DSSSB JE

Previous Year Paper

Electrical 22 June 2022
Shift 1

GOVT. OF NCT OF DELHI
Delhi Subordinate Services Selection Board
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Participant ID	
Participant Name	
Test Center Name	
Test Date	22/06/2022
Test Time	8:30 AM - 10:30 AM
Subject	Junior Engineer (Electrical) or Section Officer (Electrical)

Section : **Mental Ability**

Q.1 **Which letter cluster would replace question mark (?) in the given series?**
EF, LL, SR, ZX, ?

Ans ✗ A. CH

✓ B. GD

✗ C. HC

✗ D. DE

Question ID : **1841221681**

Q.2 **Atul ranked 17th from left end of the row, while Sachin ranked 15th from the right side of the row. If there are exactly 5 persons between Atul and Sachin. If Atul is towards the left of Sachin, how many persons are in that row?**

Ans ✗ A. 40

✓ B. 37

✗ C. 36

✗ D. 39

Question ID : **1841221678**

Q.3 **Four numbers have been given out of which three are alike in some manner, while the fourth one is different. Choose the number which is different from the rest.**
(NOTE: Only whole numbers should be considered, without breaking down the numbers into its constituent digits)

Ans ✗ A. 83

✗ B. 53

✗ C. 73

✓ D. 63

Question ID : **1841221694**

Q.4 **Which of the following meaningful word can be formed using the letters of the word RELATIONSHIP, a letter can be used only once?**

Ans ✗ A. Reinstate

✓ B. Alter

✗ C. Shipment

✗ D. Road

Question ID : **1841221682**

Q.5 **Which number would replace question mark (?) in the given series?**
42, 55, 70, 87, ?

Ans ✗ A. 109

✗ B. 100

✓ C. 106

✗ D. 103

Question ID : **1841221692**

Q.6 **Two statements are followed by two conclusions. Consider the statements to be TRUE even if they seem to be at variance with commonly known facts and decide which of the given conclusion(s) logically follow(s) from the given statements.**
Statements:
A. All dogs are lion.
B. All sheep are lion.
Conclusions:
I. Some lions are dogs.
II. Some lions are sheep.

Ans ✗ A. Only conclusion I follows

✓ B. Both conclusion I and II follow

✗ C. Neither conclusion I nor II follow

✗ D. Only conclusion II follows

Question ID : **1841221679**

Q.7 What will be the water image of following figure?

Ans

✗ A.

✗ B.

✗ C.

✔ D.

Question ID : 1841221691

Q.8 Select the option that is related to the third word in the same way as the second word is related to the first word.
Heart : Cardiologist :: Bone :?

Ans

✔ A. Orthopedist

✗ B. Ontology

✗ C. Ecologist

✗ D. Dermatologist

Question ID : 1841221686

Q.9 What will be the approximate value of 'Q' in the following expression?
229.58 + Q × 34.4 - 87.92 ÷ 4 = 423.47
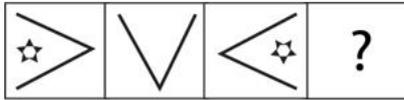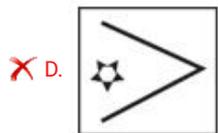
Ans

✗ A. 3.5

✔ B. 6

✗ C. 8

✗ D. 9

Question ID : 1841221696

Q.10 Select the option that will correctly replace the question mark (?) and complete the series.

Ans

✗ A.

✔ B.

✗ C.

✗ D.

Question ID : **1841221688**

Q.11 What will be the approximate value of the following expression?
23.7 × 2.4 + 47.75 ÷ 2.25 − 12.759

Ans ✗ A. 102

✔ B. 59

✗ C. 67

✗ D. 89

Question ID : **1841221695**

Q.12 Shweat is taller than Anu and Vani is smaller than Dev, Tanu is Taller than Vani and smaller than Samar, Anu is taller than Samar. Dev is smaller than Anu.
Who is tallest among all?

Ans ✔ A. Shweta

✗ B. Vani

✗ C. Anu

✗ D. Samar

Question ID : **1841221680**

Q.13 Dev is ranked 23rd from left end and 34th from right end in a row. How many people are in that row?

Ans ✘ A. 57

✔ B. 56

✘ C. 59

✘ D. 58

Question ID : 1841221677

Q.14 चार शब्द दिए गए हैं जिनमें से तीन किसी तरह से एकसमान हैं, जबकि चौथा उनसे असंगत है। उस असंगत शब्द का चयन कीजिए।

Ans ✘ A. झुंड

✔ B. मछली

✘ C. पशु समूह

✘ D. मछली समूह

Question ID : 1841221687

Q.15 Select the correct mirror image of the given figure when the mirror is placed to the right side.

Ans

✘ A.

✔ B.

✘ C.

✘ D.

Question ID : 1841221690

Q.16 Shan travels 20 km towards North then he turns right and travels 30 km to reach school. He again turns right and travels 10 km. Finally he turns left and travels 15 km. In which direction is he facing now?

Ans ✔ A. East

✘ B. South

✘ C. North

✘ D. West

Question ID : **1841221683**

Q.17 Which number would replace question mark (?) in the given series?
123, 140, 167, 204, ?

Ans ✘ A. 217

✔ B. 251

✘ C. 241

✘ D. 227

Question ID : **1841221693**

Q.18 Four figures have been given out of which three are alike in some manner, while the fourth one is different. Choose the figure which is different from the rest.

Ans

✔ A. ,

✘ B. +

✘ C. X

✘ D. –

Question ID : **1841221689**

Q.19 M € N means 'M is brother of N'
M ≠ N means 'M is father of N'
M © N means 'M is wife of N'
M α N means 'M is sister of N'
If
P © Q € S ≠ R α T
How is R related to P?

Ans ✗ A. Nephew

✓ B. Niece

✗ C. Mother

✗ D. Aunty

Question ID : 1841221685

Q.20 Zoya is sister of Aman and mother of Anu. Aman is grandson of Neha and father of Fahad.
Fahad is son of Hira. How is Hira related to Anu?

Ans ✗ A. Mother

✗ B. Sister

✓ C. Aunty

✗ D. Sister-in-law

Question ID : 1841221684

Section : **General Awareness**

Q.1 Which of these association conferred the 'International Lifetime Achievement Award in Neurosurgery' to Dr Basant Kumar Misra?

Ans ✗ A. ASIAN CONGRESS of Neurological Surgeons

✓ B. AMERICAN ASSOCIATION of Neurological Surgeons

✗ C. AFRICAN FEDERATION of Neurosurgical Societies

✗ D. AMERICAN ACADEMY of Neurological Surgery

Question ID : 1841221698

Q.2 How many aircrafts and helicopters took part in fly-past in 73rd Republic Day celebrations at Rajpath?

Ans ✗ A. 48

✗ B. 67

✓ C. 75

✗ D. 59

Question ID : 1841221707

Q.3 Which of the following was established by Dr. Atma Ram Pandurang?

Ans ✗ A. Parmahansa Mandali

✗ B. Brahmo Samaj

✗ C. Arya Samaj

✓ D. Prarthana Samaj

Question ID : 1841221704

Q.4 **Which of the following port is the premier iron ore exporting port of India?**

Ans   ✗ A. Deendayal Port

✓ B. Marmagao port

✗ C. Jawaharlal Nehru port

✗ D. New Mangalore port

Question ID : 1841221712

Q.5 **Clause k of Article 51A "who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years" was added by the _____ Constitution Amendment Act 2002.**

Ans   ✗ A. 70th

✗ B. 92nd

✗ C. 73rd

✓ D. 86th

Question ID : 1841221715

Q.6 **Which of these is NOT a part of The North-Eastern Plateau Region of India?**

Ans   ✗ A. West Bengal

✗ B. Chhotanagpur (Jharkhand)

✓ C. Tamil Nadu uplands

✗ D. Odisha Plateau

Question ID : 1841221710

Q.7 **Hindustani vocalists Kumar Gandharva's and Bhimsen Joshi's places of birth is located in _____.**

Ans   ✗ A. Tamil Nadu

✗ B. Kerala

✗ C. Madhya Pradesh

✓ D. Karnataka

Question ID : 1841221706

Q.8 **Who among the following received Aryabhata Award from Astronautical Society of India in October 2021?**

Ans   ✗ A. Dr Kamlesh Lulla

✗ B. Dr Ashwin Vasavada

✗ C. Dr B. N. Suresh

✓ D. Dr G. Satheesh Reddy

Question ID : 1841221697

Q.9 Which of these constellations is visible during winter in the early part of the night and looks like a distorted letter W or M?

Ans   ✗ A. Orion

✗ B. Canis Major

✓ C. Cassiopeia

✗ D. Ursa Minor

Question ID : 1841221713

Q.10 As per the estimation of Scholars, what was the total number of wells in Mohenjodaro?

Ans   ✗ A. About 150

✗ B. About 250

✗ C. About 500

✓ D. About 700

Question ID : 1841221705

Q.11 Which of these group has radial symmetry?

Ans   ✗ A. Porifera

✗ B. Annelida

✓ C. Cnidaria / Coelenterata

✗ D. Platyhelminthes

Question ID : 1841221714

Q.12 As per census 2011, what was the literacy rate of Kerala?

Ans   ✗ A. 96%

✗ B. 97%

✗ C. 95%

✓ D. 94%

Question ID : 1841221711

Q.13 Harishena was a poet and a minister at the court of _____.

Ans   ✗ A. Chandragupta II

✓ B. Samudragupta

✗ C. Akbar

✗ D. Ashoka

Question ID : 1841221703

Q.14 In which year, Industrial Finance Corporation of India (IFCI) became Public Limited Company?

Ans ✗ A. 1964

✗ B. 1985

✗ C. 1955

✓ D. 1993

Question ID : 1841221709

Q.15 In how many days, India administered 100 million doses of coronavirus vaccines and became the fastest country in the world in administration of coronavirus vaccines?

Ans ✗ A. 100 days

✗ B. 65 days

✓ C. 85 days

✗ D. 125 days

Question ID : 1841221700

Q.16 Which of these is NOT a constitutional body?

Ans ✗ A. National Commission for Scheduled Castes

✗ B. National Commission for Scheduled Tribes

✓ C. National Commission for Minorities

✗ D. National Commission for Backward Classes

Question ID : 1841221716

Q.17 Which of these state government has introduced a 'Back to Work' scheme for women who have had to quit their jobs due to family reasons?

Ans ✗ A. Gujarat

✗ B. Madhya Pradesh

✓ C. Rajasthan

✗ D. Karnataka

Question ID : 1841221699

Q.18 Which of the following are the three new member countries of the International Cricket Council (ICC) inducted in July 2021?

Ans ✗ A. Bermuda, Canada and Switzerland

✗ B. Mongolia, Afghanistan and Switzerland

✗ C. Mongolia, Bermuda and Canada

✓ D. Mongolia, Tajikistan and Switzerland

Question ID : 1841221702

Q.19 In which year Microfinance Institutions Network (MFIN) was recognised by the Reserve Bank of India (RBI) as India's first Self-Regulatory Organization (SRO) for the Non-Banking Financial Company - Micro Finance Institutions (NBFC-MFIs)?

Ans
✗ A. 2012

✗ B. 2010

✓ C. 2014

✗ D. 2019

Question ID : **1841221708**

Q.20 Who has become the first Indian to be selected for judging the gymnastics competition of the Olympic Games?

Ans
✗ A. Vantika Agarwal

✗ B. Sunil Chhetri

✗ C. Sanjeet Kumar

✓ D. Deepak Kabra

Question ID : **1841221701**

Section : **Arithmetic Ability**

Q.1 If three positive numbers are in the ratio 2 : 3 : 5 whose L.C.M. is 2400, then find the H.C.F. of the three numbers.

Ans
✗ A. 90

✓ B. 80

✗ C. 60

✗ D. 75

Question ID : **1841221719**

Q.2 How many granites whose length and breadth are 24 cm and 6 cm respectively will be needed to fit in a rectangular region whose length and breadth are 576 cm and 120 cm respectively?

Ans
✗ A. 460

✓ B. 480

✗ C. 510

✗ D. 420

Question ID : **1841221730**

Q.3 Simple interest on a certain sum of money for 3 years at 8% per annum is one-third the compound interest on Rs. 24,000 for 2 years at 10% per annum. What is the sum (in Rs.) placed on simple interest?

Ans
✗ A. 8050

✗ B. 7620

✗ C. 8300

✓ D. 7000

Question ID : **1841221725**

Q.4 A salesman completes a journey in 12 hours. He travels first one-third of the journey at the rate of 15 km/hr and second two-third of the journey at the rate of 18 km/hr. What is his total journey in km?

Ans ✅ A. 202.50

❌ B. 198.75

❌ C. 210.25

❌ D. 218.50

Question ID : 1841221729

Q.5 A mixture contains 10% water in the milk. How much water should be added to the mixture of one litre such that the water percentage goes up to 25%?

Ans ✅ A. 200 ml

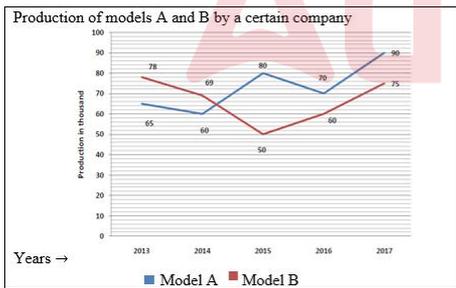❌ B. 350 ml

❌ C. 250 ml

❌ D. 400 ml

Question ID : 1841221722

Q.6 $The\ value\ of\ \dfrac{1.69 \times 0.81 \times 1.21}{0.09 \times 0.13 \times 0.11}\ is:$

Ans ❌ A. 1,325

❌ B. 1,439

❌ C. 1,278

✅ D. 1,287

Question ID : 1841221717

Q.7 The following line graph shows the two different models A and B produced (in thousands) by a certain company in five years 2013 - 2017.

Production of models A and B by a certain company

What is the average number of model A production by the company in all five years 2013-2017?

Ans ❌ A. 71000

❌ B. 64200

❌ C. 66400

✅ D. 73000

Question ID : 1841221736

Q.8 A banker claims to be loaning money at simple interest, he includes the interest every six months for calculating the principal. If he is charging an interest of 8%, then the effective rate of interest is:

Ans ✗ A. 8.08%

✗ B. 8.32%

✓ C. 8.16%

✗ D. 8.24%

Question ID : 1841221724

Q.9 The following tables shows the percentage-wise distribution of lecturers and ratio of males and females' lecturers in five different subjects A, B, C, D and E in a certain University during the year 2021. Total number of lecturers is 1200.

Subjects	% distribution	Ratio of Males : Females
A	32	5 : 3
B	20	1 : 3
C	18	5 : 1
D	14	2 : 5
E	16	3 : 5

What is the difference between the total number of male lecturers in subjects B and C together and the total number of lecturers in a subject E?

Ans ✗ A. 52

✗ B. 56

✗ C. 45

✓ D. 48

Question ID : 1841221734

Q.10 यदि एक पूर्णांक 'n' क्रमशः 3, 5 और 12 से विभाज्य है, तो इन सभी संख्याओं से विभाज्य अगला बड़ा धनात्मक पूर्णांक क्या होगा?

Ans ✗ A. n + 120

✗ B. n + 90

✓ C. n + 60

✗ D. n + 30

Question ID : 1841221721

Q.11 The curved surface area of a right circular cylinder is same as the surface area of a sphere. If the diameter and height of a right circular cylinder are 8 cm and 16 cm respectively, then what is the radius of the sphere in cm?

Ans ✓ A. $4\sqrt{2}$

✗ B. $6\sqrt{2}$

✗ C. $5\sqrt{2}$

✗ D. $8\sqrt{2}$

Question ID : 1841221731

Q.12 In covering a distance of 360 km, a person A takes 3 hours more than another person B. If A triples his speed, then he would take 2 hours less than B. What is the speed (in km/hr) of A?

Ans
- ✗ A. 52
- ✔ B. 48
- ✗ C. 45
- ✗ D. 36

Question ID : 1841221728

Q.13 If 4 males or 5 females can cultivate a rose field in 30 days, then how long will 7 male and 10 female take to cultivate it?

Ans
- ✔ A. 8
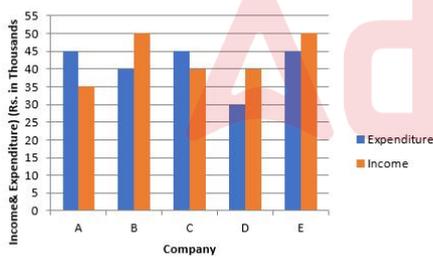- ✗ B. 12
- ✗ C. 7
- ✗ D. 9

Question ID : 1841221726

Q.14 The length of a rectangle is two-third of the radius of a circle. The radius of the circle is equal to the side of the square, whose area is $1296 \ cm^2$. If the breadth of the rectangle is 9 cm, then what is the area (in cm^2) of the rectangle?

Ans
- ✗ A. 234
- ✗ B. 207
- ✗ C. 189
- ✔ D. 216

Question ID : 1841221732

Q.15 The following bar-graph represents the income and expenditures (Rs.in thousands) of five companies A, B, C, D and E in the year 2021:

Which company suffered the maximum percentage of loss in the year 2021?

Ans
- ✗ A. C
- ✔ B. A
- ✗ C. B
- ✗ D. E

Question ID : 1841221735

Q.16 The following table represents the classification of 100 students on the basis of marks obtained by them in two different papers I and II in an entrance examination during the year 2020.

Subject	Out of 50 marks				
	40 and above	30 and above	20 and above	10 and above	0 and above
Paper I	14	38	68	86	100
Paper II	10	26	60	82	100
Aggregate	12	30	62	84	100

What is the number of students with less than 60% marks in total?

Ans ✅ A. 70

❌ B. 54

❌ C. 38

❌ D. 62

Question ID : 1841221733

Q.17 If $x = \dfrac{\sqrt{a}+\sqrt{b}}{\sqrt{a}-\sqrt{b}}$ and $y = \dfrac{\sqrt{a}-\sqrt{b}}{\sqrt{a}+\sqrt{b}}$, where $a > b > 0$, then find $\dfrac{x+y}{0.5}$.

Ans

✅ A. $4\left(\dfrac{a+b}{a-b}\right)$

❌ B. $\left(\dfrac{a+b}{a-b}\right)$

❌ C. $2\left(\dfrac{a+b}{a-b}\right)$

❌ D. $4\left(\dfrac{a-b}{a+b}\right)$

Question ID : 1841221718

Q.18 A shopkeeper sold two chairs for Rs. 4725 each. On one chair, he gains 20% and on the other chair 20% loss What is the total gain or loss percentage in the whole transaction?

Ans ❌ A. 5.12% loss

✅ B. 4.17% loss

❌ C. No loss or no profit

❌ D. 4.81% profit

Question ID : 1841221723

Q.19 A person leaves his office every day at 5.30 p.m. and reaches home at 7.00 p.m. One day, he left his office at 5.30 p.m. but travelled a third of the distance at $\frac{2}{3}$ of the usual speed. At how many times, his normal speed did he travel the remaining part of the journey if he managed to reach home on time?

Ans

✔ A. $\dfrac{3}{2}$

✘ B. $\dfrac{4}{9}$

✘ C. $\dfrac{4}{3}$

✘ D. $\dfrac{5}{3}$

Question ID : **1841221727**

Q.20 Simplify: $\dfrac{2}{5}$ of $\dfrac{4}{9}$ of $5600 - \dfrac{2}{3}$ of $\dfrac{1}{5}$ of $\dfrac{7}{9}$ of 2160

Ans

✘ A. 828

✘ B. 841

✘ C. 727

✔ D. 772

Question ID : **1841221720**

Section : **General English**

Q.1 Select the correct synonym of the given word.
Feeble

Ans

✘ A. famous

✔ B. frail

✘ C. funny

✘ D. fluent

Question ID : **1841221741**

Q.2 Fill in the blank with the most appropriate word.
She is cut out _____ a career in acting.

Ans

✔ A. for

✘ B. to

✘ C. at

✘ D. in

Question ID : **1841221737**

Q.3 **Fill in the blank with the most appropriate word.**
By the time we arrived home, the children _____.

Ans ✖ A. went

✔ B. had gone

✖ C. were going

✖ D. have gone

Question ID : **1841221739**

Q.4 **Select the correctly spelt word.**

Ans ✖ A. Pavileon

✔ B. Pavilion

✖ C. Pavillion

✖ D. Pavelion

Question ID : **1841221746**

Q.5 **Select the correct antonym of the given word.**
Elude

Ans ✖ A. evade

✔ B. encounter

✖ C. escape

✖ D. eschew

Question ID : **1841221742**

Q.6 **Select the incorrectly spelt word.**

Ans ✔ A. Acclamatize

✖ B. Vengeance

✖ C. Unconscious

✖ D. Maleficent

Question ID : **1841221747**

Q.7 **Select the correct meaning of the given proverb.**
All that glitters is not gold

Ans ✔ A. things may not be as valuable as they seem

✖ B. it is not easy to find pure gold

✖ C. if something does not shine, it cannot be gold

✖ D. purity of metals determines their value

Question ID : **1841221745**

Q.8 **Fill in the blank with the most appropriate word.**
She _____ poetry since she was six years old.

Ans ✗ A. wrote

✗ B. is writing

✓ C. has been writing

✗ D. was writing

Question ID : 1841221740

Q.9 **Identify the grammatically correct sentence.**

Ans ✗ A. He had take part in the dance competition as he couldn't sprained his ankle.

✗ B. The dance competition he had sprained in his ankle as he couldn't take part.

✗ C. He couldn't sprained his ankle in the dance competition as he had take part.

✓ D. He couldn't take part in the dance competition as he had sprained his ankle.

Question ID : 1841221748

Q.10 **Fill in the blank with the most appropriate word.**
The ____was caught with a consignment of _____.

Ans ✓ A. heroine, heroin

✗ B. heroin, heroin

✗ C. heroine, heroine

✗ D. heroin, heroine

Question ID : 1841221743

Q.11 **Fill in the blank with the most appropriate word.**
It is time to go to work _____.

Ans ✓ A. now

✗ B. yet

✗ C. still

✗ D. often

Question ID : 1841221738

Q.12 **Fill in the blank with the most appropriate word.**
My cousin _____ that she had been neglecting her studies.

Ans ✓ A. confessed

✗ B. continued

✗ C. consoled

✗ D. conducted

Question ID : 1841221750

Q.13 Fill in the blank with the most appropriate word.
The situation calls for _____ action by the government.

Ans ✗ A. sharp

✓ B. prompt

✗ C. fluent

✗ D. eager

Question ID : **1841221751**

Q.14 Select the correct meaning of the given idiom.
Eat like a horse

Ans ✗ A. to eat while standing

✓ B. to have a large appetite

✗ C. to eat very slowly

✗ D. to make a mess while eating

Question ID : **1841221744**

Q.15 Arrange the following sentences in the correct order to form a meaningful paragraph.
A. Yet, most patients with the problem choose to neglect it.
B. These could range from pain to blurred vision.
C. It manifests as a complex condition with a host of symptoms.
D. Migraine is much more than a severe headache.

Ans ✓ A. DCBA

✗ B. CBAD

✗ C. CADB

✗ D. DABC

Question ID : **1841221749**

Comprehension:

Read the passage given below and answer the questions that follow.

Each drop represents a little bit of creation and of life itself. When the monsoon brings to northern India the first rains of summer, the parched earth opens its pores and quenches its thirst with a hiss of ecstasy. After baking in the sun for the last few months, the land looks cracked, dusty and tired. Now, almost overnight, new grass springs up, there is renewal everywhere, and the damp earth releases a fragrance sweeter than any devised by man. Water brings joy to earth, grass, leaf, bud, blossom, insect, bird, animal and the pounding heart of man. Small children run out of their homes to romp naked in the rain. Buffaloes, which have spent the summer listlessly around lakes gone dry, now plunge into a heaven of muddy water. Soon the lakes and rivers will overflow with the monsoon's generosity. Trekking in the Himalayan foothills, I recently walked for kilometres without encountering habitation. I was just scolding myself for not having brought along a water bottle, when I came across a patch of green on a rock face. I parted a curtain of tender maiden hair fern and discovered a tiny spring issuing from the rock --nectar for the thirsty traveller.

I stayed there for hours, watching the water descend, drop by drop, into a tiny casement in the rocks. Each drop reflected creation. That same spring, I later discovered, joined other springs to form a swift, tumbling stream, which went cascading down the hill into other streams until, in the plains, it became part of a river. And that river flowed into another mightier river that kilometres later emptied into the ocean. Be like water, taught Laotzu, philosopher and founder of Taoism. Soft and limpid, it finds its way through, over or under any obstacle. It does not quarrel; it simply moves on.

SubQuestion No : 16

Q.16 Which of the following words is most similar in meaning to the word 'pounding' as used in para 2 of the passage?

Ans ✗ A. shaking

✓ B. palpitating

✗ C. benumbing

✗ D. sinking

Question ID : **1841221756**

Comprehension:

Read the passage given below and answer the questions that follow.

Each drop represents a little bit of creation and of life itself. When the monsoon brings to northern India the first rains of summer, the parched earth opens its pores and quenches its thirst with a hiss of ecstasy. After baking in the sun for the last few months, the land looks cracked, dusty and tired. Now, almost overnight, new grass springs up, there is renewal everywhere, and the damp earth releases a fragrance sweeter than any devised by man. Water brings joy to earth, grass, leaf, bud, blossom, insect, bird, animal and the pounding heart of man. Small children run out of their homes to romp naked in the rain. Buffaloes, which have spent the summer listlessly around lakes gone dry, now plunge into a heaven of muddy water. Soon the lakes and rivers will overflow with the monsoon's generosity. Trekking in the Himalayan foothills, I recently walked for kilometres without encountering habitation. I was just scolding myself for not having brought along a water bottle, when I came across a patch of green on a rock face. I parted a curtain of tender maiden hair fern and discovered a tiny spring issuing from the rock --nectar for the thirsty traveller.

I stayed there for hours, watching the water descend, drop by drop, into a tiny casement in the rocks. Each drop reflected creation. That same spring, I later discovered, joined other springs to form a swift, tumbling stream, which went cascading down the hill into other streams until, in the plains, it became part of a river. And that river flowed into another mightier river that kilometres later emptied into the ocean. Be like water, taught Laotzu, philosopher and founder of Taoism. Soft and limpid, it finds its way through, over or under any obstacle. It does not quarrel; it simply moves on.

SubQuestion No : 17

Q.17 The tiny spring finally became a part of:

Ans ✓ A. the ocean

✗ B. a river

✗ C. a stream

✗ D. a hill

Question ID : **1841221754**

Comprehension:

Read the passage given below and answer the questions that follow.

Each drop represents a little bit of creation and of life itself. When the monsoon brings to northern India the first rains of summer, the parched earth opens its pores and quenches its thirst with a hiss of ecstasy. After baking in the sun for the last few months, the land looks cracked, dusty and tired. Now, almost overnight, new grass springs up, there is renewal everywhere, and the damp earth releases a fragrance sweeter than any devised by man. Water brings joy to earth, grass, leaf, bud, blossom, insect, bird, animal and the pounding heart of man. Small children run out of their homes to romp naked in the rain. Buffaloes, which have spent the summer listlessly around lakes gone dry, now plunge into a heaven of muddy water. Soon the lakes and rivers will overflow with the monsoon's generosity. Trekking in the Himalayan foothills, I recently walked for kilometres without encountering habitation. I was just scolding myself for not having brought along a water bottle, when I came across a patch of green on a rock face. I parted a curtain of tender maiden hair fern and discovered a tiny spring issuing from the rock --nectar for the thirsty traveller.

I stayed there for hours, watching the water descend, drop by drop, into a tiny casement in the rocks. Each drop reflected creation. That same spring, I later discovered, joined other springs to form a swift, tumbling stream, which went cascading down the hill into other streams until, in the plains, it became part of a river. And that river flowed into another mightier river that kilometres later emptied into the ocean. Be like water, taught Laotzu, philosopher and founder of Taoism. Soft and limpid, it finds its way through, over or under any obstacle. It does not quarrel; it simply moves on.

SubQuestion No : 18

Q.18 What important lesson can we learn from water?

Ans ✔️ A. to move on, making our way through obstacles

❌ B. to lose our identity

❌ C. to value natural resources

❌ D. to rejuvenate others

Question ID : **1841221757**

Comprehension:

Read the passage given below and answer the questions that follow.

Each drop represents a little bit of creation and of life itself. When the monsoon brings to northern India the first rains of summer, the parched earth opens its pores and quenches its thirst with a hiss of ecstasy. After baking in the sun for the last few months, the land looks cracked, dusty and tired. Now, almost overnight, new grass springs up, there is renewal everywhere, and the damp earth releases a fragrance sweeter than any devised by man. Water brings joy to earth, grass, leaf, bud, blossom, insect, bird, animal and the pounding heart of man. Small children run out of their homes to romp naked in the rain. Buffaloes, which have spent the summer listlessly around lakes gone dry, now plunge into a heaven of muddy water. Soon the lakes and rivers will overflow with the monsoon's generosity. Trekking in the Himalayan foothills, I recently walked for kilometres without encountering habitation. I was just scolding myself for not having brought along a water bottle, when I came across a patch of green on a rock face. I parted a curtain of tender maiden hair fern and discovered a tiny spring issuing from the rock --nectar for the thirsty traveller.

I stayed there for hours, watching the water descend, drop by drop, into a tiny casement in the rocks. Each drop reflected creation. That same spring, I later discovered, joined other springs to form a swift, tumbling stream, which went cascading down the hill into other streams until, in the plains, it became part of a river. And that river flowed into another mightier river that kilometres later emptied into the ocean. Be like water, taught Laotzu, philosopher and founder of Taoism. Soft and limpid, it finds its way through, over or under any obstacle. It does not quarrel; it simply moves on.

SubQuestion No : 19

Q.19 The tiny spring issuing from the rock was hidden by:

Ans ✔️ A. Fern

❌ B. Curtain

❌ C. Grass

❌ D. Mud

Question ID : **1841221753**

Comprehension:

Read the passage given below and answer the questions that follow.

Each drop represents a little bit of creation and of life itself. When the monsoon brings to northern India the first rains of summer, the parched earth opens its pores and quenches its thirst with a hiss of ecstasy. After baking in the sun for the last few months, the land looks cracked, dusty and tired. Now, almost overnight, new grass springs up, there is renewal everywhere, and the damp earth releases a fragrance sweeter than any devised by man. Water brings joy to earth, grass, leaf, bud, blossom, insect, bird, animal and the pounding heart of man. Small children run out of their homes to romp naked in the rain. Buffaloes, which have spent the summer listlessly around lakes gone dry, now plunge into a heaven of muddy water. Soon the lakes and rivers will overflow with the monsoon's generosity. Trekking in the Himalayan foothills, I recently walked for kilometres without encountering habitation. I was just scolding myself for not having brought along a water bottle, when I came across a patch of green on a rock face. I parted a curtain of tender maiden hair fern and discovered a tiny spring issuing from the rock --nectar for the thirsty traveller.

I stayed there for hours, watching the water descend, drop by drop, into a tiny casement in the rocks. Each drop reflected creation. That same spring, I later discovered, joined other springs to form a swift, tumbling stream, which went cascading down the hill into other streams until, in the plains, it became part of a river. And that river flowed into another mightier river that kilometres later emptied into the ocean. Be like water, taught Laotzu, philosopher and founder of Taoism. Soft and limpid, it finds its way through, over or under any obstacle. It does not quarrel; it simply moves on.

SubQuestion No : 20

Q.20 How do children respond to the first rain?

Ans ✗ A. by jumping into the muddy water

✓ B. by running and playing in the rain

✗ C. by sniffing the fragrance of damp earth

✗ D. by bathing in lakes and rivers

Question ID : **1841221755**

Section : **General Hindi**

Q.1 विलोम युग्म की दृष्टि से अनुचित विकल्प है-

Ans ✗ A. क्षर - अक्षर

✗ B. एकतंत्र - बहुतंत्र

✗ C. ऋजु - वक्र

✓ D. उद्यम - उर्वर

Question ID : **1841221766**

Q.2 इनमें कौनसा आसन्न भूतकाल वाला वाक्य नहीं है?

Ans ✗ A. आपने कई पुस्तकें लिखी हैं।

✗ B. उसने बढ़ाई का कार्य किया है।

✓ C. वे आपको बुलाते हैं।

✗ D. उसने अभी नहाया है।

Question ID : **1841221769**

Q.3 किस विकल्प में लोकोक्ति और उसका अर्थ सुमेलित नहीं है?

Ans   ✗ A. आवां का आवां बिगाड़ना – परिवार के सभी लोगों का बिगड़ जाना

     ✗ B. आगे कुआं, पीछे खाई – दोनों ओर विपत्ति होना

     ✓ C. एक अनार सौ बीमार – बेमेल चीजें जिनमें सामंजस्य का आभाव

     ✗ D. अपना हाथ जगन्नाथ – अपना काम अपने हाथों से करना फलदाई

Question ID : 1841221768

Q.4 'संवाददाता' का पर्यायवाची शब्द नहीं है-

Ans   ✗ A. समाचारदाता

     ✗ B. नमानिगार

     ✓ C. विवर्धक

     ✗ D. प्रतिवेदक

Question ID : 1841221764

Q.5 मुझे संस्कृत का _____ ज्ञान नहीं है। उचित शब्द का चयन कर वाक्य पूर्ण कीजिए।

Ans   ✗ A. मानसिक

     ✗ B. भौतिकी

     ✗ C. व्यवहारिक

     ✓ D. व्यावहारिक

Question ID : 1841221771

Q.6 इनमें कौनसा अनिश्चित संख्यावाचक विशेषण है?

Ans   ✗ A. बहुत दूध

     ✗ B. सारा देश

     ✓ C. बहुत आदमी

     ✗ D. सब जंगल

Question ID : 1841221760

Q.7 इनमें 'मशहूर' का पर्यायवाची शब्द कौनसा है?

Ans   ✗ A. ठट्ठेबाज

     ✗ B. नवनीत

     ✓ C. लब्ध प्रतिष्ठ

     ✗ D. ख्याति

Question ID : 1841221763

Q.8 कारक प्रयोग की दृष्टि से अशुद्ध वाक्य है-

Ans   ✘ A. आपने एक को भी नहीं देखा।

  ✔ B. मैं यह पुस्तक पढ़ा हूँ।

  ✘ C. बहन ने कहा है कि कल से पढाई होगी।

  ✘ D. बालिका ने कहा था।

Question ID : **1841221759**

Q.9 किस वाक्य में 'मत' (आज्ञा के लिए) का प्रयोग अशुद्ध और अनुचित है?

Ans   ✘ A. मैंने उसको बोला कि कल से मत आना।

  ✘ B. आप यहाँ से मत जाएइ।

  ✔ C. कार मत तेज मत चलाओ।

  ✘ D. जब तक मैं नहीं आऊँ तुम दफ़्तर बंद मत करना।

Question ID : **1841221772**

Q.10 किस विकल्प में शब्द का संधि विच्छेद अनुचित है?

Ans   ✘ A. नम: + कार = नमस्कार

  ✔ B. विस्म + अरण = विस्मरण

  ✘ C. अहन् + रात्र = अहोरात्र

  ✘ D. वि + सर्ज = विसर्ग

Question ID : **1841221762**

Q.11 'अतिवृष्टि' का विलोम युग्म कौनसा है?

Ans   ✘ A. अकाल

  ✔ B. अनावृष्टि

  ✘ C. सूखा

  ✘ D. उपवृष्टि

Question ID : **1841221765**

Q.12 किस वाक्य में कर्ता और क्रिया का समन्वय नहीं है?

Ans   ✘ A. सुदामा, राम या श्याम जाएगा।

  ✔ B. राम और सीता आई।

  ✘ C. अध्यापक, कर्मचारी अथवा छात्रा खेल रही थी।

  ✘ D. एक झोंपड़ी और दो तम्बू जल गए।

Question ID : **1841221770**

Q.13 कर्म कारक की विभक्ति कौनसी है?

Ans ✅ A. को

✗ B. की

✗ C. का

✗ D. के

Q.14 इनमें 'नहार तोड़ना' मुहावरे का अर्थ है-

Ans ✅ A. जलपान कर लेना

✗ B. बहुतायत कर देना

✗ C. न खाना

✗ D. बिना कुछ खाये-पिये

Q.15 'पुरस्कार' शब्द का उचित संधि विच्छेद है-

Ans ✗ A. पु + रस्कार

✅ B. पुरः + कार

✗ C. पुर + स्कार

✗ D. पुरस + कार

Comprehension:

दिये गए गध्यांश को ध्यानपूर्वक पढ़ें और दिये गए प्रश्नों का उत्तर दीजिये।

राम की रावण के ऊपर विजय उतनी महत्वपूर्ण नहीं है जितनी राम की प्रजा के मनोविज्ञान के ऊपर यह विजय। राम का वैयक्तिक जीवन अपनी प्राण-सहचरी के प्रति इस गंभीर-स्नेह-भावना से सर्वथा परिप्लावित है और वे सामाजिक समरसता के प्रतीक तो चाहें बाद में बनें, वैयक्तिक समरसता के तो वे मूर्तिमान उदाहरण हैं। संभवत: लोक से अधिक वे व्यक्ति में ही सफल हुए हैं जब कि भगवान श्रीकृष्ण का व्यक्तिगत संबंध किसी से है ही नहीं, जिनकी इंद्रियों को शतसहस्त्र रमणियों की कुहक विमथित नहीं कर सकी थी, जिन्हें पुत्र-पौत्रादि का सुख एक क्षण भी खींच नहीं सका, जिन्हें स्वजनों का विनाश भी लोकहित के लिए अभीष्ट हो गया था और जिन्हें जीवन भर विराट विरक्ति बनी रही अपने व्यक्तित्व के प्रति। पर हाय री विडंबने, वे कृष्ण प्रेम के आराध्य देवता हो गए, वे जादूवाले कन्हैया हो गए और कामुकता के लिए एक सुलभ आलंबन। राम की लोकप्रियता का श्रेय लोक-रंजन को आज तक भले ही दिया जाता रहा हो, पर मेरी दृष्टि में यह श्रेय उनकी व्यक्ति की पूर्णतया को अधिक देना चाहिए। राम लोक-हृदय पर विजयी हुए हैं इसलिए कि वे अपने ऊपर विजयी हैं, कृष्ण अपने ऊपर विजयी आपातत: हैं, इसे उन्होंने साधन बनाया है अपने लोक-विजय के लिए दोनों के महान चरित्रों का यही विश्लेषण है और दोनों के आदर्श पृथक-पृथक क्षेत्रों में हैं, इसे एक दूसरे के साथ मिलाना नहीं चाहिए।

SubQuestion No : 16

Q.16 गध्यांश के लिए अधिक उपयुक्त शीर्षक कौनसा है?

Ans ✗ A. राम की भक्ति और शक्ति

✗ B. राम तथा कृष्ण की तुलना

✗ C. कृष्ण की महत्ता

✅ D. राम और कृष्ण की लोक-विजय

Comprehension:

दिये गए गध्यांश को ध्यानपूर्वक पढ़ें और दिये गए प्रश्नों का उत्तर दीजिये।

राम की रावण के ऊपर विजय उतनी महत्वपूर्ण नहीं है जितनी राम की प्रजा के मनोविज्ञान के ऊपर यह विजय। राम का वैयक्तिक जीवन अपनी प्राण-सहचरी के प्रति इस गंभीर-स्नेह-भावना से सर्वथा परिप्लावित है और वे सामाजिक समरसता के प्रतीक तो चाहें बाद में बनें, वैयक्तिक समरसता के तो वे मूर्तिमान उदाहरण हैं। संभवत: लोक से अधिक वे व्यक्ति में ही सफल हुए हैं जब कि भगवान श्रीकृष्ण का व्यक्तिगत संबंध किसी से है ही नहीं, जिनकी इंद्रियों को शतसहस्त्र रमणियों की कुहक विमथित नहीं कर सकी थी, जिन्हें पुत्र-पौत्रादि का सुख एक क्षण भी खींच नहीं सका, जिन्हें स्वजनों का विनाश भी लोकहित के लिए अभीष्ट हो गया था और जिन्हें जीवन भर विराट विरक्ति बनी रही अपने व्यक्तित्व के प्रति। पर हाय री विडंबने, वे कृष्ण प्रेम के आराध्य देवता हो गए, वे जादूवाले कन्हैया हो गए और कामुकता के लिए एक सुलभ आलंबन। राम की लोकप्रियता का श्रेय लोक-रंजन को आज तक भले ही दिया जाता रहा हो, पर मेरी दृष्टि में यह श्रेय उनकी व्यक्ति की पूर्णतया को अधिक देना चाहिए। राम लोक-हृदय पर विजयी हुए हैं इसलिए कि वे अपने ऊपर विजयी हैं, कृष्ण अपने ऊपर विजयी आपातत: हैं, इसे उन्होंने साधन बनाया है अपने लोक-विजय के लिए दोनों के महान चरित्रों का यही विश्लेषण है और दोनों के आदर्श पृथक-पृथक क्षेत्रों में हैं, इसे एक दूसरे के साथ मिलाना नहीं चाहिए।

SubQuestion No : 17

Q.17 राम लोक-हृदय पर क्यों विजयी हुए हैं?

Ans ✗ A. इसलिए की वे प्रजा को महत्व देते थे।

✓ B. इसलिए कि वे अपने ऊपर विजयी हैं।

✗ C. इसलिए कि लोक से अधिक वे व्यक्ति में ही सफल हुए हैं।

✗ D. इसलिए के उन्होंने रावण को पराजित किया था।

Question ID : 1841221776

Comprehension:

दिये गए गध्यांश को ध्यानपूर्वक पढ़ें और दिये गए प्रश्नों का उत्तर दीजिये।

राम की रावण के ऊपर विजय उतनी महत्वपूर्ण नहीं है जितनी राम की प्रजा के मनोविज्ञान के ऊपर यह विजय। राम का वैयक्तिक जीवन अपनी प्राण-सहचरी के प्रति इस गंभीर-स्नेह-भावना से सर्वथा परिप्लावित है और वे सामाजिक समरसता के प्रतीक तो चाहें बाद में बनें, वैयक्तिक समरसता के तो वे मूर्तिमान उदाहरण हैं। संभवत: लोक से अधिक वे व्यक्ति में ही सफल हुए हैं जब कि भगवान श्रीकृष्ण का व्यक्तिगत संबंध किसी से है ही नहीं, जिनकी इंद्रियों को शतसहस्त्र रमणियों की कुहक विमथित नहीं कर सकी थी, जिन्हें पुत्र-पौत्रादि का सुख एक क्षण भी खींच नहीं सका, जिन्हें स्वजनों का विनाश भी लोकहित के लिए अभीष्ट हो गया था और जिन्हें जीवन भर विराट विरक्ति बनी रही अपने व्यक्तित्व के प्रति। पर हाय री विडंबने, वे कृष्ण प्रेम के आराध्य देवता हो गए, वे जादूवाले कन्हैया हो गए और कामुकता के लिए एक सुलभ आलंबन। राम की लोकप्रियता का श्रेय लोक-रंजन को आज तक भले ही दिया जाता रहा हो, पर मेरी दृष्टि में यह श्रेय उनकी व्यक्ति की पूर्णतया को अधिक देना चाहिए। राम लोक-हृदय पर विजयी हुए हैं इसलिए कि वे अपने ऊपर विजयी हैं, कृष्ण अपने ऊपर विजयी आपातत: हैं, इसे उन्होंने साधन बनाया है अपने लोक-विजय के लिए दोनों के महान चरित्रों का यही विश्लेषण है और दोनों के आदर्श पृथक-पृथक क्षेत्रों में हैं, इसे एक दूसरे के साथ मिलाना नहीं चाहिए।

SubQuestion No : 18

Q.18 गध्यांश में 'परिप्लावित' शब्द का अर्थ है -

Ans ✗ A. आश्रित

✗ B. आसक्त

✗ C. मोहित

✓ D. सराबोर

Question ID : 1841221777

Comprehension:

दिये गए गध्यांश को ध्यानपूर्वक पढ़ें और दिये गए प्रश्नों का उत्तर दीजिये।

राम की रावण के ऊपर विजय उतनी महत्वपूर्ण नहीं है जितनी राम की प्रजा के मनोविज्ञान के ऊपर यह विजय। राम का वैयक्तिक जीवन अपनी प्राण-सहचरी के प्रति इस गंभीर-स्नेह-भावना से सर्वथा परिप्लावित है और वे सामाजिक समरसता के प्रतीक तो चाहें बाद में बनें, वैयक्तिक समरसता के तो वे मूर्तिमान उदाहरण हैं। संभवत: लोक से अधिक वे व्यक्ति में ही सफल हुए हैं जब कि भगवान श्रीकृष्ण का व्यक्तिगत संबंध किसी से है ही नहीं, जिनकी इंद्रियों को शतसहस्त्र रमणियों की कुहक विमथित नहीं कर सकी थी, जिन्हें पुत्र-पौत्रादि का सुख एक क्षण भी खींच नहीं सका, जिन्हें स्वजनों का विनाश भी लोकहित के लिए अभीष्ट हो गया था और जिन्हें जीवन भर विराट विरक्ति बनी रही अपने व्यक्तित्व के प्रति। पर हाय री विडंबने, वे कृष्ण प्रेम के आराध्य देवता हो गए, वे जादूवाले कन्हैया हो गए और कामुकता के लिए एक सुलभ आलंबन। राम की लोकप्रियता का श्रेय लोक-रंजन को आज तक भले ही दिया जाता रहा हो, पर मेरी दृष्टि में यह श्रेय उनकी व्यक्ति की पूर्णतया को अधिक देना चाहिए। राम लोक-हृदय पर विजयी हुए हैं इसलिए कि वे अपने ऊपर विजयी हैं, कृष्ण अपने ऊपर विजयी आपातत: हैं, इसे उन्होंने साधन बनाया है अपने लोक-विजय के लिए दोनों के महान चरित्रों का यही विश्लेषण है और दोनों के आदर्श पृथक-पृथक क्षेत्रों में हैं, इसे एक दूसरे के साथ मिलाना नहीं चाहिए।

SubQuestion No : 19

Q.19 राम किसके मूर्तिमान उदाहरण हैं?

Ans ✗ A. सामाजिक समरसता के

✗ B. सहचरी के प्रति गंभीर-स्नेह-भावना के

✗ C. राम की रावण के ऊपर विजय के

✓ D. वैयक्तिक समरसता के

Question ID : 1841221775

Comprehension:

दिये गए गध्यांश को ध्यानपूर्वक पढ़ें और दिये गए प्रश्नों का उत्तर दीजिये।

राम की रावण के ऊपर विजय उतनी महत्वपूर्ण नहीं है जितनी राम की प्रजा के मनोविज्ञान के ऊपर यह विजय। राम का वैयक्तिक जीवन अपनी प्राण-सहचरी के प्रति इस गंभीर-स्नेह-भावना से सर्वथा परिप्लावित है और वे सामाजिक समरसता के प्रतीक तो चाहें बाद में बनें, वैयक्तिक समरसता के तो वे मूर्तिमान उदाहरण हैं। संभवत: लोक से अधिक वे व्यक्ति में ही सफल हुए हैं जब कि भगवान श्रीकृष्ण का व्यक्तिगत संबंध किसी से है ही नहीं, जिनकी इंद्रियों को शतसहस्त्र रमणियों की कुहक विमथित नहीं कर सकी थी, जिन्हें पुत्र-पौत्रादि का सुख एक क्षण भी खींच नहीं सका, जिन्हें स्वजनों का विनाश भी लोकहित के लिए अभीष्ट हो गया था और जिन्हें जीवन भर विराट विरक्ति बनी रही अपने व्यक्तित्व के प्रति। पर हाय री विडंबने, वे कृष्ण प्रेम के आराध्य देवता हो गए, वे जादूवाले कन्हैया हो गए और कामुकता के लिए एक सुलभ आलंबन। राम की लोकप्रियता का श्रेय लोक-रंजन को आज तक भले ही दिया जाता रहा हो, पर मेरी दृष्टि में यह श्रेय उनकी व्यक्ति की पूर्णतया को अधिक देना चाहिए। राम लोक-हृदय पर विजयी हुए हैं इसलिए कि वे अपने ऊपर विजयी हैं, कृष्ण अपने ऊपर विजयी आपातत: हैं, इसे उन्होंने साधन बनाया है अपने लोक-विजय के लिए दोनों के महान चरित्रों का यही विश्लेषण है और दोनों के आदर्श पृथक-पृथक क्षेत्रों में हैं, इसे एक दूसरे के साथ मिलाना नहीं चाहिए।

SubQuestion No : 20

Q.20 किसे राम की लोकप्रियता का अधिक श्रेय देना चाहिए?

Ans ✓ A. राम के व्यक्तित्व की पूर्णता को

✗ B. लोक रंजन को

✗ C. सीता की पतिव्रता को

✗ D. रावण के ज्ञान को

Question ID : 1841221774

Section : Discipline1

Q.1 The slope of the lines passing through the points (3, -2) and (7, -2) is:

Ans ✗ A. -4

✓ B. 0

✗ C. 4

✗ D. 2/3

Question ID : **1841221788**

Q.2 The heat produced in a resistor by current in time t is given by:

Ans ✗ A. $H = IRt$ joule

✗ B. $H = I^2 R/t$ joule

✗ C. $H = IR$ joule

✓ D. $H = I^2 Rt$ joule

Question ID : **1841221784**

Q.3 The unit of co-efficient of friction in S I system of unit is:

Ans ✗ A. N/m

✓ B. unit less

✗ C. N-m

✗ D. N

Question ID : **1841221795**

Q.4 What is the molar mass of water?

Ans ✗ A. 6.02 gmol^{-1}

✗ B. 36.02 gmol^{-1}

✓ C. 18.02 gmol^{-1}

✗ D. 3.0 gmol^{-1}

Question ID : **1841221780**

Q.5 The product of mass of a body and its velocity is called _____.

Ans ✗ A. Moment

✗ B. Impulse

✗ C. Work

✓ D. Momentum

Question ID : **1841221796**

Q.6 What is the order of differential equation,

$$\left(\frac{d^2 y}{dx^2}\right)^3 + y = 0$$

Ans ✓ A. 2

✗ B. 3

✗ C. 4

✗ D. 1

Question ID : 1841221790

Q.7 According to Biot-Savart law, the magnitude of the field in SI unit is given by:

Ans

✓ A. $dB = \dfrac{\mu_0 \, I \, dl \sin \theta}{4\pi \, r^2}$

✗ B. $dB = \dfrac{\mu_0 \, I \, dl \sin \theta}{4\pi \, r}$

✗ C. $dB = \dfrac{4\pi \, \mu_0 \, I \, dl \sin \theta}{r^2}$

✗ D. $dB = \dfrac{4\pi \, \mu_0 \, I \, dl \sin \theta}{r}$

Question ID : 1841221785

Q.8 According to Coulomb's law, the force between two point charges q_1 and q_2 separated by a distance r is given by:

Ans

✗ A. $F = k\dfrac{q_1 q_2}{r}$

✓ B. $F = k\dfrac{q_1 q_2}{r^2}$

✗ C. $F = k q_1 q_2 r$

✗ D. $F = k q_1 q_2$

Question ID : 1841221783

Q.9 If n_p and n_e is the number of holes and electrons respectively in an intrinsic semiconductor then:

Ans

✗ A. $n_p \, n_e = 1$

✗ B. $n_p > n_e$

✓ C. $n_p = n_e$

✗ D. $n_p < n_e$

Question ID : 1841221786

Q.10 The direction of magnetic lines of force around a straight current carrying conductor may be determined by:

Ans ✗ A. Fleming's left hand rule

✔ B. Cork screw rule

✗ C. Faraday's law

✗ D. Lenz's law

Question ID : 1841221798

Q.11 The scalar product of two non zero vectors will be zero, if and only if the angle between two vectors is:

Ans ✗ A. 0 degree

✔ B. 90 degree

✗ C. 180 degree

✗ D. 45 degree

Question ID : 1841221789

Q.12 Which term of the series 2 + 5 + 8 + ------ is 50?

Ans ✗ A. 16

✔ B. 17

✗ C. 18

✗ D. 15

Question ID : 1841221787

Q.13
$$\int \frac{dx}{\sqrt{1-x^2}} = ?$$

Ans ✗ A. $\cos^{-1} x + C$

✗ B. $-\tan x + C$

✔ C. $-\cos^{-1} x + C$

✗ D. $\tan^{-1} x + C$

Question ID : 1841221791

Q.14 One mol of water molecule contains:

Ans ✗ A. 3.022×10^{23} molecules

✔ B. 6.022×10^{23} molecules

✗ C. 1.66×10^{23} molecules

✗ D. 1.66×10^{12} molecules

Question ID : 1841221779

Q.15 The second orbit of an atom contains 6 electrons. If it's atomic mass is 17, then the number of protons in it's nucleus will be:

Ans ✗ A. 6

✓ B. 8

✗ C. 9

✗ D. 17

Question ID : 1841221781

Q.16 The oxygen dissolved in cold water can reach a concentration upto:

Ans ✗ A. 1 parts per million (ppm)

✗ B. 100 parts per million (ppm)

✓ C. 10 parts per million (ppm)

✗ D. 3 parts per million (ppm)

Question ID : 1841221782

Q.17 Find the modulus of the complex number $4 - 3i$

Ans ✓ A. 5

✗ B. 4

✗ C. 1

✗ D. 7

Question ID : 1841221792

Q.18 The tendency of forces is not only to move a body but also to rotate the body is called:

Ans ✓ A. Moment

✗ B. Force

✗ C. Inertia

✗ D. Fulcrum

Question ID : 1841221794

Q.19 The resultant of two forces 7 N and 9 N acting in opposite direction will be:

Ans ✗ A. 2 N towards 7 N

✓ B. 2 N towards 9 N

✗ C. 16 N towards 7 N

✗ D. 16 N towards 9 N

Question ID : 1841221793

Q.20 A piece of gold has a resistance of 0.8 ohm. Find the resistance of a wire of the same size and resistivity 25 times that of gold.

Ans ✗ A. 0.8 ohm

✓ B. 20 ohm

✗ C. 31.25 ohm

✗ D. 0.032 ohm

Question ID : **1841221797**

Section : **Discipline2**

Q.1 In the aligned system of placing dimensions on a prepared drawing _____.

Ans ✗ A. the dimensions are placed parallel to the dimension lines

✗ B. the dimensions are placed alwayshorizontal

✓ C. the dimensions are placed perpendicular to the dimension lines

✗ D. the dimensions are placed always vertical

Question ID : **1841221807**

Q.2 Two parallel conductors carrying current in the same direction:

Ans ✗ A. experiences no force

✓ B. attract each other

✗ C. repel each other

✗ D. sometimes attract and sometime repel

Question ID : **1841221799**

Q.3 By narrowing the space charge region, the amount of reverse voltage needed to cause zener breakdown:

Ans ✓ A. Decreases

✗ B. reduces to zero

✗ C. Increases

✗ D. has no effect

Question ID : **1841221818**

Q.4 In MKS, unit of resistivity is:

Ans ✗ A. $\dfrac{\Omega}{m^2}$

✓ B. $\Omega - m$

✗ C. $\dfrac{\Omega}{m}$

✗ D. Ω

Question ID : **1841221809**

Q.5 A diagonal scale represents:

Ans ✗ A. two units of measurement

✗ B. four units of measurement

✓ C. three units of measurement

✗ D. one units of measurement

Question ID : 1841221808

Q.6 The barrier potential of Silicon is approximately _____.

Ans ✗ A. 1.0 V

✗ B. 0.1 V

✗ C. 0.3 V

✓ D. 0.7 V

Question ID : 1841221815

Q.7 The direction of magnetic lines of force is:

Ans ✓ A. from N to S pole

✗ B. not fixed

✗ C. have no direction

✗ D. from S to N pole

Question ID : 1841221801

Q.8 The unit of representative fraction (RF) in engineering drawing is:

Ans ✗ A. Km

✓ B. unit less

✗ C. M

✗ D. Mm

Question ID : 1841221805

Q.9 Which among the following has highest permeability?

Ans ✗ A. air

✗ B. diamagnetic materials

✓ C. ferromagnetic materials

✗ D. paramagnetic materials

Question ID : 1841221813

Q.10 Which material is used for making emitters in vacuum tubes?

Ans ✗ A. Silicon

✓ B. tungesten

✗ C. carbon

✗ D. Sulphur

Question ID : 1841221812

Q.11 An AC series circuit consists of a 100 ohm resistance and a capacitor of 2 micrfarad. What will be its time constant ?

Ans
- ✗ A. 2×10^{-6} sec
- ✓ B. 2×10^{-4} sec
- ✗ C. 2×10^{-8} sec
- ✗ D. 2×10^{-5} sec

Question ID : 1841221802

Q.12 Curie temperature is the temperature at which the magnetic material:

Ans
- ✗ A. starts magnetizing
- ✗ B. behaves like insulators
- ✓ C. looses their magnetism
- ✗ D. fully magnetized

Question ID : 1841221814

Q.13 The dipoles of a dielectric are oriented in the direction of electric field, this process is called:

Ans
- ✗ A. Permittivity
- ✗ B. dielectric constant
- ✓ C. Polarization
- ✗ D. Magnetization

Question ID : 1841221811

Q.14

In the convention of lines in engineering drawing, the above figure represents.

Ans
- ✗ A. construction line
- ✗ B. centre line
- ✓ C. hidden line
- ✗ D. dimension line

Question ID : 1841221806

Q.15 Rectification efficiency and ripple factor of a full wave rectifier _____ and _____ respectively.

Ans
- ✗ A. 100%, 0.482
- ✓ B. 81.2% , 0.482
- ✗ C. 91.6% , 1.21
- ✗ D. 40.6% , 1.21

Question ID : 1841221816

Q.16 Germanium atom contains _____ valance electrons.

Ans ✔ A. 4

✘ B. 6

✘ C. 2

✘ D. 8

Question ID : **1841221810**

Q.17 The phenomenon of lagging of flux density behind the magnetizing force is called as:

Ans ✘ A. Mmf

✘ B. relative permeability

✘ C. magnetic leakage

✔ D. magnetic hysteresis

Question ID : **1841221800**

Q.18 Time constant of a capacitive circuit is defined as the time taken by the voltage to rise to _____ times final value of the voltage.

Ans ✘ A. 0.5

✘ B. 2.0

✔ C. 0.632

✘ D. 0.368

Question ID : **1841221804**

Q.19 The power consumed by a pure inductance connected to an AC circuit is:

Ans ✘ A. very high

✘ B. very low

✔ C. Zero

✘ D. Infinite

Question ID : **1841221803**

Q.20 For which purpose, L is replaced by R in π filter?

Ans ✘ A. to decrease ripple factor

✔ B. to reduce weight, cost and external field

✘ C. to increase ripple factor

✘ D. to get high dc voltage

Question ID : **1841221817**

Section : **Discipline3**

Q.1 Which one is suited best for impedance matching?

Ans ✗ A. CB Configuration

✗ B. both CE and CB Configuration

✓ C. CC Configuration

✗ D. CE Configuration

Question ID : 1841221822

Q.2 In a logic gate output will be 1 if:

Ans ✓ A. anything ORed with its own compliment

✗ B. anything ORed with itself

✗ C. anything ANDed with itself

✗ D. anything ANDed with its own compliment

Question ID : 1841221825

Q.3 In 8085 microprocessor, ____ interrupt has the lowest priority?

Ans ✓ A. INTR

✗ B. TRAP

✗ C. RST 7.5

✗ D. RST 5.5

Question ID : 1841221829

Q.4 Coal is the _____ source of energy.

Ans ✗ A. Renewable

✗ B. non conventional

✓ C. Conventional

✗ D. Primary

Question ID : 1841221836

Q.5 If 1s are applied simultaneously to both set and reset input lines of a NOR SR latch, then the mode of operation will be:

Ans ✗ A. Set

✓ B. Prohibited

✗ C. Hold

✗ D. Reset

Question ID : 1841221827

Q.6 A cable having 3 strands each of gauge 20 SWG may be represented as:

Ans ✗ A. 3-20

✗ B. 20/3

✓ C. 3/20

✗ D. 3/20 mm

Question ID : 1841221832

Q.7 The most commonly used coolant in nuclear power plant is:

Ans ✔ A. Water

✘ B. Oil

✘ C. Helium

✘ D. Carbon dioxide

Question ID : **1841221838**

Q.8 The arrow head in a transistor symbol points in the direction of:

Ans ✘ A. electron flow in the emitter region

✘ B. majority carrier flow in emitter region

✘ C. minority carrier flow in emitter region

✔ D. holes flow in the emitter region

Question ID : **1841221820**

Q.9 Convert binary number 1101.1101 into octal number:

Ans ✘ A. 15.15

✔ B. 15.64

✘ C. 13.15

✘ D. 13.13

Question ID : **1841221823**

Q.10 Pendant holders are used in domestic installation, when the lamp is to be:

Ans ✘ A. fixed at an angle

✘ B. fixed on board

✘ C. fixed on wall

✔ D. suspended vertically

Question ID : **1841221834**

Q.11 According to IE rule, the number of light/fan points connected in one sub circuit should not exceed to:

Ans ✔ A. 10

✘ B. 15

✘ C. 6

✘ D. 3

Question ID : **1841221831**

Q.12 In athermal power plant, steam energy is converted into mechanical energy by:

Ans ✘ A. Alternator

✘ B. Boiler

✘ C. Superheater

✔ D. Turbine

Question ID : **1841221837**

Q.13 A logic circuit which perform the function of half-adder has:

Ans ✗ A. 3 inputs and 2 outputs

✔ B. 2 inputs and 2 outputs

✗ C. 1 input and 2 outputs

✗ D. 2 inputs and 1 output

Question ID : 1841221828

Q.14 MCB of the family of protective devices in electrical installation stands for:

Ans ✗ A. main circuit breaker

✗ B. mini circuit breaker

✗ C. maximum current breaker

✔ D. miniature circuit breaker

Question ID : 1841221835

Q.15 For transistor action:

Ans ✗ A. emitter is moderately dopped

✗ B. collector is heavily dopped

✗ C. emitter is lightely dopped

✔ D. emitter is heavily dopped

Question ID : 1841221819

Q.16 Accumulator in 8085 microprocessor is an _____ bit register.

Ans ✗ A. 16

✗ B. 12

✔ C. 8

✗ D. 4

Question ID : 1841221830

Q.17 For a three input NOR gate, the possible number of states where output is 0 equals:

Ans ✗ A. 8

✗ B. 1

✔ C. 7

✗ D. 5

Question ID : 1841221824

Q.18 The output voltage of CE amplifier compared to its input voltage is:

Ans ✔ A. out of phase by 180°

✗ B. leading by 90°

✗ C. lagging by 90°

✗ D. in phase

Question ID : 1841221821

Q.19 According to the types of insulation used over the conductor in cables, VIR stands for:

Ans ✗ A. Very Important Rubber

✗ B. Vulcanized Intense Rubber

✗ C. Vinyl IntenseRubber

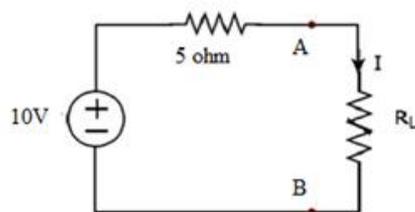✓ D. Vulcanized Indian Rubber

Question ID : **1841221833**

Q.20 How many flip-flop are required to design Mod-20 counter?

Ans ✗ A. 10

✗ B. 4

✗ C. 20

✓ D. 5

Question ID : **1841221826**

Section : **Discipline4**

Q.1

The maximum power drawn by the load R_L in the above circuit will be

Ans ✓ A. 5 W

✗ B. 2 W

✗ C. 20 W

✗ D. 10 W

Question ID : **1841221844**

Q.2 The frame of a DC generator is made of:

Ans ✗ A. Bronze

✗ B. Aluminium

✗ C. Copper

✓ D. Cast iron

Question ID : **1841221848**

Q.3 The maximum demand on a plant is 50 kW and load factor is 0.5. find the total energy generated in a year:

Ans   ✗ A. 8.76×10^5 kWh

✔ B. 2.19×10^5 kWh

✗ C. 3.65×10^5 kWh

✗ D. 9.125×10^5 kWh

Question ID : 1841221840

Q.4 In a three phase induction motor, speed of the rotating magnetic field is called :

Ans   ✗ A. slip speed

✔ B. synchronous speed

✗ C. shaft speed

✗ D. effective speed

Question ID : 1841221853

Q.5 The algebraic sum of all the currents meeting at a point is zero, known as:

Ans   ✔ A. Kirchhof's law

✗ B. Voltage law

✗ C. Joule's law

✗ D. Coulomb's law

Question ID : 1841221845

Q.6 A series AC circuit connected to 220 V, 50 Hz supply consists of a resistance of 100 Ω, inductive reactance of 10 Ω and a capacitive reactance of 10 Ω. Calculate the power factor of the circuit.
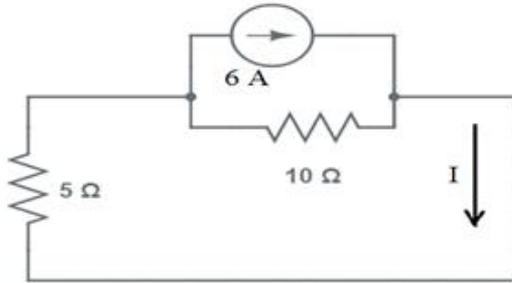
Ans   ✗ A. 0.8

✗ B. 0.1

✔ C. 1.0

✗ D. 0.5

Question ID : 1841221847

Q.7 Name the huge pipe used in a hydro power plant for bringing the water to the turbine:

Ans   ✔ A. pen stock

✗ B. tail race

✗ C. spill way

✗ D. surge tank

Question ID : 1841221839

Q.8

Find the current I in the above circuit

Ans ✗ A. 2 A

✗ B. 1.2 A

✗ C. 6 A

✔ D. 4 A

Question ID : **1841221842**

Q.9 If a DC series motor is started on no load, its speed will be:

Ans ✗ A. Normal

✔ B. Enormously high

✗ C. Very small

✗ D. Zero

Question ID : **1841221850**

Q.10 If W_o is the weight of copper in ordinary transformer then saving of copper in an auto transformer is given by:

Ans ✔ A. KW_o

✗ B. W_o/K

✗ C. $(1-K)W_o$

✗ D. $2KW_o$

Question ID : **1841221852**

Q.11 The current drawn by DC motor at starting is equal to:

Ans ✔ A. above normal current

✗ B. normal current

✗ C. below normal current

✗ D. zero

Question ID : **1841221851**

Q.12 Frequency of rotor current in an induction motor is given by:

Ans   ✗ A. 1/fs

      ✗ B. f/s

      ✔ C. fs

      ✗ D. s/f

Question ID : **1841221854**

Q.13 Ohm's law is not applicable to:

Ans   ✗ A. capacitor

      ✗ B. inductor

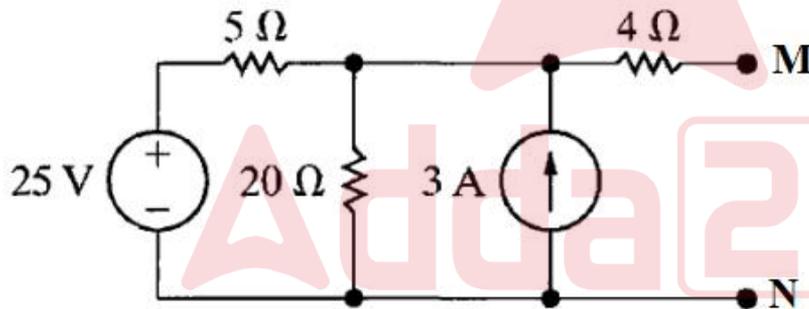   ✔ C. transistor

      ✗ D. resistor

Question ID : **1841221841**

Q.14 Which one is not true for thyristor as compared to transistor?

Ans   ✗ A. thyristor has less punch through device failure

      ✗ B. thyristor has better current surge withstanding capability

      ✗ C. thyristor can have larger current rating

      ✔ D. thyristor has higher internal power loss

Question ID : **1841221858**

Q.15

Find the Thevenin resistance (R_{th}) across MN for the above circuit

Ans   ✔ A. 8 Ω

      ✗ B. 8.33 Ω

      ✗ C. 24 Ω

      ✗ D. 29 Ω

Question ID : **1841221843**

Q.16 For an ideal DC generator, voltage regulation should be

Ans ✗ A. positive

✗ B. infinite

✗ C. negative

✔ D. zero

Question ID : 1841221849

Q.17 The torque developed by split phase induction motor is proportional to the:

Ans ✗ A. cosine of the angle between I_m and I_s

✔ B. sine of the angle between I_m and I_s

✗ C. auxiliary winding current I_s

✗ D. main winding current I_m

Question ID : 1841221857

Q.18 In a synchronous motor minimum armature current corresponds to:

Ans ✗ A. leading power factor only

✔ B. unity power factor only

✗ C. Lagging or leading power factor

✗ D. lagging power factor only

Question ID : 1841221856

Q.19 Buchholz relay is:

Ans ✗ A. frequency sensitive device

✗ B. voltage sensitive device

✗ C. current sensitive device

✔ D. gas actuated device

Question ID : 1841221855

Q.20 If the frequency of AC supply is increased then the resistance of the circuit will _____.

Ans ✗ A. first increases then decreases

✗ B. Increase

✗ C. Decrease

✔ D. unaffected

Question ID : 1841221846

Section : **Discipline5**

Q.1 A current of 100 A was measured three times by an ammeter and the values were indicated as 100.3 A, 100.5 A and 100.4 A. What is the precision of the ammeter ?

Ans

✗ A. $\pm 0.4\%$

✗ B. $\pm 0.2\%$

✔ C. $\pm 0.1\%$

✗ D. $\pm 0.3\%$

Question ID : 1841221865

Q.2 UJT is a _____.

Ans

✗ A. 1 layer, 3 terminal device

✔ B. 2 layer, 3 terminal device

✗ C. 2 layer, 2 terminal device

✗ D. 3 layer, 3 terminal device

Question ID : 1841221859

Q.3 Thermocouple works on:

Ans

✗ A. Peltier effect

✗ B. Kelvin effect

✗ C. Thomson effect

✔ D. Seebeck effect

Question ID : 1841221870

Q.4 Orifice meter is used to measure:

Ans

✗ A. Force

✗ B. torque

✔ C. liquid flow

✗ D. temperature

Question ID : 1841221868

Q.5 According to Kelvin's law, the most economical size of conductor is that for which variable part of annual charge is:

Ans

✗ A. less to annual cost of energy wasted

✔ B. equal to annual cost of energy wasted

✗ C. $\sqrt{2}$ times to annual cost of energy wasted

✗ D. more to annual cost of energy wasted

Question ID : 1841221873

Q.6 Chopper is a _____.

Ans ✓ A. DC to DC converter

✗ B. DC to AC converter

✗ C. AC to DC converter

✗ D. AC to AC converter

Question ID : **1841221863**

Q.7 _____ is a passive transducer.

Ans ✗ A. thermocouple

✓ B. LVDT

✗ C. techogenerator

✗ D. solar cell

Question ID : **1841221867**

Q.8 A step down cyclo converter is a device which converts:

Ans ✗ A. DC to AC

✓ B. higher input frequency into lower output frequency

✗ C. lower input frequency into higher output frequency

✗ D. AC to DC

Question ID : **1841221864**

Q.9 Due to non uniform distribution of current, the increase in resistance in a conductor is known as:

Ans ✓ A. skin effect

✗ B. ferranti effect

✗ C. proximity effect

✗ D. kelvin effect

Question ID : **1841221875**

Q.10 A single phase, half wave controlled rectifier contains:

Ans ✗ A. 1 diode only

✗ B. 1 thyristor and 1 diode

✓ C. 1 thyristor only

✗ D. 2 thyristors

Question ID : **1841221860**

Q.11 Which one is true about transmission line constants?

Ans ✓ A. A has no dimension

✗ B. C has no dimension

✗ C. B has no dimension

✗ D. BC − AD =1

Question ID : **1841221874**

Q.12 Thermistor has the property of _____.

Ans ✗ A. no resistance

✗ B. zero temperature coefficient

✓ C. negative temperature coefficient

✗ D. positive temperature coefficient

Question ID : 1841221869

Q.13 In case of a transmission line, the purpose of transposition of unsymmetrical conductors is to _____.

Ans ✗ A. reduce corona

✗ B. reduce skin effect

✗ C. reduce resistance

✓ D. balance line voltage drop

Question ID : 1841221878

Q.14 Thyristors can be considered as a/an:

Ans ✗ A. transistor

✗ B. controlled transistor

✓ C. controlled switch

✗ D. Amplifier

Question ID : 1841221862

Q.15 A strain gauge of gauge factor 4 is attached to a metal wire that stretches from 10 cm to 10.1 cm. Calculate the percentage change in its resistance.

Ans ✗ A. 3%

✓ B. 4%

✗ C. 1%

✗ D. 2%

Question ID : 1841221872

Q.16 The maximum output voltage of a single phase half bridge inverter as compared to the single phase full bridge inverter is:

Ans ✓ A. Half

✗ B. four times

✗ C. Same

✗ D. Double

Question ID : 1841221861

Q.17 LVDT has:

Ans   ✗ A. twoprimaries

     ✗ B. one secondary

     ✓ C. two secondaries

     ✗ D. three secondaries

Question ID : **1841221871**

Q.18 A line which joins the energy meter of a consumer with the distributor is known as:

Ans   ✗ A. feeder

     ✗ B. grid

     ✓ C. service mains

     ✗ D. distributor

Question ID : **1841221876**

Q.19 The ratio of GMR to actual radius of the conductor is _____.

Ans   ✗ A. more than 1

     ✗ B. equal to 0.5

     ✓ C. equal to 0.7788

     ✗ D. equal to 1

Question ID : **1841221877**

Q.20 In measurement system, the number 130.4 has how many numbers of significant figures ?

Ans   ✓ A. 4

     ✗ B. 3

     ✗ C. 2

     ✗ D. 1

Question ID : **1841221866**