COURT' is written as TROOC and 'SPORT' is written as TRIPS. How will 'BLIND' be written in the same language?

Ans

1. BNELD
$\chi_{\text {2. DNILB }}$
$X_{3 .}$ DNALB
2. DNELB
Q. 28 In a certain code language, 'LESSON' is written as 'IDPPNK' and 'CLASS' is written as 'ZIZPP'. How will 'CHAPTER' be written in that language?

Ans
$X_{\text {1. Mdzzoqe }}$
2. Zezmado
$x_{\text {3. DOZEZMQ }}$
$x_{\text {4. mzaedzo }}$
Question ID : 264330144620
Option 1 ID : 264330566738
Option 2 ID : 264330566737
Option 3 ID : 264330566736
Option 4 ID : 264330566735
Status: Answered
Chosen Option: 2
Q. 29 Select the figure from the options that can replace the question mark (?) and complete the given pattern.


Ans

$\times 2$

$\times 4$

Q. 30 Select the option in which the given figure is embedded (rotation is NOT allowed).


Ans
$\times 1$.

$\times 2$

$v^{3}$

$\times 4$

Q. 31 Select the option that is related to the fifth letter cluster in the same way as the second letter cluster
is related to the first letter cluster and the fourth letter cluster is related to the third letter cluster.
JSGXK : ADXIB :: LFCWE : CQTHV :: BDXOF : ?
Ans
$X_{1 . s o x w z}$
2. Soozw
$X_{\text {3. zoowx }}$
$\chi_{\text {4. wxozd }}$

Q． 32 Which letter－cluster will replace the question mark（？）to complete the given series？
FDQE，KJXM，PPEU，？，ZBSK
Ans
X 1．VULB
2．UVLC
X 3．vUкв
X 4．VULC

Q． 33 Select the word－pair in which the two words are related in the same way as are the
twowords in the given pair．
（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．）
Cot：Wood
Ans
1．Cloth ：Cotton
X 2．Stove：Gas
X 3．Utensil：Cook
$X$ 4．Jewellery：Leg

Q． 34 Select the correct mirror image of the given combination when the mirror is placed at MN as shown below．

## 1 B 4 E 7 K 8



Ans
$\times 8$ 物
$\times 8$ メ「ヨータ
－8 ン 「ヨ・8

Q. 35 In a certain code language, 'CHECK' is written as ' 110 ' and 'CORRECT' is written as '114'. How will 'WRONG' be written in that language?

Ans
1.63
$X_{2.106}$
$x_{3.95}$
$X_{4.69}$
Q. 36 Select the optionfigure that will replace the question mark (?) in thefigure given below to complete the pattern.

$\times 1$

$\times 3$.

$\times$

Q. 37 Each of the seven friends, Kirti, Siya, Amita, Preeti, Deepika, Jeet and Pari, has scored different marks in an exam. Pari has scored more than Kirti but less than Siya. Deepika has scored less than Preeti but more than Amita. Kirti has scored more than Preeti but less than Pari. Siya is not the highest scorer.

Who among the following has NOT scored more than Preeti?
Ans
$X_{1 . \text { Jeet }}$
$X_{\text {2. Siya }}$
$X_{3 .}$ Pari

- 4. Amita
Q. 38 Ram pointed towards a lady and said"'Her daughter is the wife of my son-in-law. What relation does Ram have with the woman he pointed towards?

1. Husband

X 2. Father
X 3. Brother
X 4. Sister

How many triangles are there in the given figure?

Q. 40 Select the option that is related to the third term in the same way as the second term is related to the first term and the sixth term is related to the fifth term. $9: 38:: 13: ?:: 24: 83$

Ans
$X_{1.57}$
$X_{2.44}$
3.50
$x_{4.48}$
Q. 41 Select the correct combination of mathematical signs that can sequentially replace the \# signs and balance the given equation
25 \# 8 \# 21 \# 3 \# 5 \# 4 \#
>1.,,$+ \times,=, \div,+$
X2.,,$+ \div, \times,=,+$
X $3 .+,, \div, \times,=,+$
-4. $,+, \div,=, x,+$

Question ID : 264330129581
Option 1 ID : 264330507690
Option 2 ID : 264330507693
Option 3 ID : 264330507692
Option 4 ID : 264330507691
Status: Answered
Chosen Option : 4

Ans
Q. 42 Which letter-cluster will replace the question mark (?) to complete the given series?

FTFX, GVCT, ?, IZWL, JBTH
Ans
$X_{1 . \text { HEVP }}$
$X_{\text {2. HUTM }}$
$X_{3 .}$ HSRU
4. HXZP

Question ID : 264330144502
Option 1 ID : 264330566263
Option 2 ID : 264330566264
Option 3 ID : 264330566266
Option 4 ID : 264330566265
Q. 43 Select the correct combination of mathematical signs to sequentially replace the * signs and balance the given equation
$8 * 2 * 2 * 2 * 2=8$
Ans
$\times_{1 . \times+-}$
$X_{2 . \div-+x}$

- $3 . \times \div+-$
$\chi_{4 . \div+-x}$
Q. 44 Select the option that represents the correct order of the given words as they would appear in an English dictionary.

1. Adequate
2. Aphorism
3. Amplify
4. Aphrodite
5. Amorphous
6. Adamant

X 1. 6, 1, 3, 5, 2, 4
X 2.6,3,1,5,4,2
X 3.6,1,3,2,5,4
4. 6, 1, 5, 3, 2, 4

Ans
Q. 45 Seven people, A, B, C, D, E, F and G, are sitting in a straight row, facing north. Only 1 person sits to the left of D. A is an immediate neighbour of D. Only 2 people sit between F and D. Only 3 people sit between $C$ and $G$. $B$ is not an immediate neighbour of $G$. Only 2 people sit between $E$ and $A$

Who sits to the immediate left of G?
Ans
$x_{1 . A}$
$x_{\text {2. }}$
$x_{3 . F}$
Q. 46 Select the set in which the numbers are related in the same way as are the numbers of the following set.
(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. toll 3 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
$(7,5,24)$
$(8,2,60)$
Ans
X 1. $(4,8,39)$
X 2. $(6,3,36)$
3. $(9,3,72)$

X4. $(6,3,18)$
Q. $47 \mathrm{~K} @ L$ means' $L$ is the husband of $K$
$K \& L$ means' $K$ is the mother of $L$
$K \# L$ means' $K$ is the son of $L$
If $A \& B$ @ $C$ \# ${ }^{\circ} E$, the how is $B$ related to $D$ ?
Ans

1. Son's wife

X 2. Sister
X 3. Mother
X4. Daughter

[^0]Q. 49 Two statements are given followed by two conclusions numbered I and II. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements

Statements:

Some plates are cups
All cups are spoons.
Conclusions:
I. Some spoons are plates.
II. All spoons are plates

Ans
$X_{1}$. Both conclusions I and II follow
$X_{\text {2. Neither conclusion I }}$ nor II follows
$X_{3}$. Only conclusion II follows
4. Only conclusion I follows
Q. 50 Select the correct mirror image of the given figure when the mirror is placed at $\mathbb{M N}$ as shown below.

Lp4f3g7

N

Ans
$x^{1 .}\ulcorner\mathrm{g} \boldsymbol{\varepsilon} \ddagger \dagger \mathrm{q}\rfloor$


×4.「gettq」

Section : General Awareness
Q. 1 According to the Indian Bureau of mines 2020, which two states of India have the maximum gold ore reserves?
Ans $\quad$ 1. Madhya Pradesh and Andhra Pradesh
2. Bihar and Rajasthan

X 3. Andhra Pradesh and Maharashtra
X 4. Karnataka and Uttar Pradesh
Q. 2 The term 'kick off' is related to which of the following games?

Ans $\times$ 1. Cricket
2. Football

X 3. Badminton
X 4. Hockey
Q. 3 Which of the following is referred to as'credit money'?

Ans $\quad$. Money value $=$ Commodity value
2. Money value > Commodity value
3. Money value $=10$ percent less than Commodity value

X 4. Money value < Commodity value
Q. 4 What is the dimension of a basketball court?

Ans X $1.28 \times 18 \mathrm{~m}$

- $2.28 \times 15 \mathrm{~m}$
$\times 3.28 \times 22 \mathrm{~m}$
X $4.28 \times 20 \mathrm{~m}$
Q. 5 'The Trophic-Dynamic Aspect of Ecology' was studied by whom in the year 1942?

Ans $\times 1$. Rachel Carson
2. Raymond L Lindeman

X 3. Frederic Clements
X 4. Alexander Humboldt

Question ID : 264330114603
Option 1 ID : 264330450498
Option 2 ID : 264330450499
Option 3 ID : 264330450500
Option 4 ID : 264330450497
Status : Not Answered
Chosen Option : _-
Q. 6 The Plan for Partition of India is known as the:

Ans $\times 1.15$ th Aug Plan
2 2. 3rd June Plan
X 3. 5th May Plan
X 4. 18th July Plan
Q. 7 How do colours contribute to effective presentation and documents in MS PowerPoint?

Ans
X 1. Colours help in copying and pasting content between documents
2. Colours create a sense of hierarchy and emphasise important information.

X 3. Colours make the content appear larger and more prominent.
(4. Automatically correct spelling and grammar errors in the text.
Q. 8 Which of the following Legislative Bills proposed to set-up the Indian Antarctic Authority (IAA) under the Ministry of Earth Sciences, Government of India?
Ans
X 1. The Indian Antarctic (Amendment) Bill, 2022
X 2. The Indian Antarctic (Amendment) Bill, 2021
X 3. The Indian Antarctic Bill, 2021
4. The Indian Antarctic Bill, 2022

## Q. ${ }^{9}$ Which of the following is the correct match of the column-A

## column-B?

Column-A (Type of Rock) Column-B (Example) i.
Sedimentary rocks a. Granite ii. Igneous rocks b.
Limestone iii. Metamorphic rocks c. Gneiss
Ans
$X_{1 . i-a, ~ i i-c, ~ i i i-b}$
$X_{\text {2. i-c, ii-b, iii-a }}$
$x_{3 \text {, i-c, ii-a, iii-b }}$
4. i-b, ii-a, iii-c
Q. 10 Who was responsible for killing the last Mauryan King?

X 1. Vasudev Kanva
$X$ 2. Simuka
X 3. Kanishka
4. Pushyamitra Sunga

Question ID : 264330112133
Option 1 ID : 264330440618
Option 2 ID : 264330440620
Option 3 ID : 264330440619
Option 4 ID : 264330440617
Status : Answered
Chosen Option : 4
Ans
Q. 11 In which of the following years was the 'New Economic Policy' introduced in India?

Ans

$$
\text { 1. } 1991
$$

$X_{2.1993}$
$X{ }_{3.1992}$
$X_{4.1990}$

Which of the following is the correct match of the column-A with column-B?
Column-A (River) Column-B (Place of Origin)
i. Ganga
a. Amarkantak
ii. Chenab
b. Western Ghats near Mahabaleshwar
iii. Narmada
c. Gangotri glacier
d. Spiti
$X_{\text {2. i-c, ii-a, iii-b, iv-d }}$
$x_{3 \text {. i-d, ii-c, iii-b, iv-a }}$
$X_{4 . i-c, ~ i i-d, ~ i i i-b, ~ i v-a ~}$
Q. 13 What is in situ conservation method of biodiversity?
$\times 1$. It concerns with the conservation of species in botanic gardens and captive breeding programmes.
2. It concerns with the conservation areas as 'warehouses' of biological information.

X 3. It concerns with the cryopreservation of gametes.
X 4. It concerns with the protective maintenance of threatened species in zoological
parks.

## Ans

Q. 14 According to the Multidimensional Poverty Index 2022, which was the poorest state?

Ans

1. Bihar
$\chi_{\text {2. Assam }}$
$X_{\text {3. West Bengal }}$
$\chi_{4}$. Uttar Pradesh
Q. 15 Which of the following is a collection of authoritative terminology originally compiled from IUPAC recommendations published by the scientfic divisions of the union?
Ans
2. Gold Book

X 2. Purple Book
X 3. Red Book
X 4. Orange Book
Q. 16 Which of the following is an inanimate object that forms the environment?

Ans
X 1. Plants
2. Water
$X$ 3. Fungi
$X$ 4. Fish
Q. 17 Whose invasion of India resulted in the third battle of Panipat?

Ans

1. Ahmad Shah Abdali
$X$ 2. Dost Mohammad
X 3. Nadir Shah
X 4. Babur
Q. 18 Appointment, posting and promotion of District Judge in a state are made by

Ans
X 1. Chief justice of the high court of the state in consultation with the governor
2. Governor in consultation with the high court

X 3. President in consultation with the High Court
X 4. Chief Minister in consultation with Chief justice of High Court
Q. 19 Apart from income tax, there will also be TDS at and gift tax on digital assets to be paid by the receiver, depending on certain conditions.
Ans

- $1.1 \%$

X $2.2 \%$
X 3.5\%
$\times 4.4 \%$
Q. 20 Khagen Mahanta was a notable person in the folk music of $\qquad$ -.
Ans
X 1. Odisha
X 2. Uttar Pradesh
X 3. Andhra Pradesh
4. Assam

Question ID : 26433082116
Option 1 ID : 264330322298
Option 2 ID : 264330322300
Option 3 ID : 264330322297
Option 4 ID : 264330322299
Status : Not Answered
Chosen Option:-
Q. 21 What is the horizontalfield view of one eye in human beings?

Ans

- $1.150^{\circ}$
$\times 2.50^{\circ}$
$\times 3.90^{\circ}$
$\times 4.170^{\circ}$

Question ID : 264330134851
Option 1 ID : 264330528340
Option 2 ID : 264330528339
Option 3 ID : 264330528341
Option 4 ID : 264330528342
Status: Answered
Chosen Option : 1
Q. 22 According to the Indian Constitution, which of the following is NOT a fundamental duty?

Ans
X 1. To abide by the Constitution and respect its ideals
X 2. To promote the spirit of brotherhood
X 3. To safeguard public property
2. To vote in public election
Q. 23 The book 'Mitakshara' is related to which of the following fields?

Ans
$X_{1 .}$ Agriculture
$X_{\text {2. Politics }}$
$X_{\text {3. Finance }}$
4. Judiciary

Question ID : 26433089136
Option 1 ID : 264330350063
Option 2 ID : 264330350064
Option 3 ID : 264330350062
Option 4 ID : 264330350061
Status : Not Answered
Chosen Option: _-
Q. 24 The question consists of two statements, namely, Assertion (A) and Reason (R). Use them to choose the correct alternative
Assertion (A): Pocket money given by parents is included while estimating national income Reason (R): It represents a transfer of payment from parents to children

X 1. Both $A$ and $R$ are true, and $R$ is the correct explanation of $A$
X 2. $A$ is true and $R$ is false
X 3. Both $A$ and $R$ are true, but $R$ is not the correct explanation of $A$
4. $A$ is false but $R$ is true

Question ID : 264330108904
Option 1 ID : 264330427893
Option 2 ID : 264330427895
Option 3 ID : 264330427894
Option 4 ID : 264330427896
Status: Answered
Chosen Option : 4
Ans
Q. 25 Who was the captain of India's Under-19 Women's cricket team that won the inaugural edition of the Women's Under-19 T-20 World Cup in January 2023?

Ans

$$
\begin{aligned}
& X_{1 . \text { Sweta Sherawat }} \\
& \text { 2. Shafali Verma } \\
& X_{\text {3. Archana Devi }} \\
& X_{4 . \text { Richa Ghosh }}
\end{aligned}
$$

```
Q. }26\mathrm{ The weight loss and marked depletion of subcutaneous fat and muscle mass are characteristic features
        of which syndrome occurs in infants?
Ans
1. Marasmus
    X 2. Down syndrome
    X 3. Eczema
    X 4. Pertussis
```

Q. 27 Which city is known as 'Silicon Plateau'?
$X_{1 .}$ Hyderabad
$X_{\text {2. Ahmedabad }}$
3. Bengaluru
$\chi_{\text {4. Chandigarh }}$
Q. 28 Match the hills of India with their regions.

## Hills <br> Regions

1. Javadi Hills
a. Eastern Ghats
2. Doddabetta
b. Western Ghats
3. Jaintia Hills
c. Purvanchal
4. Patkai Hills
d. Meghalaya Plateau

X1.1-a, 2-b, 3-c, 4-d
X 2. 1-b, 2-a, 3-d, 4-c
3. 1-a, 2-b, 3-d, 4-c

X 4.1-a, 2-d, 3-b, 4-c
Q. 29 The total members who participate in the election of president is called $\qquad$ ..
An
X 1. First Voters Group
2. Electoral College

X 3. President College
X4. Elite Election Group
Q. 30 What is the architectural style of the Brihadisvara temple in Tamil Nadu?

Ans
X 1. Gadaga
> 2. Nagara
X 3. Champa

- 4. Dravidian
Q. 31 Which of the following is NOT correct regarding the periodic table?

Ans

1. There are 18 periods and 7 groups in the periodic table.

X 2. Group 2 elements are called alkaline earth metals.
X 3. There are 7 periods and 18 groups in the periodic table.
X 4. Noble gases are included in group18
Question ID : 264330118022
Option 1 ID : 264330463904
Option 2 ID : 264330463905
Option 3 ID : 264330463903
Option 4 ID : 264330463906
Status : Answered
Q. 32 The geothermal gradient is defined as the increase in temperature with depth in the earth. Accordingly, in normal continental crust, the rate of temperature rise within theirst 3 to 5 kilometres of the Earth's surface is approximately $\qquad$ .
Ans

1. $25^{\circ} \mathrm{C} / \mathrm{km}$
$\times 2.40^{\circ} \mathrm{C} / \mathrm{km}$
$\times 3.10^{\circ} \mathrm{C} / \mathrm{km}$
<4. $70^{\circ} \mathrm{C} / \mathrm{km}$
Q. 33 'Pashto' language is spoken in which of the following neighbouring countries of India?

Ans $\times 1$. Sri Lanka and Maldives
X 2. Nepal and Bhutan
3. Afghanistan and Pakistan

X 4. China and Myanmar
Q. 34 The Sangeet Natak Akademi of India recognises 8 dance forms of Indian classical dance. Which of the following is NOT included?

Ans

1. Chhau
> 2. Kuchipudi
X 3. Sattriya
X 4. Bharatanatyam
Q. 35 What is the term for the unwanted and unsolicited messages that are sent over the internet?

Ans
X 1. Malware
X 2. Phishing

- 3. Spam

X 4. Hacking
Q. 36 How much energy is released from 1 gm of fat?

Ans $\times 1.4$ calories

- 2.9 calories
$\times 3.4 .2$ calories
X 4.5 calories
Q. 37 Article 19 of the Constitution of India had originally guaranteed $\qquad$ rights.

Ans

$$
\boldsymbol{X}_{1 . \text { eight }}
$$

2. seven
$X_{3 . \operatorname{six}}$
$X_{4 . \text { five }}$
Q. 38 Name the programme launched by the Ministry of Health and Family Welfare to empower all healthcare workers engaged in oxygen management and administration with the essential knowledge and skills.

X 1. National Oxygen Management Programme
Х 2. National Oxygen Development Programme
X 3. National Oxygen Supervision Programme
4. National Oxygen Stewardship Programme

Question ID : 264330156913
Option 1 ID : 264330615028
Option 2 ID : 264330615027
Option 3 ID : 264330615029
Option 4 ID : 264330615030
Status: Answered
Chosen Option : 3

Ans
Q. 39 In September 2022, who among the following was honoured with the Dadasaheb Phalke Award for the year 2020?
Ans $\quad X_{1}$. Amitabh Bachchan
$X_{2}$. Vinod Khanna
3. Asha Parekh
$X_{4 . \text { Rajinikanth }}$

```
Q.40 Which of the following article of the Constitution lays down that the National Flag and National Anthem
    must be respected?
Ans
1. Art 51A (a)
    X 2.Art 51A (d)
    X 3.Art 51A (b)
    X4.Art 51A (c)
```

Q. 41 Which of the following programmes was initiated in 1979 with the objective of upgrading the traditional skills of rural youth belonging to families living below the poverty line, with family income below₹3,500 per year?

1. Training to Rural Youth for Self Employment (TRYSEM)

X 2. National Rural Employment Programme (NREP
X 3. Jawahar Rozgar Yojana (JRY)
X 4. Rural-Landless Employment Guarantee Programme (RLEGP
Q. 42 Which of the following is the most common omega-3 fatty acid found in vegetable oils, nuts (especially
walnuts), flaxseed and leafy vegetables that help prevent heart disease and stroke?
Ans
X 1. Docosahexaenoic acid (DHA)
$X_{\text {2. Eicosapentaenoic acid (EPA) }}$
3. Arachidonic acid (ARA)
4. Alpha-linolenic acid (ALA)

```
Q.43 Select the correct combination of Indian classical dance and their respective dancer. Ans
    X 1. Pandit Birju Maharaj - Sattriya
    2. Elam Endira Devi - Manipuri
    X 3. Surendra Nath Jena - Kuchipud
    \4. Guru Bipin Singh - Mohiniyattam
Q. 44 What is the correct sequence of the following ports of India from North to South?
A. Kochi port
B. Mormugao port
C. Kandla port
D. Mumbai port

X 1. B, A, D, C
X 2. A, B, C, D
X 3. A, D, B, C
- 4. C, D, B, A

Question ID : 264330138065
Option 1 ID : 264330540867
Option 2 ID : 264330540868
Option 3 ID : 264330540870
Option 4 ID : 264330540869
Status: Answered
Chosen Option : 4

Ans
Q. 45 A Parliamentary delegation from ___ led by HE Wangchuk Namgyel, called on the President of India Droupadi Murmu at Rashtrapati Bhavan on 7th February 2023.

Ans
\(X_{1 .}\) Myanmar
2. Bhutan
\(X_{\text {3. }}\) nepal
\(X_{4 . \text { Turkey }}\)

Match the column-A with column-B.
Column-A (Rock)
i. Sedimentary rocks
Column-B (Structure type)
a. Stratification and lamination
b. crystalline structure
ii. Igneous rocks
c. Foliation
iii. Metamorphic rocks
Q. 46

Ans
\(X_{1 . i-c, ~ i i-b, ~ i i i-a ~}\)
\(\chi_{\text {2. i-a, ii-c, iii-b }}\)
3. i-a, ii-b, iii-c
\(X_{4 .}\) i-b, ii-a, iii-c
Q. 47 Tabla maestro Ustad Alla Rakha was a musician trained by Mian Kader Baksh of the

X 1. Delhi gharana
X 2. Farrukhabad gharana
3. Punjab gharana

X 4. Lucknow gharana

\section*{Ans}
Q. 48 The headquarters of the Ghadar Party was located at which place?

Ans
1. San Francisco
\(X_{\text {2. New York }}\)
\(X_{\text {3. Chicago }}\)
\(X_{4}\). Washington
Q. 49 Which parameter is kept constant in Boyl's Law?

Ans
\(X\) 1. Pressure and mass
2. Temperature

X 3. Mass
X 4. Temperature and pressure

Option 1 ID : 264330515796
Option 2 ID : 264330515797
Option 3 ID : 264330515798
Option 4 ID : 264330515795
Status: Answered
Chosen Option:2
Q. 50 According to Census of India 2011, what was the sex ratio of Tamil Nadu?

Ans
× 1.993
\(\times 2.991\)
\(\times 3.931\)
- 4.996

Section : General Engineering Civil and Structural
Q. 1 A manometer is an instrument used for measuring the pressure acting on a column offuid, which consists of a U-shaped tube of liquid in which the difference in pressurescting in the two arms of the tube causes the liquid to reach different heights in the two arms. Which of the following is NOT a limitation of the manometer?
Ans
1. Difficulty in construction
\(\times 2\). Need for levelling
X 3. No over-range protection
X 4. Large and bulky size
Q. 2 What is the minimum value of effective depth of a cantilever RCC beam of span 7 m to satisfy the vertical deflection limit as per IS 456-2000?
Ans
\(X 1.350 \mathrm{~mm}\)
X 2.500 mm
X 3.269 .2 mm
- 4.1000 mm
Q. 3 Match the following.
\begin{tabular}{|l|l|}
\hline \multicolumn{1}{|c|}{ Air Pollutant } & \multicolumn{1}{c|}{ Effect } \\
\hline I. \(\quad\) Carbon monoxide & A. Asphyxia \\
\hline II. Halogenated solvents & B. Attack(s) the liver \\
\hline III. Hydrocarbons & C. Cause(s) cancer \\
\hline
\end{tabular}

Ans
1. I-A, II-C, III-B
2. I-C, II-B, III-A3. I-A, II-B, III-C

X 4. I-C, II-A, III-B
Q. 4 A 3-degrees curve is situated on a ruling gradient of 1 in 250 on a broad Gauge track. What should be the actual ruling gradient considering the grade compensation of curvature?
Ans
X 1. 0.12\%
2. \(0.28 \%\)
\(\times 3.1\) in 300
\(\times 4.1\) in 280
Q. 5 If a pitot tube is placed with its nose facing downstream, the liquid:

Ans
\(X\) 1. does not rise in the tube
2. falls in the tube to a height of \(\frac{v^{2}}{2 g}\)
\(X\) 3. rises in the tube to a height of \(\frac{v^{2}}{2 g}\)
\(X\) 4. does not fall in the tube
Q. 6 \(\qquad\) is the best suited method of irrigation for arid conditions in hot and windy areas so as to achieve optimum usage of irrigation water.
Ans
1. Drip irrigation method

X 2. Sprinkler irrigation method
\(X\) 3. Furrow irrigation method
X 4. Border strip method
Q. 7 If a cantilever retaining wall is to retain soil to its full height H , for the analysis of bending moment at its base, the distance from the base where the total force due to bafill acts, is

Ans
X 1. 0.25 H
\(\times 2.0 .5 \mathrm{H}\)
\(\times 3 . \mathrm{H}\)
4. 0.33 H
Question ID : 264330159310
Option 1 ID : 264330624601
Option 2 ID : 264330624599
Option 3 ID : 264330624602
Option 4 ID : 264330624600
Status: Answered
Chosen Option : 3
Q. 9 For zenith angles greater than \(90^{\circ}\), the telescope of the total station will be \(\qquad\) -.
Ans \(\quad\) 1. pointing to the left of the observer
X 2. pointing to the right of the observer
3. pointing downwards
X4. pointing upwards
Question ID : 264330159303
Option 1 ID : 264330624574
Option 2 ID : 264330624573
Option 3 ID : 264330624572
Option 4 ID : 264330624571
Status : Not Answered
Chosen Option : --
Q. 10 Municipal solid waste is also known as: Ans
\[
X_{1 . \text { street sweepings }}
\]
\(\chi_{\text {2. leachate }}\)
\(X_{\text {3. municipal rubbish }}\)
4. refuse
Question ID : 26433099413
Option 1 ID : 264330390267
Option 2 ID : 264330390268
Option 3 ID : 264330390265
Option 4 ID : 264330390266
Status: Answered
Chosen Option : 4
```

Q.11 Consider the following statements in a situation where cement and steel are supplied by the department.
I: 10% profit should be added on the cost of cement and steel
II: Cost of carriage from godown to site work should be added
Which of the following options is true?
Ans
1. Only statement II is true
X 2. Both statements I and II are true
* 3. Only statement I is true
\ 4. Both statements I and II are false

```
Q. 12 The number of vibrations of a sound wave per unit time is measured in \(\qquad\) -.
X 1. pressure second
2. hertz

X 3. decibel
X4.bel

Ans
Q. 13 Which of the following types of trees belong to the endogenous trees?

Ans
\(\chi_{1 \text {. Oak }}\)
2. Bamboo
\(\chi_{3 .}\) Deodar
\(X_{4 . \text { Pine }}\)
Q. 14 As per IS 3495 part-3 (1992), soluble salts, if present in bricks, will cause efflorescence on the surface of bricks. If the white deposits cover about \(10 \%\) of the surface, the efflorescence is said to be

Ans
\(X_{1 . n i l}\)
2. slight
\(X_{\text {3. moderate }}\)
\(X_{4 \text {. heavy }}\)
Q. 15 In a compaction test, the dry unit weight stops increasing after optimum moisture content because:
1. water particles start occupying space of soil grains

X 2. of capillary action
X 3. of bulking of soil
X 4. the electrical double layer stops expanding

\section*{Ans}
Q. 16 As per the Dicken's formula \(\mathrm{Q}_{\mathrm{p}}=\mathrm{C} . \mathrm{M}^{3 / 4}\) for the calculation of peak drainage discharge, the term ' \(\mathrm{M}^{\prime}\)

\section*{represents:}

Ans
1. rainfall intensity over the entire area
2. slope of the ground surface
\(x_{3 \text {. time of concentration }}\)
4. catchment area in sq. km.
```

Q.17 Which of the following keeps a record of receipts, issues and running balance of certain items of stock
especially of fitting items?
Ans }\mp@subsup{X}{1.Stock items}{
2. Bin card
X Quantity account
X4. Value account

```
                                    Question ID : 26433099341
                                    Option 1 ID : 264330389978
                                    Option 2 ID : 264330389977
                                    Option 3 ID : 264330389980
                                    Option 4 ID : 264330389979
                                    Status : Not Answered
                                    Chosen Option :
Q. 18 In traffic control, the conflict points are reduced to bare minimum and the delays are minimised by designing:
\(X\) 1. horizontal curve
X 2. super-passage
- 3. road intersection

X 4. bridges

Question ID : 26433086551
Option 1 ID : 264330339846
Option 2 ID : 264330339848
Option 3 ID : 264330339845
Option 4 ID : 264330339847
Status : Answered
Chosen Option : 4

Ans
Q. 19 The total amount of dissolved salts allowable concentrations in mixing water in order to obtain a good
strength concrete in terms of parts per million (ppm) as per IS 456 is
Ans \(\quad X_{1.2000}\) ppm
\(\chi_{2.1000}\) ppm
- 3.15000 ppm
\(X_{4.10000 \mathrm{pmm}}\)
```

Q. }20\mathrm{ Select the option that is appropriate regarding the following two statements labelled Assertion and
Reason
Assertion: The orographic type of precipitation that is caused by moving masses of moist air may
get lifted up to higher altitudes, due to presence of mountains as barriers. Reason: Moving masse
of moist air are lifted up to higher altitudes due to presence of mountains as barriers and
consequently, they undergo cooling, condensation and precipitation
Ans1.
* Both Assertion and Reason are true and Reason is the correct explanation of Assertion
X 2. Assertion is true, but Reason is false
X 3. Both Assertion and Reason are false
4. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion
Question ID : 264330158601
Option 1 ID : 264330621763
Option 2 ID : 264330621765
Option 3 ID : 264330621766
Option 4 ID : 264330621764
Status:Answered
Chosen Option :1

```
Q. 21 The type of timber recommended for constructional purpose, whose modulus of elasticity in bending is above \(12.5 \mathrm{kN} / \mathrm{mm}^{2}\), is classified as \(\qquad\) timber.

X 1. Group C
2. Group A

X 3. Group B
X4. Group D

Question ID : 264330160396
Option 1 ID : 264330628925
Option 2 ID : 264330628923
Option 3 ID : 264330628924
Option 4 ID : 264330628926
Status: Answered
Chosen Option :

Ans
Q. 22 Which method involves driving piles along both sides of an existing wall and inserting a needle in the form of pile caps through the existing one?

Ans
\(X_{1}\). Miscellaneous method
\(X_{\text {2. Pit method }}\)
3. Pile method
\(X_{4}\). Vibro-flotation
Q. 23 Which of the following is an acoustical property of the construction material?

Ans \(\quad \times 1\). Thermal resistivity
\(\times\) 2. Creep
3. Transmission

X 4. Hygroscopicity
Q. 24 The total area enclosed by an irrigation canal that can be included in an irrigation project for supplying water to agricultural land by a network of canals is known as \(\qquad\) _.
Ans
X 1. culturable command area
2. gross command area

X 3. culturable cultivable area
X 4. unculturable area
\(\qquad\) if the coefficient of active pressure \(K_{a}\) is 1/4.

Ans
\(\times 1.0 .33\)
- 2.4
\(\times 3.0 .25\)
\(\times 4.0 .5\)
Q. 26 With increase in the input power of pump, the fficiency of pump \(\qquad\) .

Ans 1. decreases

X 2. remains the same
X 3. It is independent of the power
X4. increases
Q. 27 A proper compaction of freshly prepared concrete results in:
(i) Achieving maximum strength of concrete
(ii) Expelling entrapped air in concrete
(iii) Change in fineness modulus of aggregate

Ans
\(X_{1 .}\) Only (ii)
2. Both (i) and (ii)
\(X_{\text {3. (i), (ii), and (iii) }}\)
\(X_{4 .}\) Only (i)
Q. 28 Select the correct statement related to water distribution pipe systems

Х 1. Sluice valves are provided only once, at the start of pipe system.
Х 2. Air valves are provided at all the low points.
X 3. Drain valves are provided at all the high points
4. Drain valves are provided at all the low points.

Question ID : 26433095956
Option 1 ID : 264330376594
Option 2 ID : 264330376595
Option 3 ID : 264330376596
Option 4 ID : 264330376593
Status: Answered
Chosen Option : 4

\section*{Ans}
Q. 29 Read the given statements about crop water requirement and select the correct option. Statement 1: Duty
will be less for a crop requiring more water.
Statement 2: The water lost due to percolation will be more and hence the duty will be more. Ans
\(X_{1 \text {. Both statement }} 1\) and statement 2 are false
\(\chi_{2}\). Both statement 1 and statement 2 are true
3. Statement 1 is true and statement 2 is false

X \(_{\text {4. Statement }} 1\) is false and statement 2 is true
Q. 30 A reinforced concrete retaining structure that provides skeletal support to earthen materials is called \(\qquad\)
Ans
1. backfill

X 2. erosion
X 3. lateral pressure
X 4. plasticity
Q. 31 The standard consistency test of cement is conducted by using \(\qquad\) -.

Ans \(\quad\) 1. Casagrande's apparatus
X 2. Blaine's permeability apparatus
X 3. Le Chatelier's apparatus
4. Vicat's apparatus

Question ID : 264330157681
Option 1 ID : 264330618086
Option 2 ID : 264330618085
Option 3 ID : 264330618084 Option 4 ID : 264330618083 Status: Answered
Chosen Option : 4
Q. 32 In a shrinkage limit experiment, mercury is used for:

Ans \(\times\) 1. prevent shrinkage of soil
X 2. determine volume at plastic limit
X 3. fill the voids of soil sample
4. determine dry volume of soil
Question ID : 264330160370
Option 1 ID : 264330628822
Option 2 ID : 264330628820
Option 3 ID : 264330628821
Option 4 ID : 264330628819
Status : Not Answered
Chosen Option : _-
Q. 33 If the magnetic bearing of the Sun at a certain place in the Southern Hemisphere during noon is \(336^{\circ} 29^{\prime}\), then the magnetic declination at that place is \(\qquad\)
Ans
\(\times 1.66^{\circ} 29^{\prime} \mathrm{E}\)
\(\times 2.66^{\circ} 29^{\prime} \mathrm{W}\)
- \(3.23^{\circ} 31^{\prime} \mathrm{E}\)

X4. \(23^{\circ} 31^{\prime} \mathrm{W}\)
Q. 34 Which of the following is NOT a structural stability criterion of a gravity dam?

Ans 1. Overspill
\(\chi_{\text {2. Crushing }}\)
\(X_{3 .}\) Sliding
\(\chi_{4}\). Overturning
Q. 35 A cantilever beam is subjected to two point loads as shown in the given diagram. Find the shear force and bending moment acting at the support of the beam.


Ans
1. \(\mathrm{SF}=50000 \mathrm{~N}, \mathrm{BM}=80 \mathrm{kN}-\mathrm{m}\)

X2. \(\mathrm{SF}=10 \mathrm{kN}, \mathrm{BM}=80 \mathrm{kN}-\mathrm{m}\)
X 3. \(\mathrm{SF}=50 \mathrm{kN}, \mathrm{BM}=8000 \mathrm{~N}-\mathrm{m}\)
X4. SF \(=50 \mathrm{kN}, \mathrm{BM}=50 \mathrm{kN}-\mathrm{m}\)

Question ID : 26433088027
Option 1 ID : 264330345721
Option 2 ID : 264330345724
Option 3 ID : 264330345723
Option 4 ID : 264330345722
Status: Answered
Chosen Option : 1
Q. 36 During rainy season, if the rainfall is sufficient during the crop period, less quantity of irrigation water
shall be required and therefore, the duty of the irrigation canal will be \(\qquad\) —.

Ans
1. more

X 2. No relation between the duty and the rainfall
\(X_{3 \text {. the same }}\)
\(\chi_{4 \text {.less }}\)
```

Q. 37 Which of the following is obtained by rotating a log of wood against a sharp knife of rotary cutter?
Ans
$X_{1}$. Batten board
2. Veneers
$X_{\text {3. Laminboard }}$
$X_{\text {4. Plywood }}$

```
Q. 38 Which of the following is NOT the requirement of an ideal permanent way? Ans
```

X1. There must be certain amount of elasticity in the track.

```
\(X_{\text {2. There must be provisions of easy renewals. }}\)
3. It should always be straight.
\(X_{4}\). The drainage system must be perfect.

Ans
Q. 40 The relative error in a closed traverse survey with perimeter of 500 m is 1 in 2000 . If the closing error lies
in the fourth quadrant (Positive -Y and Negative -X ), then the errors in latitude and departure, closer to two decimal point, will be \(\qquad\) respectively.
\(x\) 1. \(\sqrt{0 \cdot 2} \mathrm{~m}\) and \(-\sqrt{0 \cdot 15} \mathrm{~m}\)
Ans
, 2. \(\quad 0.2 \mathrm{~m}\) and -0.15 m
3. 0.2 m and 0.15 m

X4. \(\sqrt{0 \cdot 2} \mathrm{~m}\) and \(\sqrt{0 \cdot 15} \mathrm{~m}\)
Q. 41 Warning signs are also known as \(\qquad\) —.
- 1. cautionary signs

X 2. prohibitory signs
X 3. mandatory signs
<4. regulatory signs

\section*{Ans}
Q. 42 As per IS 11624-1986, what will be the water quality rating of irrigation water when electrica conductivity ( EC ) is in the range of 1500 to 3000 (micromhos/cm)?

Ans
1. Medium
\(X_{\text {2. Very high }}\)
\(\chi_{\text {3. High }}\)
\(X_{4 . \text { Low }}\)
Q. 43 According to IS 456:2000, The value of design bond stress in limit state method for plain bars in tension depends on the:
Ans \(\quad \times 1\). none of the given option
\(X\) 2. grade of the steel
3. grade of the concrete
\(\times 4\). length of the bar
Q. 44 Which of the following is the most important property of the section in a compression member of any steel structure?

Ans
X 1. Modulus of elasticity
2. Moment of inertia
\(X\) 3. Section modulus
\(X\) 4. Weight of material
Q. 45 In measurement of masonry activity, no deduction is made for \(\qquad\) —.
Ans \(\quad \times 1\). the end of a beam with cross sectional area \(>0.05\) m
X 2. bed plates exceeding 10 cm thickness
3. the end of purlin up to 0.05 m

X 4. wall plates exceeding 10 cm thickness
Q. 46 Which of the following is NOT employed in the secondary treatment of sewage?

Ans
1. Skimming tanks

X 2. Trickling filters
\(X\) 3. Contact beds
X 4. Sand filters
Q. 47 Under which of the following conditions will a steel column fail in buckling?

Ans \(\quad \times 1\). The column is short.
X 2. less than 180
X 3. A steel column cannot fail in buckling.
4. greater than 180

Question ID : 264330159696
Option 1 ID : 264330626143
Option 2 ID : 264330626145
Option 3 ID : 264330626146
Option 4 ID : 264330626144
Status: Answered
Chosen Option : 4
Q. 48 The Froude number is the ratio of two forces, which are:

Ans \(\quad\) 1. buoyancy force and inertia force
2. 2. inertia force and gravity force

X 3. viscous force and buoyancy force
X 4. inertia force and pressure force
Q. 49 According to IS 456:2000, for limit state method of collapse imflexure, which of the following assumptions is correct?
Ans
X 1. The tensile strength of the concrete is taken into account
2. The maximum strain in concrete at the outermost compressiorfibre is taken as
0.0035 in bending.

X 3. The relationship between the stress strain distribution in concrete is assumed to be
straight.
X 4. Plane section normal to axis does not remain plane after bending.
Q. 50 The constant head permeability test is used for \(\qquad\) -.

Ans
X 1. fine grained soil
X 2. organic soil
X 3. clayey soil
- 4. coarse grained soil
Q. 51 The following is the table containing data recorded during curve setting by using the twotheodolite meth
\begin{tabular}{|c|c|c|c|c|c|}
\hline Point & Chord Length & \begin{tabular}{c} 
Tangential \\
Angle
\end{tabular} & \begin{tabular}{c} 
Deflection \\
Angle
\end{tabular} & \multicolumn{2}{|c|}{ Theodolite reading at } \\
\cline { 5 - 7 } & & Point of Curve & Point of Tangency \\
\hline P1 & 12.26 m & \(0^{\circ} 21^{\prime} 25^{\prime \prime}\) & A & \(0^{\circ} 21^{\prime} 25^{\prime \prime}\) & \\
\hline P2 & 20 m & \(1^{\circ} 12^{\prime} 5^{\prime \prime}\) & & B & \\
\hline P3 & 20 m & \(1^{\circ} 12^{\prime} 5^{\prime \prime}\) & & & C \\
\hline P4 & 20 m & \(1^{\circ} 12^{\prime} 5^{\prime \prime}\) & \(3^{\circ} 57^{\prime} 40^{\prime \prime}\) & & \\
\hline
\end{tabular}

The values of \(A, B\) and \(C\) are \(\qquad\) and \(\qquad\) respectively.

Ans \(X_{1 .} \mathrm{A}=0^{\circ} 21^{\prime} 25^{\prime \prime} ; \mathrm{B}=1^{\circ} 54^{\prime} 55^{\prime \prime} ; \mathrm{C}=177^{\circ} 14^{\prime} 25^{\prime \prime}\)
2. \(\mathrm{A}=0^{\circ} 21^{\prime} 25^{\prime \prime} ; \mathrm{B}=1^{\circ} 33^{\prime} 30^{\prime \prime} ; \mathrm{C}=357^{\circ} 14^{\prime} 25^{\prime \prime}\)

X 3 . \(\mathrm{A}=0^{\circ} 21^{\prime} 25^{\prime \prime} ; \mathrm{B}=1^{\circ} 33^{\prime} 30^{\prime \prime} ; \mathrm{C}=177^{\circ} 14^{\prime} 25^{\prime \prime}\)
\(X_{4 .} \mathrm{A}=0^{\circ} 21^{\prime} 25^{\prime \prime} ; \mathrm{B}=1^{\circ} 33^{\prime} 30^{\prime \prime} ; \mathrm{C}=182^{\circ} 45^{\prime} 35^{\prime \prime}\)
Q. 52 The moment of inertia of a body is a measurement of:

X 1. its resistance against translation
X 2. its resistance against shear
X 3. its resistance against linear deformation
- 4. its resistance against rotation
Q. 53 The shear strength of an RCC beam depends on which of the following factors? Ans 1 .

The grade of the concrete
\(X_{2}\). The type of cement
\(X_{3 \text {. The grade of the steel }}\)
\(X_{4}\). The zone of fine aggregate
```

Q. }54\mathrm{ The bearing of the magnetic meridian of a line is S 32' 10' W. If the magnetic declination is 7}\mp@subsup{7}{}{\circ}4\mp@subsup{0}{}{\prime}\mathrm{ East,
then the true bearing is

```
\(\qquad\)
``` -.
Ans
\(X_{1 . S} 25^{\circ} 30^{\prime} \mathrm{W}\)
\(X_{2.212^{\circ}}{ }^{\prime}\)
3. \(539^{\circ} 50^{\prime} \mathrm{W}\)
\(X_{4.205^{\circ} 30^{\prime}}\)
```

Q. 55

Consider the following methods used to establish a point in the field. (Refer to the figure below.)


Method 1: Point O is plotted by measuring only the distances MO and NO.
Method 2: Point O is plotted by measuring only the angles NMO and MNO.
Which of these methods also represents the principle of trigonometrical levelling?

Ans
X 1. Method 1 only
X 2. Neither Method 1 nor Method2

- 3. Method 2 only

X 4. Both Method 1 and Method2
Q. 56 What is the meaning of 'ISMB 200 ' in the steel design?

Ans 1. Indian standard medium weight beams of depth 200 mm
$x_{2}$. Indian standard mid weight beams of deppht 200 mm
3. Indian standard mean weight beams of depth 200 mm
$x_{4}$. Indian standard maximum weight beams of deppht 200 mm
Q. 5 $\qquad$ is a method of measuring the undrained shear strength of a cohesive soil

Ans 1. vane shear test
$X$ 2. torsion test
X 3. triaxial test
X 4. direct shear test
Q. 58 Calculate the most economic area of a rectangular channel section with widtik' and depth ' $y$ '.
Ans $\quad X 1 . y^{2}$
X 2. By

- $3.2 y^{2}$
$\times 4.3 y^{2}$
Q. 59 Which of the following is a type of contouring method that can be effectively used in a hilly terrain by setting radial lines?

Ans $X 1$. Vertical control method
2. Tacheometric method
$X$ 3. Horizontal control method
X 4. Method of cross-section
Q. 60 The repair works that are usually carried out every fourth year are known as $\qquad$ —.
Ans

1. quadrennial repair works

X 2. regular repair works
$X$ 3. biennial repair works
X 4. annual repair works
Q. 61 A cantilever beam is loaded as per the given diagram. Find the bending moment acting at the mid span of beam.


Ans
$X_{1.50 \mathrm{kN}-\mathrm{m}}$
$\times 2.5000 \mathrm{~N}-\mathrm{m}$
-3.30 kN-m
$\chi_{4 .} 3000 \mathrm{~N}-\mathrm{m}$
Q. 62 The specific energy of flow is the energy per unit weight of water with respect to the channel bottom as datum. As level of the channel bottom goes down, $\qquad$ _.

1. specific energy increases

X 2. specific energy is not depended on depth
X 3. specific energy constant
X 4. specific energy decreases

Question ID : 26433091054
Option 1 ID : 264330357625
Option 2 ID : 264330357628
Option 3 ID : 264330357627
Option 4 ID : 264330357626
Status: Answered
Chosen Option : 4

Ans
Q. 63 To get the corresponding lengths, we must $\qquad$ _one breadth to the long wall and $\qquad$ one
breadth from the short wall from the centre line. Ans $X_{1}$. subtract; subtract
$X_{\text {2. subtract; }}$ add
$X_{\text {3. add; add }}$
4. add; subtract
Q. 64 If the section factor and the hydraulic depth for a rectangular channel are 40 m and 4 m , respectively, then calculate the top width of the channel.

Ans
1.5 m
$X_{2.3 \mathrm{~m}}$
$\times_{3.4 \mathrm{~m}}$
$X_{4.6 \mathrm{~m}}$
Q. 65 Which of the given options is the best suited condition for energy recovery from municipal solid waste?
$X$ 1. Presence of inorganic matter such as metal
2. High calorific value of solid waste

X 3. Presence of more non-renewable resources like glass
X 4. More moisture content

Thermal expansion gives temperature stresses that are resisted by the weight of the rails. If the resistance provided per km of rail length is 700 kg , then find the maximum length of the continuous welded track that can be provided, neglecting all other factors.

Given for the rail:
Area of cross-section $=50 \mathrm{~cm}^{2}$
Modulus of elasticity $=2 \times 10^{6} \mathrm{~kg} / \mathrm{cm}^{2}$.
Coefficient of thermal expansion $=1.2 \times 10^{-5 /{ }^{\circ} \mathrm{C}}$
Rise in temperature $=35^{\circ} \mathrm{C}$

Ans
. 1.60 km
$X_{2.30 \mathrm{~m}}$
$x_{3.60 \mathrm{~m}}$
$\boldsymbol{X}_{4.30 \mathrm{~km}}$

Following are the observations made on a closed traverse.

| Line | Fore <br> Bearing | Back <br> Bearing |
| :--- | :--- | :--- |
| PQ | $35^{\circ} 20^{\prime}$ | $216^{\circ} 40^{\prime}$ |
| QR | $155^{\circ} 30^{\prime}$ | $336^{\circ} 30^{\prime}$ |
| RS | $293^{\circ}$ | $113^{\circ}$ |
| SP | $10^{\circ} 50^{\prime}$ | $191^{\circ} 10^{\prime}$ |

If the bearing of Line RS is not affected by local attraction, the correction that needs to be applied to each angle is $\qquad$ -.
$X_{1 .+2^{\circ} 40^{\prime}}$
$X_{2 .-2^{\circ} 40^{\prime}}$
3. $-0^{\circ} 40^{\prime}$
$X_{4 .+0^{\circ}}{ }^{\prime}$
Q. 68 Which of the following methods explains the process of underwater concreting?
(i) Pumping technique
(ii) Hydro valve method
(iii) Toggle bags method
(iv) Bagged concrete method

X 1. Only (i), (ii), (iii)
$X$ 2. Only (i)
$X$ 3. Both (i) and (i)
4. (i), (ii), (iii), and (iv)
Q. 69 Select the correct option for the given statements.

Statement 1: In level crossing, the canal water and drain water are allowed to intermingle with each
other.
Statement 2: A level crossing is generally provided when a large canal and huge drainage approaches each other practically at the same level.
Ans1.
Both statement 1 and statement 2 are true, and statement 2 is the correct explanation of statement 1
$X_{2 \text {. Statement }} 1$ is true and statement 2 is false
$X_{3 \text {. Statement }} 1$ is false and statement 2 is true

- 4. Both statement 1 and statement 2 are true, but statement 2 is not the correct explanation of statement 1
Q. 70 The precipitation is collected and measured in a rain gauge. The non-recording type rain gauge extensively used in India is $\qquad$ -.

1. Symon's rain gauge
$\times 2$. float type rain gauge
$X$ 3. weighing-bucket type rain gauge
X 4.tipping-bucket type rain gauge

Ans
Q. 71 Calculate the hook length of the bar in one side with a diameter of 16 mm .

Ans
$X_{1.100 m m}$
2.144 mm
$X_{3.166 \mathrm{~mm}}$
$X_{4.120 \mathrm{~mm}}$

```
Q. }72\mathrm{ Surfaces painted by
```

$\qquad$

``` shine like radium dials after the source of light has been cut off.
Ans 1. enamel paint
\(X_{\text {2. plastic paint }}\)
\(X_{\text {3. oil paint }}\)
\(X_{4}\). emulsion paint
```

Q. 73 In the centesimal system of angular measurement, 1 Circumference $=$ $\qquad$
Ans
$X_{1.100 \text { grads }}$
2.400 grads
$X_{3.180 \text { grads }}$
$X_{4.360 \text { grads }}$
Q. 74 With reference to compression members of steel structures, the slenderness ratio of compression is defined as the $\qquad$ -
$X$ 1. ratio of the effective length to the actual length of the member
$\times 2$. ratio of the effective length to the area of section of the member
3. ratio of the effective length of the member to the appropriate radius of gyration

X 4. ratio of the length of the member to the appropriate radius of gyration

Question ID : 264330162708
Option 1 ID : 264330638151
Option 2 ID : 264330638153
Option 3 ID : 264330638154
Option 4 ID : 264330638152 Status: Answered
Chosen Option : 1

Ans
Q. 75 The distance between two points measured during a hot summer by using a 30 m long chain was 2.4 km . At the end of the day's work, it was found that the chain was 2 decimetre longer. Which of the following is the correct option?

Ans
$X_{1}$. The measured distance is 16 cm less than the actual distance.
2. The measured distance is 16 m more than the actual distance.

4. The measured distance is 1600 cm less than the actual distance.

Question ID : 264330167218
Option 1 ID : 264330655870
Option 2 ID : 264330655869
Option 3 ID : 264330655867
Option 4 ID : 264330655868
Status: Answered
Chosen Option : 2
Q. 76 A fine grained soil has liquid limit of 55 and plastic limit of 20 as per plasticity chart. According to IS classfication, the soil is represented by which of the following letter symbols?
<1. CL-OL
X 2. CI-ML
X 3. CL-ML

- 4. CH

Question ID : 26433096821
Option 1 ID : 264330380021
Option 2 ID : 264330380024
Option 3 ID : 264330380023
Option 4 ID : 264330380022
Status : Not Answered
Chosen Option : _-

Ans
Q. 77 The length of the first sub chord is 10 m and the radius of the curve is 200 m . Find the first tangential angle for setting out a circular curve.

Ans
$X_{1.100}{ }^{\prime}$
$X_{2.100}$
$x_{3.85 .95^{\circ}}$

- $4.85 .95^{\prime}$
Q. 78 The A-line in the unified classification system table is used to determine the plasticity index (Ip) of soil sample on its liquid limit (WL). The equation for the A-line is given as $\qquad$ —.

Ans
$X_{1 . I p}=0.5\left(20-W_{L}\right)$
$\chi_{\text {2. } I P=W L}=40$
$X_{3 . I P}=0.73(40-W L)$
4. IP $=0.73$ (WL-20)

Question ID : 26433096820
Option 1 ID : 264330380020
Option 2 ID : 264330380017
Option 3 ID : 264330380019
Option 4 ID : 264330380018
Q. 79 To study the wind pressure effect on a hollow circular chimney, the projected area calculation is given as
$X$ 1. $($ Height of chimney $) \times$ (Internal diameter of chimney shaft $)$
2.
(Height of chimney) $\times$ (External diameter of chimney shaft)
$\times$ 3. (Height of chimney) $\times$ (Mean diameter of chimney shaft)
$\times 4$.
$\left(\frac{1}{2}\right) \times($ Height of chimney $) \times($ Internal diameter of chimney shaft $)$

Question ID : 264330159397
Option 1 ID : 264330624947
Option 2 ID : 264330624948
Option 3 ID : 264330624949
Option 4 ID : 264330624950
Status : Not Answered
Chosen Option : _-

Ans
Q. 80 According to IS 800:2007, steel purlins are primarily designed as $\qquad$
Ans $\quad \chi_{1 \text {. tension members }}$
2. flexural members
$\chi_{\text {3. compression members }}$
$X_{4 \text {. torsional members }}$
Q. 81 During the particle board construction by pressing in the parallel plates process, what is the orientation of wood particles with respect to the plane of the board?
Ans

- $1.0^{\circ}$
$\times \quad 90^{\circ}{ }_{2}$
$\times \quad 30^{\circ}{ }_{3}$
$\times \quad 45^{\circ}{ }_{4}$
Question ID : 26433099396
Option 1 ID : 264330390200
Option 2 ID : 264330390198
Option 3 ID : 264330390199
Option 4 ID : 264330390197
Status : Not Answered
Chosen Option :--
Q. 82 Which of the following is NOT a field of application of sulphate-resisting cement?

Ans $\quad X_{1}$. Foundation and basement
$X_{2 .}$ Sewage treatment works
3. Dams
$X_{\text {4. Marine structures }}$
Q. 83 Consider the following conditions:

1. Concentrated loads are placed near beam supports.
2. The depth of beam section is small, and the beam is loaded uniformly.

The design of a beam is governed by shear under which of the following conditions?
$\times 1.1$ only
2. Both 1 and 2

X 3. Neither 1 nor 2
X 4.2 only

Following are the observations made on a closed traverse.

| Line | Fore Bearing | Back Bearing |
| :--- | :--- | :--- |
| AB | $10^{\circ} 20^{\prime}$ | $190^{\circ} 20^{\prime}$ |
| BC | $155^{\circ} 30^{\prime}$ | $336^{\circ} 30^{\prime}$ |
| CA | $290^{\circ}$ | $112^{\circ}$ |

The total error is $\qquad$ .
Q. 84

Ans
$X_{1 .-1^{\circ}} 0^{\prime}$
$X_{2 .+1^{\circ}} 0^{\prime}$

- $3 .+3^{\circ} 0^{\prime}$
$X_{4 .-3^{\circ} 0^{\prime}}$
Question ID : 264330160600
Option 1 ID : 264330629733
Option 2 ID : 264330629734
Option 3 ID : 264330629732
Option 4 ID : 264330629731
Status: Answered
Chosen Option : 3
Q. 85 A pump has to pump water through a pipeline of height of 10 m above the ground at a rate of $0.2 \mathrm{~m}^{3} / \mathrm{sec}$. The water in a sump tank is 5 m below the ground level. Neglect head loss due to friction, the pumping power required would be $\qquad$ (Consider $\mathrm{g}=10 \mathrm{~m} / \mathrm{s}$ ).
X 1. 25 KW
X 2.33 kW
-3.30 KW
$\times 4.22 \mathrm{KW}$

Ans
Q. 86 Which of the following statements is correct with respect to compaction and consolidation? Ans1.

X Compaction is valid for cohesive soils, whereas consolidation is applicable for all types of
soils.
X 2. Compaction releases pore water, whereas consolidation releases pore air.
Х 3. Both compaction and consolidation degrade the engineering properties of soil.
4. Both compaction and consolidation improve the engineering properties of soil.
Q. 87 A capillary tube of diameter 4 mm is dipped into a liquid of specific gravity 0.6 . The liquid rises in the tube by 20 mm , making an angle of contact of $0^{\circ}$ with the tube. Determine the surface tension of the liquid in contact with air and the glass tube.

Ans

- $1.0 .12 \mathrm{~N} / \mathrm{m}$
$\chi_{2.0 .5 N / m}$
< $3.1 \mathrm{~N} / \mathrm{m}$
$X_{4.0 .08} \mathrm{~N} / \mathrm{m}$
Q. 88 Which of the following types of pumps should be selected in order to pump the sewage from septic tank to the water treatment system?
> 1. Screw pump
X 2. Progressive cavity pump
X 3. Vertical sump pump
- 4. Submersible pump

Question ID : 264330158972
Option 1 ID : 264330623250
Option 2 ID : 264330623248
Option 3 ID : 264330623247
Option 4 ID : 264330623249
Status: Not Answered
Chosen Option : --

Ans
Q. 89 Select the correct option for the given statements related to the field test of cement.

Statement 1: When you insert your hand in a bag of cement, it should give you a hot feeling.
Statement 2: In adulteration test, take a pinch of cement and feel (rub) between the fingers; it should give
a smooth feeling and not a gritty feeling. Ans
$X_{1}$. Both statement 1 and statement 2 are true
2. Statement 1 is true and statement 2 is false
3. Statement 1 is false and statement 2 is true

X $_{\text {4. Both statement }} 1$ and statement 2 are false

Question ID : 264330157844
Option 1 ID : 264330618735
Option 2 ID : 264330618737
Option 3 ID : 264330618738
Option 4 ID : 264330618736
Status: Answered
Chosen Option : 3
Q. 90 Superplasticisers are also called $\qquad$
Ans

1. high-range water reducers
$\chi_{\text {2. accelerators }}$
$X_{3}$. low-range water reducers
$X_{4 . \text { retardants }}$
Question ID : 264330157699
Option 1 ID : 264330618155
Option 2 ID : 264330618158
Option 3 ID : 264330618156
Option 4 ID : 264330618157
Status: Answered
Chosen Option : 1
Q. 91 To increase the seepage flow length $\qquad$ are provided on the cut-off walls of the barrage or weir.

Ans
$X_{1 .}$ toe walls
2. sheet piles
$X_{3 \text {. impervious floors }}$
$X_{4 \text {. inverted filters }}$
Q. 92 As per IRC, when designing pedestrian and trffic signals using approximate method for a two-phase system, the minimum initial period with pedestrian signal should NOT be less than:

- 1.7 seconds

X 2.6 seconds
X 3.9 seconds
X4.4 seconds

```
Q. }93\mathrm{ Which of the following includes the cost of hire charges for the vehicle for an 8-hour working period in
    a day with the cost of the driver?
Ans
X 1.Miscellaneous
    X 2. Labour cost
    X.Loading of the vehicle
    4. Cost of owing
```

                                    Question ID : 264330167539
                                    Option 1 ID : 264330657130
                                    Option 2 ID : 264330657127
                                    Option 3 ID : 264330657129
                                    Option 4 ID : 264330657128
                                    Status : Not Answered
                                    Chosen Option:
    Q. 94 What is the standard atmospheric pressure at sea level?

Ans
$X_{1.1 .5 \text { bar }}$
$X_{2.1 .3 \text { bar }}$
$X_{3.1013 \mathrm{mmHg}}$
4. 1.013 bar
Q. 95 Find the moment of resistance of a balanced singly reinforced beam using the following data.
Grade of concrete : M20
Grade of steel : Fe415
$b=$ width of the beam
d = effective depth of the beam
Use limit state method of design:
$\times 1.2 .96$ bd $^{2}$
X2. 2.66 bd $^{2}$
X 3.2 .07 bd $^{2}$

- 4. $2.76 b d^{2}$
Q. 96 Pavements which have low or negligible flexural strength are called

Ans
$X_{1 .}$ rigid pavements
X 2. cement concrete and gravel roads
X 3. semi rigid pavements

- 4. flexible pavements

Question ID : 264330157162
Option 1 ID : 264330616012
Option 2 ID : 264330616013
Option 3 ID : 264330616014
Option 4 ID : 264330616011
Status: Answered
Chosen Option : 1
Q. 97 The scrap value of a building is considered $\qquad$ of the cost of construction.

Ans $X_{1.2 \%}$
$\times_{2.5 \%}$

- $3.10 \%$
$X^{4.15 \%}$
Question ID : 264330159854
Option 1 ID : 264330626765
Option 2 ID : 264330626764
Option 3 ID : 264330626763
Option 4 ID : 264330626766
Status: Answered
Chosen Option : 3
Q. 98 Select the option that is appropriate regarding the following two statements labelled Assertion and Reason.
Assertion: Check dams of low height are constructed across the tributaries of rivers at different stages to arrest the sediments in the catchment area.
Reason: Check dams serve the purpose of detention reservoirs andeep all the sediments in suspension.

1. Assertion is true but Reason is false

2 2. Both Assertion and Reason are true and reason is the correct explanation of assertion.
X 3. Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

X 4. Both Assertion and Reason are false.
Q. 99 Which of the following statements with respect to characteristics of solid waste is correct?

Ans $\quad \times 1$. The refuse of a typical Indian city has less garbage percentage (by weight) than that of a city in the USA.
2. The refuse of a typical Indian city has less density than that of a city in the USA.

X 3. The refuse of a typical Indian city has more rubbish percentage (by weight) than that of a city in the USA.
4. The refuse of a typical Indian city has more garbage percentage (by weight) than that of a city in the USA
Q. 100 Select the correct option for the given statements.

Statement 1: Bamboo can be utilised as a building material for scaffolding, bridges, houses and buildings.
Statement 2: Bamboo, like wood, is a natural composite material with a low strength-toweight ratio and cannot be useful for structures.

Ans
$X 1$. Both statement 1 and statement 2 are true
$X$ 2. Statement 1 is false and statement 2 is true
3. Statement 1 is true and statement 2 is false

X . Both statement 1 and statement 2 are false


[^0]:    Q. 48 Select the option that represents the correct order of the given words as they would appear in an English dictionary.

    1. Unaware
    2. Unable
    3. Unavoidable
    4. Unacceptable
    5. Unanimous
    6. Unaffected

    Ans
    X 1. 4, 2, 6, 5, 3, 1

    - 2. $2,4,6,5,3,1$

    X 3. $2,4,6,5,1,3$
    X 4. 2, 4, 5, 6, 3, 1

