DSSSB
JE

Previous Year Paper
(Mechanical)
05 Oct, 2025 Shift 2

DSSSB OCT NOV DEC 2025 Exam

Participant ID	
Participant Name	
Test Center Name	
Test Date	05/10/2025
Test Time	1:00 PM - 3:00 PM
Subject	Junior Engineer Mechanical

Section : **General Intelligence and Reasoning Ability**

Q.1 Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

RO-LI-GD
NK-HE-CZ3899

Ans ✔ 1. HE-BY-WT

✘ 2. CZ-VT-RO

✘ 3. UR-OL-IG

✘ 4. YV-SP-MK

Question ID : **4410091148694**
Option 1 ID : **4410094529732**
Option 2 ID : **4410094529735**
Option 3 ID : **4410094529734**
Option 4 ID : **4410094529733**

Q.2 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. 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 their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

81, 243
73, 219

Ans ✘ 1. 64, 172

✘ 2. 35, 106

✘ 3. 44, 122

✔ 4. 59, 177

Question ID : **4410091125252**
Option 1 ID : **4410094436554**
Option 2 ID : **4410094436553**
Option 3 ID : **4410094436551**
Option 4 ID : **4410094436552**

Q.3 What should come in place of the question mark (?) in the given series?
5, 6, 9, 15, ?, 40

Ans ✘ 1. 22

✘ 2. 28

✘ 3. 20

✔ 4. 25

Question ID : **4410091126500**
Option 1 ID : **4410094441545**
Option 2 ID : **4410094441546**
Option 3 ID : **4410094441543**
Option 4 ID : **4410094441544**

Q.4 Six students, Tara, Claire, Lalit, Monica, Brandon and Rosy, are sitting around a circular table, facing away from the centre. Tara sits to the immediate left of Claire. Lalit sits second to the left of Monica. Two people sit between Rosy and Lalit when counted from the left of Lalit. Brandon is the immediate neighbour of Lalit. Who sits to the immediate left of Tara?

Ans ✔ 1. Rosy

✖ 2. Tara

✖ 3. Lalit

✖ 4. Monica

Question ID : **4410091149232**
Option 1 ID : **4410094531884**
Option 2 ID : **4410094531886**
Option 3 ID : **4410094531885**
Option 4 ID : **4410094531887**

Q.5 What should come in place of the question mark (?) in the given series?

88, 168, 248, 328, 408, ?

Ans ✔ 1. 488

✖ 2. 388

✖ 3. 588

✖ 4. 468

Question ID : **4410091126499**
Option 1 ID : **4410094441540**
Option 2 ID : **4410094441539**
Option 3 ID : **4410094441541**
Option 4 ID : **4410094441542**

Q.6 In a certain code language, 'EGOS' is coded as '8403' and 'ERGO' is coded as '3058'. What is the code for 'R' in the given code language?

Ans ✖ 1. 8

✔ 2. 5

✖ 3. 0

✖ 4. 3

Question ID : **441009817290**
Option 1 ID : **4410093223286**
Option 2 ID : **4410093223285**
Option 3 ID : **4410093223284**
Option 4 ID : **4410093223283**

Q.7 If '+' means '−', '−' means '×', '×' means '÷', '÷' means '+', then what will come in place of the question mark (?) in the following equation?

184 − 7 ÷ 81 + 1265 × 5 = ?

Ans ✖ 1. 1134

✔ 2. 1116

✖ 3. 1103

✖ 4. 1122

Question ID : **4410091125227**
Option 1 ID : **4410094436454**
Option 2 ID : **4410094436452**
Option 3 ID : **4410094436451**
Option 4 ID : **4410094436453**

Q.8 Refer to the following letter and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) N @ # € © # # @ @ X J £ U J * A € O B $ R H (Right)

How many such letters are there each of which is immediately preceded by a symbol and also immediately followed by a symbol? 2819

Ans ✗ 1. 2

✔ 2. 1

✗ 3. 0

✗ 4. 3

Question ID : **4410091147614**
Option 1 ID : **4410094525413**
Option 2 ID : **4410094525412**
Option 3 ID : **4410094525414**
Option 4 ID : **4410094525415**

Q.9 Jannit ranked 14th from the bottom and 22nd from the top in his class. How many students are there in his class? 2611

Ans ✗ 1. 32

✔ 2. 35

✗ 3. 34

✗ 4. 33

Question ID : **4410091147406**
Option 1 ID : **4410094524580**
Option 2 ID : **4410094524583**
Option 3 ID : **4410094524582**
Option 4 ID : **4410094524581**

Q.10 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. 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 / subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

76, 57
68, 49

Ans ✔ 1. 71, 52

✗ 2. 88, 66

✗ 3. 54, 38

✗ 4. 48, 26

Question ID : **4410091125230**
Option 1 ID : **4410094436466**
Option 2 ID : **4410094436465**
Option 3 ID : **4410094436463**
Option 4 ID : **4410094436464**

Q.11 Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

M

4 L e q z Y ⎮ 119

N

Ans ✗ 1. z Y p ǝ ⅃ Ɒ

✔ 2. Y z p ǝ ⅃ Ɒ

✗ 3. Y z b ǝ ⅃ Ɒ

✗ 4. Y z p ǝ ⅃ 4

Question ID : **4410091144588**
Option 1 ID : **4410094513311**
Option 2 ID : **4410094513309**
Option 3 ID : **4410094513310**
Option 4 ID : **4410094513308**

Q.12 In a certain code language,
A + B means 'A is the mother of B',
A – B means 'A is the brother of B',
A × B means 'A is the wife of B' and
A ÷ B means 'A is the father of B'.
Based on the above, how is J related to N if 'J – K + L × M ÷ N'? 4185

Ans ✔ 1. Mother's Mother's Brother

✗ 2. Mother's Father's Brother

✗ 3. Mother's Mother's Father

✗ 4. Mother's Father's Father

Question ID : **4410091148980**
Option 1 ID : **4410094530876**
Option 2 ID : **4410094530878**
Option 3 ID : **4410094530877**
Option 4 ID : **4410094530879**

Q.13 If A means '+', B means '–', C means '×', D means '÷', then what will come in place of the question mark (?) in the following equation?
30 D 6 B 6 A 2 C 4 = ?

Ans ✗ 1. 5

✗ 2. 1

✔ 3. 7

✗ 4. 3

Question ID : **4410091126476**
Option 1 ID : **4410094441449**
Option 2 ID : **4410094441447**
Option 3 ID : **4410094441450**
Option 4 ID : **4410094441448**

Q.14 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statement: All Soccers are Basketballs. All Basketballs are Baseballs.

Conclusion I: All Baseballs are Soccers.
Conclusion II: Some Baseballs are Soccers.

Ans ✗ 1. Only conclusion (I) follows.

✓ 2. Only conclusion (II) follows.

✗ 3. Neither conclusion (I) nor (II) follows.

✗ 4. Both conclusions (I) and (II) follow.

Question ID : **4410091147607**
Option 1 ID : **4410094525384**
Option 2 ID : **4410094525385**
Option 3 ID : **4410094525386**
Option 4 ID : **4410094525387**

Q.15 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans ✗ 1. GF−ED

✗ 2. AZ−YX

✗ 3. SR−QP

✓ 4. LK−IK

Question ID : **4410091147603**
Option 1 ID : **4410094525370**
Option 2 ID : **4410094525371**
Option 3 ID : **4410094525369**
Option 4 ID : **4410094525368**

Q.16 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans ✗ 1. QM - KG

✗ 2. OK - IE

✗ 3. LH - FB

✓ 4. YJ - HP

Question ID : **441009817258**
Option 1 ID : **4410093223158**
Option 2 ID : **4410093223155**
Option 3 ID : **4410093223156**
Option 4 ID : **4410093223157**

Q.17 In a certain code language, 'GOTE' is coded as '5032' and 'DOGE' is coded as '2539'. What is the code for 'D' in the given code language?

Ans ✓ 1. 9

✗ 2. 3

✗ 3. 2

✗ 4. 5

Question ID : **441009817291**
Option 1 ID : **4410093223290**
Option 2 ID : **4410093223289**
Option 3 ID : **4410093223287**
Option 4 ID : **4410093223288**

Q.18 Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 8 8 5 9 £ 6 7 1 # 9 @ 9 5 7 9 6 * 4 3 # & £ (Right)

How many such numbers are there each of which is immediately preceded by a symbol and also immediately followed by a symbol? 2817

Ans ✗ 1. 2

✗ 2. 0

✗ 3. 3

✓ 4. 1

Question ID : **4410091147612**
Option 1 ID : **4410094525405**
Option 2 ID : **4410094525406**
Option 3 ID : **4410094525407**
Option 4 ID : **4410094525404**

Q.19 J, K, L, M, N and O live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2, and so on, till the topmost floor is numbered 6. M lives on the floor numbered 5. J lives on a floor above M. Only N lives below L. K lives on an even numbered floor. How many people live below O?

Ans ✗ 1. Three

✗ 2. Four

✗ 3. One

✓ 4. Two

Question ID : **4410091147513**
Option 1 ID : **4410094525010**
Option 2 ID : **4410094525011**
Option 3 ID : **4410094525008**
Option 4 ID : **4410094525009**

Q.20 JMDY is related to PSJE in a certain way based on the English alphabetical order. In the same way, HBRG is related to NHXM. To which of the given options is ZTJY related, following the same logic?

Ans ✗ 1. FZER

✓ 2. FZPE

✗ 3. FRZE

✗ 4. PFZE

Question ID : **4410091149477**
Option 1 ID : **4410094532864**
Option 2 ID : **4410094532865**
Option 3 ID : **4410094532866**
Option 4 ID : **4410094532867**

Q.1 **Which mountain range passes through Nashik district of Maharashtra?**

Ans ✘ 1. Dhauladhar

✘ 2. Vindhya

✘ 3. Palani

✔ 4. Satmala

Question ID : **4410091127232**
Option 1 ID : **4410094444483**
Option 2 ID : **4410094444481**
Option 3 ID : **4410094444480**
Option 4 ID : **4410094444482**

Q.2 **'इंडियन कल्चर्स ऐज़ हेरिटेज: कंटेम्पररी पास्ट्स (Indian Cultures as Heritage: Contemporary Pasts)' किसके द्वारा लिखी गई है?**

Ans ✘ 1. वीएस नायपॉल

✘ 2. अमर्त्य सेन

✘ 3. जवाहरलाल नेहरू

✔ 4. रोमिला थापर

Question ID : **4410091120019**
Option 1 ID : **4410094415962**
Option 2 ID : **4410094415963**
Option 3 ID : **4410094415964**
Option 4 ID : **4410094415965**

Q.3 **भारतीय राष्ट्रीय आंदोलन के दौरान गांधीजी ने लंदन में कांग्रेस प्रतिनिधि के रूप में निम्नलिखित में से किस गोलमेज सम्मेलन में भाग लिया था?**

Ans ✘ 1. चौथा गोलमेज सम्मेलन

✔ 2. दूसरा गोलमेज सम्मेलन

✘ 3. तीसरा गोलमेज सम्मेलन

✘ 4. पहला गोलमेज सम्मेलन

Question ID : **4410091123651**
Option 1 ID : **4410094430168**
Option 2 ID : **4410094430166**
Option 3 ID : **4410094430167**
Option 4 ID : **4410094430165**

Q.4 **Which of the following are the two most popular high-altitude lakes in Ladakh?**

Ans ✘ 1. Tsomgo Chho and Gadsar

✘ 2. Tarsar and Samiti

✔ 3. Pangong Tso and Tso Moriri

✘ 4. Gurudongmar and Tso Chen

Question ID : **4410091127231**
Option 1 ID : **4410094444477**
Option 2 ID : **4410094444476**
Option 3 ID : **4410094444478**
Option 4 ID : **4410094444479**

Q.5 In August 2025, scientists recorded the sliteye shark for the first time in the Great Chagos Bank, the world's largest coral atoll, located in which ocean?

Ans ✗ 1. Atlantic Ocean

✗ 2. Pacific Ocean

✗ 3. Southern Ocean

✓ 4. Indian Ocean

Question ID : **4410091118459**
Option 1 ID : **4410094409721**
Option 2 ID : **4410094409722**
Option 3 ID : **4410094409720**
Option 4 ID : **4410094409723**

Q.6 दादाभाई नौरोजी द्वारा ईस्ट इंडिया एसोसिएशन की स्थापना निम्नलिखित में से किस शहर में की गई थी?

Ans ✗ 1. कलकत्ता

✗ 2. बॉम्बे

✗ 3. न्यूयॉर्क

✓ 4. लंदन

Question ID : **4410091123766**
Option 1 ID : **4410094430626**
Option 2 ID : **4410094430625**
Option 3 ID : **4410094430627**
Option 4 ID : **4410094430628**

Q.7 What does the term 'net exports' refer to in national income accounting?

Ans ✗ 1. Total exports and imports combined

✗ 2. Imports minus exports

✗ 3. Exports and imports of intermediate goods

✓ 4. Exports minus imports

Question ID : **4410091120703**
Option 1 ID : **4410094418698**
Option 2 ID : **4410094418697**
Option 3 ID : **4410094418699**
Option 4 ID : **4410094418700**

Q.8 Animesh Kujur set the Indian national record of 20.32 seconds in how many metres race at the Asian Athletics Championship 2025 in Gumi, South Korea?

Ans ✓ 1. 200 m

✗ 2. 400 m

✗ 3. 800 m

✗ 4. 100 m

Question ID : **4410091118375**
Option 1 ID : **4410094409385**
Option 2 ID : **4410094409386**
Option 3 ID : **4410094409387**
Option 4 ID : **4410094409384**

Q.9 What is the term used to describe the sex ratio for the age group 0-6 years in India?

Ans ✗ 1. Youth Sex Ratio

✗ 2. Teen Sex Ratio

✗ 3. Infant Sex Ratio

✓ 4. Child Sex Ratio

Question ID : **4410091127338**
Option 1 ID : **4410094444904**
Option 2 ID : **4410094444907**
Option 3 ID : **4410094444906**
Option 4 ID : **4410094444905**

Q.10 संविधान की निम्नलिखित में से कौन-सी अनुसूची, राज्य और केंद्र शासित प्रदेशों को राज्यसभा में सीटों के आवंटन से संबंधित है?

Ans ✗ 1. छठी

✗ 2. तीसरी

✗ 3. पाँचवीं

✓ 4. चौथी

Question ID : **4410091119448**
Option 1 ID : **4410094413685**
Option 2 ID : **4410094413682**
Option 3 ID : **4410094413684**
Option 4 ID : **4410094413683**

Q.11 भारत के राष्ट्रपति का चुनाव कैसे किया जाता है?

Ans ✗ 1. प्रधानमंत्री की नियुक्ति द्वारा

✗ 2. केवल संसद के सदस्यों द्वारा

✗ 3. प्रत्यक्ष रूप से नागरिकों द्वारा

✓ 4. निर्वाचक मंडल के एकल हस्तांतरणीय मतदान द्वारा

Question ID : **4410091119369**
Option 1 ID : **4410094413369**
Option 2 ID : **4410094413368**
Option 3 ID : **4410094413366**
Option 4 ID : **4410094413367**

Q.12 In August 2025, a genetic study revealed a possible genetic link to the unusually high rate of tuberculosis (TB) in which Particularly Vulnerable Tribal Group (PVTG) of central India?

Ans ✗ 1. Chenchu tribe

✗ 2. Birhor tribe

✗ 3. Baiga tribe

✓ 4. Sahariya tribe

Question ID : **4410091118458**
Option 1 ID : **4410094409719**
Option 2 ID : **4410094409718**
Option 3 ID : **4410094409716**
Option 4 ID : **4410094409717**

Q.13 In August 2025, 34 students from Indian government schools were selected to visit Japan under which prestigious youth exchange initiative in science?

Ans ✘ 1. Nippon Science Youth Programme

✘ 2. Asia-Japan Innovation Fellowship

✘ 3. MEXT Science Exchange Programme

✔ 4. Sakura Science Programme

Question ID : **4410091118404**
Option 1 ID : **4410094409500**
Option 2 ID : **4410094409501**
Option 3 ID : **4410094409502**
Option 4 ID : **4410094409503**

Q.14 What are epithelial cells primarily responsible for?

Ans ✘ 1. Generating and transmitting electrical impulses in the nervous system

✔ 2. Forming protective barriers and linings in tissues and organs

✘ 3. Producing antibodies to fight infections

✘ 4. Transporting water and nutrients throughout the body

Question ID : **4410091128497**
Option 1 ID : **4410094449541**
Option 2 ID : **4410094449540**
Option 3 ID : **4410094449539**
Option 4 ID : **4410094449538**

Q.15 Which of the following parts of the Indian Constitution deals with the fundamental rights?

Ans ✔ 1. Part III

✘ 2. Part IV-A

✘ 3. Part IV

✘ 4. Part II

Question ID : **4410091119452**
Option 1 ID : **4410094413699**
Option 2 ID : **4410094413701**
Option 3 ID : **4410094413700**
Option 4 ID : **4410094413698**

Q.16 उत्तरी क्षेत्रीय भाषा केंद्र निम्नलिखित में से किस स्थान पर स्थित है?

Ans ✘ 1. मुंबई

✔ 2. पटियाला

✘ 3. मैसूर

✘ 4. नई दिल्ली

Question ID : **4410091119870**
Option 1 ID : **4410094415367**
Option 2 ID : **4410094415369**
Option 3 ID : **4410094415368**
Option 4 ID : **4410094415366**

Q.17 Which genetic principle states that genes located on different chromosomes assort independently during gamete formation?

Ans ✓ 1. Law of Independent Assortment

✗ 2. Law of Segregation

✗ 3. Law of Co-dominance

✗ 4. Law of Dominance

Question ID : **4410091128468**
Option 1 ID : **4410094449424**
Option 2 ID : **4410094449422**
Option 3 ID : **4410094449425**
Option 4 ID : **4410094449423**

Q.18 जिन प्राणियों में कोशिकाएँ दो भ्रूणीय परतों, एक बाह्य एक्टोडर्म (ectoderm) और एक आंतरिक एंडोडर्म (endoderm), में व्यवस्थित होती हैं, उन्हें _____ कहा जाता है।

Ans ✗ 1. एकलकोरकी प्राणी

✗ 2. त्रिकोरकी प्राणी

✗ 3. बहुकोरकी प्राणी

✓ 4. द्विकोरकी प्राणी

Question ID : **4410091128469**
Option 1 ID : **4410094449427**
Option 2 ID : **4410094449426**
Option 3 ID : **4410094449429**
Option 4 ID : **4410094449428**

Q.19 The 'Multiplier Effect' in employment means:

Ans ✗ 1. more jobs are created when demand increases

✗ 2. government spending increases national income

✗ 3. output increases with more workers

✓ 4. jobs in one sector create more jobs in other sectors

Question ID : **4410091120659**
Option 1 ID : **4410094418522**
Option 2 ID : **4410094418521**
Option 3 ID : **4410094418523**
Option 4 ID : **4410094418524**

Q.20 Which of the following festivals marks the birth anniversary of Lord Krishna?

Ans ✓ 1. Janmashtami

✗ 2. Durga Puja

✗ 3. Holi

✗ 4. Diwali

Question ID : **4410091119955**
Option 1 ID : **4410094415706**
Option 2 ID : **4410094415707**
Option 3 ID : **4410094415708**
Option 4 ID : **4410094415709**

Section : **Arithmetical and Numerical Ability**

Q.1 The marked price of a toy is ₹600. If a shopkeeper allows two successive discounts of 10% and 5%, what will be the final selling price?

Ans ✗ 1. ₹486

✓ 2. ₹513

✗ 3. ₹495

✗ 4. ₹500

Question ID : **441009250214**
Option 1 ID : **441009974592**
Option 2 ID : **441009974593**
Option 3 ID : **441009974591**
Option 4 ID : **441009974594**

Q.2 The difference between the simple interest and the compound interest, compounded annually, on a certain sum of money for 2 years at 16% per annum is ₹441. Find the sum. [Give your answer to integral number without rounded off.]3048

Ans ✗ 1. ₹17,229

✓ 2. ₹17,226

✗ 3. ₹17,218

✗ 4. ₹17,237

Question ID : **4410091109185**
Option 1 ID : **4410094373735**
Option 2 ID : **4410094373734**
Option 3 ID : **4410094373737**
Option 4 ID : **4410094373736**

Q.3 The number of prime numbers between 387 and 401, both included, is:

Ans ✓ 1. 3

✗ 2. 6

✗ 3. 4

✗ 4. 2

Question ID : **441009385926**
Option 1 ID : **4410091509326**
Option 2 ID : **4410091509328**
Option 3 ID : **4410091509329**
Option 4 ID : **4410091509327**

Q.4 Amar can do a piece of work in 12 days and Mohan can do it in 18 days. If they work together on it for 6 days, then find the fraction of the work that is left. 133

Ans ✗ 1. $\dfrac{1}{5}$

✓ 2. $\dfrac{1}{6}$

✗ 3. $\dfrac{2}{5}$

✗ 4. $\dfrac{2}{3}$

Question ID : **4410091106270**
Option 1 ID : **4410094362074**
Option 2 ID : **4410094362075**
Option 3 ID : **4410094362076**
Option 4 ID : **4410094362077**

Q.5 A merchant raised the price of his products by 70%. What percentage of discount (rounded off to one decimal place) should he give so as to sell the products at no profit and no loss?

Ans ✗ 1. 43.6%

✓ 2. 41.2%

✗ 3. 40.9%

✗ 4. 40.3%

Question ID : **4410091108681**
Option 1 ID : **4410094371720**
Option 2 ID : **4410094371718**
Option 3 ID : **4410094371721**
Option 4 ID : **4410094371719**

Q.6 When x is added to each of 21, 17, 6 and 5, then the numbers so obtained, in this order, are in proportion. If 4x : y :: y : (6x-3), and y > 0, what is the value of y? 2960

Ans ✓ 1. 6

✗ 2. 5

✗ 3. 2

✗ 4. 8

Question ID : **4410091109097**
Option 1 ID : **4410094373382**
Option 2 ID : **4410094373385**
Option 3 ID : **4410094373384**
Option 4 ID : **4410094373383**

Q.7 A number when increased by 10%, gives 3080. The number is:

Ans ✗ 1. 1400

✓ 2. 2800

✗ 3. 5600

✗ 4. 8400

Question ID : **4410091110106**
Option 1 ID : **4410094377420**
Option 2 ID : **4410094377418**
Option 3 ID : **4410094377419**
Option 4 ID : **4410094377421**

Q.8 In what duration (in years) will ₹2,400 fetch a simple interest of ₹1,080 at 3% per annum rate of interest? 3918

Ans ✗ 1. 30

✓ 2. 15

✗ 3. 16

✗ 4. 14

Question ID : **4410091110055**
Option 1 ID : **4410094377215**
Option 2 ID : **4410094377214**
Option 3 ID : **4410094377216**
Option 4 ID : **4410094377217**

Q.9 The average of the first 41 odd natural numbers, is:

Ans ✓ 1. 41

✗ 2. 40

✗ 3. 42

✗ 4. 20.5

Question ID : **4410091110200**
Option 1 ID : **4410094377794**
Option 2 ID : **4410094377796**
Option 3 ID : **4410094377795**
Option 4 ID : **4410094377797**

Q.10 P and Q can complete a piece of work in 30 days and 40 days, respectively. R can destroy the entire work in 75 days. P and Q work every day, whereas R joins them every alternate day, starting from the 2nd day. This pattern is continued till the work is completed. In how much time (in days) will the entire work be done?

Ans ✗ 1. $18\dfrac{6}{35}$

✗ 2. $17\dfrac{9}{35}$

✓ 3. $19\dfrac{7}{27}$

✗ 4. $20\dfrac{11}{35}$

Question ID : **4410091109750**
Option 1 ID : **4410094375996**
Option 2 ID : **4410094375995**
Option 3 ID : **4410094375994**
Option 4 ID : **4410094375997**

Q.11 The average of 6 results is 51 and that of the first 5 is 50. The 6th result is:

Ans ✗ 1. 50

✗ 2. 51

✓ 3. 56

✗ 4. 55

Question ID : **441009386034**
Option 1 ID : **4410091509760**
Option 2 ID : **4410091509759**
Option 3 ID : **4410091509758**
Option 4 ID : **4410091509761**

Q.12 A solid cube of side 12 cm is melted and cast into a solid cuboid of length 18 cm and breadth 16 cm. Find the height of the cuboid.

Ans ✓ 1. 6 cm

✗ 2. 10 cm

✗ 3. 8 cm

✗ 4. 5 cm

Question ID : **4410091193805**
Option 1 ID : **4410094709150**
Option 2 ID : **4410094709153**
Option 3 ID : **4410094709152**
Option 4 ID : **4410094709151**

Q.13 Four shops A, B, C, and D are open for 5 days in a week. The sales data of these four shops in a particular week is given below.

Shop	Monday	Tuesday	Wednesday	Thursday	Friday
Shop A	120	135	150	140	130
Shop B	100	110	120	115	125
Shop C	90	100	110	105	95
Shop D	80	85	90	95	100

What is the total number of units sold by Shop A from Monday to Friday?

Ans   ✗ 1. 650

✓ 2. 675

✗ 3. 600

✗ 4. 700

Question ID : **4410091188000**
Option 1 ID : **4410094686250**
Option 2 ID : **4410094686248**
Option 3 ID : **4410094686249**
Option 4 ID : **4410094686251**

Q.14 A conical water tank has a height of 24 cm and a base radius of 7 cm. Find the capacity of the tank in cubic centimetres. (Use π = 22/7)

Ans   ✗ 1. 1322

✗ 2. 1223

✗ 3. 1233

✓ 4. 1232

Question ID : **4410091276849**
Option 1 ID : **4410095039579**
Option 2 ID : **4410095039581**
Option 3 ID : **4410095039580**
Option 4 ID : **4410095039582**

Q.15 A car travels 300 km at 30 km/hr and returns at 60 km/hr. What is the average speed of the car?

Ans   ✗ 1. 45 km/hr

✓ 2. 40 km/hr

✗ 3. 48 km/hr

✗ 4. 42 km/hr

Question ID : **4410091193560**
Option 1 ID : **4410094708172**
Option 2 ID : **4410094708170**
Option 3 ID : **4410094708173**
Option 4 ID : **4410094708171**

Q.16 The ratio of the present ages of Raj and Amit is 5 : 7. If Raj is 25 years old now, find the present age of Amit.

Ans   ✗ 1. 45 years

✗ 2. 40 years

✗ 3. 30 years

✓ 4. 35 years

Question ID : **4410091193530**
Option 1 ID : **4410094708051**
Option 2 ID : **4410094708052**
Option 3 ID : **4410094708053**
Option 4 ID : **4410094708050**

Q.17 Convert $0.\overline{16}$ into a vulgar fraction.

Ans
✗ 1. $\dfrac{16}{90}$

✓ 2. $\dfrac{16}{99}$

✗ 3. $\dfrac{1}{6}$

✗ 4. $\dfrac{16}{97}$

Question ID : **4410091188016**
Option 1 ID : **4410094686313**
Option 2 ID : **4410094686312**
Option 3 ID : **4410094686315**
Option 4 ID : **4410094686314**

Q.18 Two trains of lengths 200 m and 300 m are moving towards each other at 60 km/hr and 90 km/hr, respectively. In how much time will they cross each other?

Ans ✗ 1. 8 seconds

✓ 2. 12 seconds

✗ 3. 14 seconds

✗ 4. 10 seconds

Question ID : **4410091193624**
Option 1 ID : **4410094708429**
Option 2 ID : **4410094708426**
Option 3 ID : **4410094708428**
Option 4 ID : **4410094708427**

Q.19 By how much is 60% of 60 greater than $\dfrac{2}{5}$ of 25? 4024

Ans ✗ 1. 24

✗ 2. 20

✗ 3. 23

✓ 4. 26

Question ID : **4410091110161**
Option 1 ID : **4410094377641**
Option 2 ID : **4410094377640**
Option 3 ID : **4410094377639**
Option 4 ID : **4410094377638**

Q.20 The selling price of 20 books is equal to the cost price of 37 books. Find the loss or gain percentage.

Ans

✗ 1. $\dfrac{100}{17}\% \; gain$

✔ 2. 85% gain

✗ 3. 85% loss

✗ 4. $\dfrac{100}{17}\% \; loss$

Question ID : **4410091109140**	
Option 1 ID : **4410094373557**	
Option 2 ID : **4410094373554**	
Option 3 ID : **4410094373556**	
Option 4 ID : **4410094373555**	

Section : **English Language and Comprehension**

Q.1 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. The study was conducted by a US team of researchers who had one half of each pair of twins follow an omnivorous diet, while the other half followed a vegan diet for eight weeks.
B. Being on a vegan diet can slow down biological aging and changes DNA, according to a small new study involving 21 pairs of identical twins.
C. This phenomenon, known as epigenetic aging, was found to be reduced in metabolic and inflammatory systems, as well as in organs like the heart and liver, among those following a vegan diet.
D. A subsequent examination of the effects of diet on DNA revealed that DNA methylation, a process where gene expression deteriorates over time, was lower in those on a non-vegan diet.

Ans

✗ 1. BCAD

✔ 2. BADC

✗ 3. BACD

✗ 4. BCDA

Question ID : **441009828065**	
Option 1 ID : **4410093265881**	
Option 2 ID : **4410093265883**	
Option 3 ID : **4410093265882**	
Option 4 ID : **4410093265884**	

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

It was a confusing situation. Many things were happening _____ the same time.

Ans

✗ 1. in

✗ 2. on

✔ 3. at

✗ 4. since

Question ID : **441009824053**	
Option 1 ID : **4410093250299**	
Option 2 ID : **4410093250300**	
Option 3 ID : **4410093250301**	
Option 4 ID : **4410093250302**	

Q.3 Select the most appropriate article to fill in the blank. If no article is required, select 'No article required'.

_____ ancient manuscript was discovered in the ruins of the royal palace.

Ans ✗ 1. A

✗ 2. No article required

✗ 3. The

✓ 4. An

Question ID : **441009824580**
Option 1 ID : **4410093252407**
Option 2 ID : **4410093252410**
Option 3 ID : **4410093252409**
Option 4 ID : **4410093252408**

Q.4 Select the idiom that conveys the same meaning as the underlined segment in the given sentence.

When Sarah's business failed, her friend advised her to pick herself up and <u>try again after falling</u>.

Ans ✗ 1. bite the bullet

✗ 2. beat around the bush

✓ 3. get back on horse

✗ 4. break the ice

Question ID : **441009823921**
Option 1 ID : **4410093249772**
Option 2 ID : **4410093249773**
Option 3 ID : **4410093249770**
Option 4 ID : **4410093249771**

Q.5 Select the most appropriate option to fill in the blank.

The scientist provided a _____ explanation for the phenomenon, which left the audience in awe.

Ans ✗ 1. confusing

✗ 2. simple

✗ 3. selective

✓ 4. comprehensive

Question ID : **441009824578**
Option 1 ID : **4410093252401**
Option 2 ID : **4410093252400**
Option 3 ID : **4410093252402**
Option 4 ID : **4410093252399**

Q.6 Select the option that can be used as a one-word substitute for the given group of words.

A person who studies the origin and history of words340

Ans ✗ 1. Seminist

✗ 2. Phalangist

✗ 3. Lexicographer

✓ 4. Etymologist

Question ID : **441009828098**
Option 1 ID : **4410093266016**
Option 2 ID : **4410093266014**
Option 3 ID : **4410093266015**
Option 4 ID : **4410093266013**

Q.7 Select the most appropriate option to fill in the blank.
Ms. Prarthana commented, "She wore a warm sweater _____ her winter coat."

Ans ✗ 1. upon

✗ 2. through

✗ 3. unto

✓ 4. underneath

Question ID : **4410091279792**
Option 1 ID : **4410095051081**
Option 2 ID : **4410095051082**
Option 3 ID : **4410095051084**
Option 4 ID : **4410095051083**

Q.8 Select the option that can be used as a one-word substitute for the given group of words.

The situation where someone is inappropriately affectionate

Ans ✗ 1. Sentimental

✓ 2. Obsequious

✗ 3. Affectionate

✗ 4. Effusive

Question ID : **441009828096**
Option 1 ID : **4410093266006**
Option 2 ID : **4410093266008**
Option 3 ID : **4410093266007**
Option 4 ID : **4410093266005**

Q.9 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

A. Similarly, Plato's student Aristotle claimed that while relationships built on feelings like pleasure are common, they are less good for humankind than relationships built on goodwill and shared virtues.
B. This is because Aristotle thought relationships built on feelings last only as long as the feelings last.
C. The ancient Greek philosopher Plato thought that love might cause feelings like attraction and pleasure, which are out of your control.
D. However, these feelings are less significant than the loving relationships you choose to form as a result: lifelong bonds between people who help one another change and grow into their best selves.

Ans ✗ 1. CADB

✗ 2. CABD

✓ 3. CDAB

✗ 4. CDBA

Question ID : **441009828062**
Option 1 ID : **4410093265871**
Option 2 ID : **4410093265870**
Option 3 ID : **4410093265872**
Option 4 ID : **4410093265869**

Q.10 Select the most appropriate ANTONYM of the given word.

Aspersion 758

Ans ✗ 1. Defamation

✓ 2. Praise

✗ 3. Insult

✗ 4. Criticism

Question ID : **441009823923**
Option 1 ID : **4410093249780**
Option 2 ID : **4410093249778**
Option 3 ID : **4410093249779**
Option 4 ID : **4410093249781**

Q.11 Select the most appropriate article to fill in the blank. If no article is required, select 'No article required'.

_____ weather created havoc in the coastal village.

Ans ✗ 1. No article required

✓ 2. The

✗ 3. An

✗ 4. A

Question ID : **441009824604**
Option 1 ID : **4410093252506**
Option 2 ID : **4410093252505**
Option 3 ID : **4410093252504**
Option 4 ID : **4410093252503**

Q.12 Select the most appropriate option that rectifies the incorrectly spelt word in the given sentence.

The meschievious child, grinning from ear to ear, hid his sister's favourite toy behind the couch, eagerly awaiting her reaction as she searched for it.

Ans ✓ 1. mischievous

✗ 2. mischeivious

✗ 3. mischiefious

✗ 4. mischievious

Question ID : **441009823884**
Option 1 ID : **4410093249625**
Option 2 ID : **4410093249623**
Option 3 ID : **4410093249622**
Option 4 ID : **4410093249624**

Q.13 Select the proverb that conveys the same meaning as the underlined segment in the given sentence.

When Pat decided to learn a new language at 60, he proved that <u>one can start something new at any point of life</u>.

Ans ✗ 1. one should not put all his eggs in one basket

✗ 2. the early bird catches the worm

✗ 3. one should strike when iron is hot

✓ 4. it is better late than never

Question ID : **441009823919**
Option 1 ID : **4410093249764**
Option 2 ID : **4410093249763**
Option 3 ID : **4410093249765**
Option 4 ID : **4410093249762**

Q.14 Select the most appropriate option to fill in the blank.

During the development of the Eiffel Tower in the late 19th century, Gustave Eiffel faced criticism for the tower's design. However, the structure _____ celebrated as an architectural marvel and symbol of Paris.

Ans ✔ 1. has been

✘ 2. had been

✘ 3. is

✘ 4. was

Question ID : **441009824050**
Option 1 ID : **4410093250288**
Option 2 ID : **4410093250289**
Option 3 ID : **4410093250290**
Option 4 ID : **4410093250287**

Q.15 Select the most appropriate ANTONYM of the given word.

Herald

Ans ✘ 1. Forerunner

✘ 2. Promoter

✘ 3. Proponent

✔ 4. Rival

Question ID : **441009823922**
Option 1 ID : **4410093249776**
Option 2 ID : **4410093249775**
Option 3 ID : **4410093249777**
Option 4 ID : **4410093249774**

Comprehension:

Read the following passage carefully and answer the questions that follow.

Most of us try to avoid brown recluse spiders due to their potent venom. However, a team of scientists recently examined these arachnids closely and discovered something remarkable: the spiders were meticulously crafting an industrial-strength material for their webs using a sewing-like motion. Researchers believe that applying the spider's unique silk and technique to synthetic materials could benefit space travel, improve parachutes, enhance Hollywood stunts, and more. These findings are published in the journal Materials Horizons.

The spider uses its silk-producing organs, known as spinnerets, to sew the strands. The large spinnerets form a loop of silk thread, while the smaller spinnerets close the loop with a swift clamp-and-release action. "The motion is similar to how one might roll up an extension cord: by drawing out a length of cord, clamping it into a loop, and bundling the looped portion with the previous loops," explained Hannes Schniepp, an associate professor in the department of applied science at William & Mary College and the study's lead author. Under high magnification, Schniepp and his colleagues observed that the resulting material consists of multiple micro-loops that enhance the silk's strength. Co-author Sean Koebley, a graduate student, noted that even a single loop 'significantly enhances the toughness' of the material.

The brown recluse's silk is the only known spider silk to be thin and flat instead of round. Schniepp compared the sticky silk to a piece of Scotch tape, but 2000 times thinner. "Its thinness makes it very floppy, very sticky and has many other unique properties in the materials world," he added. This thinness is what allows the self-adhesive loops to form in the first place.

Although scientists have not yet created a man-made version of the material, efforts are underway. They have developed mathematical models to describe the web's structure and properties in detail and have already submitted a patent application for a spider-inspired synthetic product. They envision its use in space travel and other high-performance applications.

SubQuestion No : 16

Q.16 **Select the most appropriate title for the given passage.**

Ans   ✔️ 1. Innovations in Spider Silk Technology

        ❌ 2. The dangers of Brown Recluse Spiders

        ❌ 3. Schniepp's Obsession with Spiders

        ❌ 4. How Spiders Catch their Prey

Question ID : **441009826917**
Option 1 ID : **4410093261338**
Option 2 ID : **4410093261337**
Option 3 ID : **4410093261340**
Option 4 ID : **4410093261339**

Comprehension:

Read the following passage carefully and answer the questions that follow.

Most of us try to avoid brown recluse spiders due to their potent venom. However, a team of scientists recently examined these arachnids closely and discovered something remarkable: the spiders were meticulously crafting an industrial-strength material for their webs using a sewing-like motion. Researchers believe that applying the spider's unique silk and technique to synthetic materials could benefit space travel, improve parachutes, enhance Hollywood stunts, and more. These findings are published in the journal Materials Horizons.

The spider uses its silk-producing organs, known as spinnerets, to sew the strands. The large spinnerets form a loop of silk thread, while the smaller spinnerets close the loop with a swift clamp-and-release action. "The motion is similar to how one might roll up an extension cord: by drawing out a length of cord, clamping it into a loop, and bundling the looped portion with the previous loops," explained Hannes Schniepp, an associate professor in the department of applied science at William & Mary College and the study's lead author. Under high magnification, Schniepp and his colleagues observed that the resulting material consists of multiple micro-loops that enhance the silk's strength. Co-author Sean Koebley, a graduate student, noted that even a single loop 'significantly enhances the toughness' of the material.

The brown recluse's silk is the only known spider silk to be thin and flat instead of round. Schniepp compared the sticky silk to a piece of Scotch tape, but 2000 times thinner. "Its thinness makes it very floppy, very sticky and has many other unique properties in the materials world," he added. This thinness is what allows the self-adhesive loops to form in the first place.

Although scientists have not yet created a man-made version of the material, efforts are underway. They have developed mathematical models to describe the web's structure and properties in detail and have already submitted a patent application for a spider-inspired synthetic product. They envision its use in space travel and other high-performance applications.

SubQuestion No : 17

Q.17 What is the main benefit of the spider's silk having multiple micro-loops?

Ans   ✗ 1. It makes the silk more colourful.

✔ 2. It enhances the silk's strength.

✗ 3. It helps the spider move faster.

✗ 4. It makes the silk waterproof.

Question ID : **441009826918**
Option 1 ID : **4410093261341**
Option 2 ID : **4410093261342**
Option 3 ID : **4410093261344**
Option 4 ID : **4410093261343**

Comprehension:

Read the following passage carefully and answer the questions that follow.

Most of us try to avoid brown recluse spiders due to their potent venom. However, a team of scientists recently examined these arachnids closely and discovered something remarkable: the spiders were meticulously crafting an industrial-strength material for their webs using a sewing-like motion. Researchers believe that applying the spider's unique silk and technique to synthetic materials could benefit space travel, improve parachutes, enhance Hollywood stunts, and more. These findings are published in the journal Materials Horizons.

The spider uses its silk-producing organs, known as spinnerets, to sew the strands. The large spinnerets form a loop of silk thread, while the smaller spinnerets close the loop with a swift clamp-and-release action. "The motion is similar to how one might roll up an extension cord: by drawing out a length of cord, clamping it into a loop, and bundling the looped portion with the previous loops," explained Hannes Schniepp, an associate professor in the department of applied science at William & Mary College and the study's lead author. Under high magnification, Schniepp and his colleagues observed that the resulting material consists of multiple micro-loops that enhance the silk's strength. Co-author Sean Koebley, a graduate student, noted that even a single loop 'significantly enhances the toughness' of the material.

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Although scientists have not yet created a man-made version of the material, efforts are underway. They have developed mathematical models to describe the web's structure and properties in detail and have already submitted a patent application for a spider-inspired synthetic product. They envision its use in space travel and other high-performance applications.

SubQuestion No : 18

Q.18 According to the passage, what could the spider's silk potentially improve?

Ans ✔️ 1. Space travel and parachutes

❌ 2. Agricultural techniques

❌ 3. Medical treatments

❌ 4. Construction materials

Question ID : **441009826919**
Option 1 ID : **4410093261347**
Option 2 ID : **4410093261348**
Option 3 ID : **4410093261345**
Option 4 ID : **4410093261346**

Comprehension:

Read the following passage carefully and answer the questions that follow.

Most of us try to avoid brown recluse spiders due to their potent venom. However, a team of scientists recently examined these arachnids closely and discovered something remarkable: the spiders were meticulously crafting an industrial-strength material for their webs using a sewing-like motion. Researchers believe that applying the spider's unique silk and technique to synthetic materials could benefit space travel, improve parachutes, enhance Hollywood stunts, and more. These findings are published in the journal Materials Horizons.

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Although scientists have not yet created a man-made version of the material, efforts are underway. They have developed mathematical models to describe the web's structure and properties in detail and have already submitted a patent application for a spider-inspired synthetic product. They envision its use in space travel and other high-performance applications.

SubQuestion No : 19

Q.19 What is unique about the brown recluse's silk compared to other spiders' silks?

Ans ✗ 1. It is transparent and has many colours.

✗ 2. It is opaque and sticky.

✗ 3. It is round and thick.

✓ 4. It is thin and flat.

Question ID : **441009826920**
Option 1 ID : **4410093261351**
Option 2 ID : **4410093261352**
Option 3 ID : **4410093261349**
Option 4 ID : **4410093261350**

Comprehension:

Read the following passage carefully and answer the questions that follow.

Most of us try to avoid brown recluse spiders due to their potent venom. However, a team of scientists recently examined these arachnids closely and discovered something remarkable: the spiders were meticulously crafting an industrial-strength material for their webs using a sewing-like motion. Researchers believe that applying the spider's unique silk and technique to synthetic materials could benefit space travel, improve parachutes, enhance Hollywood stunts, and more. These findings are published in the journal Materials Horizons.

The spider uses its silk-producing organs, known as spinnerets, to sew the strands. The large spinnerets form a loop of silk thread, while the smaller spinnerets close the loop with a swift clamp-and-release action. "The motion is similar to how one might roll up an extension cord: by drawing out a length of cord, clamping it into a loop, and bundling the looped portion with the previous loops," explained Hannes Schniepp, an associate professor in the department of applied science at William & Mary College and the study's lead author. Under high magnification, Schniepp and his colleagues observed that the resulting material consists of multiple micro-loops that enhance the silk's strength. Co-author Sean Koebley, a graduate student, noted that even a single loop 'significantly enhances the toughness' of the material.

The brown recluse's silk is the only known spider silk to be thin and flat instead of round. Schniepp compared the sticky silk to a piece of Scotch tape, but 2000 times thinner. "Its thinness makes it very floppy, very sticky and has many other unique properties in the materials world," he added. This thinness is what allows the self-adhesive loops to form in the first place.

Although scientists have not yet created a man-made version of the material, efforts are underway. They have developed mathematical models to describe the web's structure and properties in detail and have already submitted a patent application for a spider-inspired synthetic product. They envision its use in space travel and other high-performance applications.

SubQuestion No : 20

Q.20 Based on your reading, select the most appropriate synonym of floppy.

Ans ✔ 1. flexible

✘ 2. fragile

✘ 3. heavy

✘ 4. firm

Question ID : **441009826921**
Option 1 ID : **4410093261353**
Option 2 ID : **4410093261355**
Option 3 ID : **4410093261356**
Option 4 ID : **4410093261354**

Section : **Hindi Language and Comprehension**

Q.1 उचित कारक चिह्न से दिए गए वाक्य का रिक्त स्थान पूर्ण करें—
गीता में कहा गया है कि कर्म .... मनुष्य का अधिकार है।

Ans ✘ 1. से

✔ 2. पर

✘ 3. का

✘ 4. में

Question ID : **441009825111**
Option 1 ID : **4410093254560**
Option 2 ID : **4410093254559**
Option 3 ID : **4410093254562**
Option 4 ID : **4410093254561**

Q.2 उचित कारक चिह्न से दिए गए वाक्य का रिक्त स्थान पूर्ण करें—
सर्दी के दिनों में कैंप .... जीवन एक लम्बी पिकनिक के समान हुआ करता था।

Ans ✗ 1. के लिए

✗ 2. पर

✗ 3. से

✓ 4. का

Question ID : **441009825112**
Option 1 ID : **4410093254566**
Option 2 ID : **4410093254564**
Option 3 ID : **4410093254565**
Option 4 ID : **4410093254563**

Q.3 निम्नलिखित विकल्पों में शुद्ध वाक्य अंकित कीजिए।

Ans ✗ 1. अपनी भाषा का गौराव मां को शीतल कर देने वाला होता है।

✓ 2. अपनी भाषा का गौरव मन को शीतल कर देने वाला होता है।

✗ 3. अपनी भासा का गौरव मन को शीतल कर देने वाला होता है।

✗ 4. अपनी भाषा का गौरव मन को सीतल कर देने वाला होता है।

Question ID : **441009825871**
Option 1 ID : **4410093257610**
Option 2 ID : **4410093257611**
Option 3 ID : **4410093257612**
Option 4 ID : **4410093257609**

Q.4 निम्न विकल्पों में से सही वाक्य क्रम की पहचान करें -

Ans ✗ 1. होते हैं नाखून बिल्ली के पंजे में ।

✗ 2. पंजे में बिल्ली के होते हैं नाखून ।

✗ 3. नाखून होते हैं बिल्ली के पंजे में ।

✓ 4. बिल्ली के पंजे में नाखून होते हैं ।

Question ID : **441009476651**
Option 1 ID : **4410091862018**
Option 2 ID : **4410091862019**
Option 3 ID : **4410091862017**
Option 4 ID : **4410091862020**

Q.5 निम्न शब्द का विलोम पहचाने।
कुसुम

Ans ✗ 1. ब्रज

✗ 2. आम्र

✓ 3. वज्र

✗ 4. अग्र

Question ID : **441009825862**
Option 1 ID : **4410093257573**
Option 2 ID : **4410093257575**
Option 3 ID : **4410093257576**
Option 4 ID : **4410093257574**

Q.6 दिये गये मुहावरों में से कौन-सा मुहावरा अपने अर्थ से सुमेलित नहीं है—

Ans ✗ 1. अरमान निकालना - इच्छा पूरी करना

✓ 2. अब-तब करना - बुरे ढंग से बोलना

✗ 3. अपने सिर लेना - स्वीकार करना

✗ 4. अवसर चूकना - मौक़ा खोना

Question ID : **441009825765**
Option 1 ID : **4410093257185**
Option 2 ID : **4410093257187**
Option 3 ID : **4410093257188**
Option 4 ID : **4410093257186**

Q.7 निम्नलिखित मुहावरे का सार्थक अर्थ अंकित कीजिए।
अंग-अंग फूले न समाना

Ans ✓ 1. अत्यधिक प्रसन्न होना

✗ 2. अत्यधिक क्रोधित होना

✗ 3. अत्यधिक उदंड होना

✗ 4. अत्यधिक फूल जाना

Question ID : **441009825877**
Option 1 ID : **4410093257633**
Option 2 ID : **4410093257635**
Option 3 ID : **4410093257636**
Option 4 ID : **4410093257634**

Q.8 दिए गए वाक्यांश के लिए निम्न में से एक शब्द होगा--
'राजभवन के अंदर महिलाओं का निवास'

Ans ✓ 1. अंतःपुर

✗ 2. अंतेपुर

✗ 3. गुप्तकक्ष

✗ 4. अधिवास

Question ID : **441009828988**
Option 1 ID : **4410093269491**
Option 2 ID : **4410093269492**
Option 3 ID : **4410093269494**
Option 4 ID : **4410093269493**

Q.9 निम्न शब्द का विलोम पहचाने।
कनीय

Ans ✓ 1. वरीय

✗ 2. अमीर

✗ 3. गरीब

✗ 4. जमीर

Question ID : **441009825863**
Option 1 ID : **4410093257579**
Option 2 ID : **4410093257578**
Option 3 ID : **4410093257577**
Option 4 ID : **4410093257580**

Q.10 उचित कारक चिह्न से दिए गए वाक्य का रिक्त स्थान पूर्ण करें—
सब जानते हैं कि आगरा का ताजमहल शाहजहाँ ...... बनवाया था।

Ans ✔ 1. ने

✘ 2. से

✘ 3. द्वारा

✘ 4. का

Question ID : 441009825110
Option 1 ID : 4410093254555
Option 2 ID : 4410093254557
Option 3 ID : 4410093254556
Option 4 ID : 4410093254558

Q.11 निम्नलिखित विकल्पों में शुद्ध वाक्य अंकित कीजिए।

Ans ✘ 1. मनुष्य का जीवन सत्य न्याय और श्रेष्ठ कि स्थापना के लिए है।

✘ 2. मनुष्य का जीवन सत्य, न्याय और श्रेष्ठा की स्थापना के लिए है।

✔ 3. मनुष्य का जीवन सत्य, न्याय और श्रेष्ठ की स्थापना के लिए है।

✘ 4. मनुष्य का जीवन सत्य न्याय और श्रेष्ठ की स्तापना के लिए है।

Question ID : 441009825872
Option 1 ID : 4410093257614
Option 2 ID : 4410093257615
Option 3 ID : 4410093257616
Option 4 ID : 4410093257613

Q.12 'तिनका' निम्न में से किस अनेकार्थी शब्द का एक अर्थ है--

Ans ✘ 1. कोट

✘ 2. खग

✔ 3. खर

✘ 4. खल

Question ID : 441009825829
Option 1 ID : 4410093257444
Option 2 ID : 4410093257443
Option 3 ID : 4410093257441
Option 4 ID : 4410093257442

Q.13 निम्न में से तद्भव शब्द पहचानें-

Ans ✘ 1. मरण

✔ 2. भभूत

✘ 3. वेष

✘ 4. मंडप

Question ID : 441009825832
Option 1 ID : 4410093257455
Option 2 ID : 4410093257456
Option 3 ID : 4410093257453
Option 4 ID : 4410093257454

Q.14 दिए गए वाक्यांश के लिए निम्न में से एक शब्द होगा--
'जिसमें किसी का कोई हेतु या कारण न हो'

Ans ✗ 1. आहूत

✓ 2. अहैतुक

✗ 3. अहित

✗ 4. अहितु

Question ID : 441009828987
Option 1 ID : 4410093269490
Option 2 ID : 4410093269488
Option 3 ID : 4410093269487
Option 4 ID : 4410093269489

Q.15 निम्नलिखित शब्दों को सही क्रम में लगाकर वाक्य बनाइये
अचानक / गाड़ी / सामने / एक / आ / गई

Ans ✗ 1. सामने अचानक गाड़ी एक आ गई

✗ 2. एक गाड़ी अचानक सामने आ गई

✓ 3. अचानक एक गाड़ी सामने आ गई

✗ 4. अचानक एक गाड़ी आ गई सामने

Question ID : 4410091258810
Option 1 ID : 4410094968084
Option 2 ID : 4410094968085
Option 3 ID : 4410094968086
Option 4 ID : 4410094968087

Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
सरस्वती पत्रिका का प्रकाशन इंडियन प्रेस इलाहाबाद से सन् 1900 में शुरू हुआ। 1903 में इसके संपादक आचार्य महावीर प्रसाद द्विवेदी बनाये गए। सरस्वती ने उस समय की राष्ट्रीय आकांक्षा को वाणी दी। सरस्वती ने ज्ञान-विज्ञान के नये क्षेत्रों में प्रवेश किया और प्रमाणित किया कि हिंदी में जटिल विषयों को प्रस्तुत करने की क्षमता निहित है। सरस्वती ने हिंदी गद्य को परिनिष्ठित रूप दिया, उसमें व्याप्त अनगढ़पन और अराजकता को समाप्त कर उसे एकरूपता प्रदान की। इसने गद्य और पद्य की भाषा के द्वंद्व को समाप्त किया और पद्य के लिए भी खड़ी बोली को सुनिश्चित किया। द्विवेदी जी ने साहित्य के मध्ययुगीन आदर्शों का विरोध किया, रीतिकालीन भावबोध और कलारूपों को अस्वीकार किया और अपने युग और समाज की ज़रूरतों के अनुकूल साहित्य रचने की प्रेरणा लेखकों में जगायी। उन्होंने साहित्य को समाज से जोड़ा।

SubQuestion No : 16

Q.16 'सरस्वती' पत्रिका के संदर्भ में असत्य कथन है--

Ans ✗ 1. इसने प्रमाणित किया कि हिंदी जटिल विषयों को प्रस्तुत कर सकती है।

✗ 2. इसने हिंदी गद्य को परिनिष्ठित रूप प्रदान किया।

✓ 3. इसने गद्य और पद्य के मध्य के द्वंद्व को और विस्तृत किया।

✗ 4. इसने उस समय की राष्ट्रीय आकांक्षा को वाणी दी।

Question ID : 441009830879
Option 1 ID : 4410093276767
Option 2 ID : 4410093276768
Option 3 ID : 4410093276769
Option 4 ID : 4410093276766

Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--

सरस्वती पत्रिका का प्रकाशन इंडियन प्रेस इलाहाबाद से सन् 1900 में शुरू हुआ। 1903 में इसके संपादक आचार्य महावीर प्रसाद द्विवेदी बनाये गए। सरस्वती ने उस समय की राष्ट्रीय आकांक्षा को वाणी दी। सरस्वती ने ज्ञान-विज्ञान के नये क्षेत्रों में प्रवेश किया और प्रमाणित किया कि हिंदी में जटिल विषयों को प्रस्तुत करने की क्षमता निहित है। सरस्वती ने हिंदी गद्य को परिनिष्ठित रूप दिया, उसमें व्याप्त अनगढ़पन और अराजकता को समाप्त कर उसे एकरूपता प्रदान की। इसने गद्य और पद्य की भाषा के द्वंद्व को समाप्त किया और पद्य के लिए भी खड़ी बोली को सुनिश्चित किया। द्विवेदी जी ने साहित्य के मध्ययुगीन आदर्शों का विरोध किया, रीतिकालीन भावबोध और कलारूपों को अस्वीकार किया और अपने युग और समाज की ज़रूरतों के अनुकूल साहित्य रचने की प्रेरणा लेखकों में जगायी। उन्होंने साहित्य को समाज से जोड़ा।

SubQuestion No : 17

Q.17 द्विवेदी जी के विषय में असत्य कथन है--

Ans ✗ 1. द्विवेदी जी 1903 में 'सरस्वती' के सम्पादक बने।

✗ 2. इन्होंने साहित्य को समाज से जोड़ने का महत्ती कार्य किया।

✓ 3. इन्होंने साहित्यकारों को रीतिकालीन परिपाटी पर लेखन के लिए प्रेरित किया।

✗ 4. इन्होंने साहित्य के मध्ययुगीन आदर्शों का विरोध किया।

Question ID : 441009830880
Option 1 ID : 4410093276770
Option 2 ID : 4410093276771
Option 3 ID : 4410093276773
Option 4 ID : 4410093276772

Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--

सरस्वती पत्रिका का प्रकाशन इंडियन प्रेस इलाहाबाद से सन् 1900 में शुरू हुआ। 1903 में इसके संपादक आचार्य महावीर प्रसाद द्विवेदी बनाये गए। सरस्वती ने उस समय की राष्ट्रीय आकांक्षा को वाणी दी। सरस्वती ने ज्ञान-विज्ञान के नये क्षेत्रों में प्रवेश किया और प्रमाणित किया कि हिंदी में जटिल विषयों को प्रस्तुत करने की क्षमता निहित है। सरस्वती ने हिंदी गद्य को परिनिष्ठित रूप दिया, उसमें व्याप्त अनगढ़पन और अराजकता को समाप्त कर उसे एकरूपता प्रदान की। इसने गद्य और पद्य की भाषा के द्वंद्व को समाप्त किया और पद्य के लिए भी खड़ी बोली को सुनिश्चित किया। द्विवेदी जी ने साहित्य के मध्ययुगीन आदर्शों का विरोध किया, रीतिकालीन भावबोध और कलारूपों को अस्वीकार किया और अपने युग और समाज की ज़रूरतों के अनुकूल साहित्य रचने की प्रेरणा लेखकों में जगायी। उन्होंने साहित्य को समाज से जोड़ा।

SubQuestion No : 18

Q.18 'सरस्वती' पत्रिका का प्रकाशन कहाँ से होता था--

Ans ✗ 1. दिल्ली

✗ 2. कानपुर

✗ 3. लखनऊ

✓ 4. इलाहाबाद

Question ID : 441009830881
Option 1 ID : 4410093276775
Option 2 ID : 4410093276774
Option 3 ID : 4410093276777
Option 4 ID : 4410093276776

Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--

सरस्वती पत्रिका का प्रकाशन इंडियन प्रेस इलाहाबाद से सन् 1900 में शुरू हुआ। 1903 में इसके संपादक आचार्य महावीर प्रसाद द्विवेदी बनाये गए। सरस्वती ने उस समय की राष्ट्रीय आकांक्षा को वाणी दी। सरस्वती ने ज्ञान-विज्ञान के नये क्षेत्रों में प्रवेश किया और प्रमाणित किया कि हिंदी में जटिल विषयों को प्रस्तुत करने की क्षमता निहित है। सरस्वती ने हिंदी गद्य को परिनिष्ठित रूप दिया, उसमें व्याप्त अनगढ़पन और अराजकता को समाप्त कर उसे एकरूपता प्रदान की। इसने गद्य और पद्य की भाषा के द्वंद्व को समाप्त किया और पद्य के लिए भी खड़ी बोली को सुनिश्चित किया। द्विवेदी जी ने साहित्य के मध्ययुगीन आदर्शों का विरोध किया, रीतिकालीन भावबोध और कलारूपों को अस्वीकार किया और अपने युग और समाज की ज़रूरतों के अनुकूल साहित्य रचने की प्रेरणा लेखकों में जगायी। उन्होंने साहित्य को समाज से जोड़ा।

SubQuestion No : 19

Q.19 निम्न में से 'परिनिष्ठित' का अर्थ है--

Ans ✗ 1. कृत्रिम

✗ 2. पूर्णतः अशुद्ध

✓ 3. पूर्णतः शुद्ध

✗ 4. मौलिक

Question ID : **441009830882**
Option 1 ID : **4410093276780**
Option 2 ID : **4410093276779**
Option 3 ID : **4410093276778**
Option 4 ID : **4410093276781**

Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--

सरस्वती पत्रिका का प्रकाशन इंडियन प्रेस इलाहाबाद से सन् 1900 में शुरू हुआ। 1903 में इसके संपादक आचार्य महावीर प्रसाद द्विवेदी बनाये गए। सरस्वती ने उस समय की राष्ट्रीय आकांक्षा को वाणी दी। सरस्वती ने ज्ञान-विज्ञान के नये क्षेत्रों में प्रवेश किया और प्रमाणित किया कि हिंदी में जटिल विषयों को प्रस्तुत करने की क्षमता निहित है। सरस्वती ने हिंदी गद्य को परिनिष्ठित रूप दिया, उसमें व्याप्त अनगढ़पन और अराजकता को समाप्त कर उसे एकरूपता प्रदान की। इसने गद्य और पद्य की भाषा के द्वंद्व को समाप्त किया और पद्य के लिए भी खड़ी बोली को सुनिश्चित किया। द्विवेदी जी ने साहित्य के मध्ययुगीन आदर्शों का विरोध किया, रीतिकालीन भावबोध और कलारूपों को अस्वीकार किया और अपने युग और समाज की ज़रूरतों के अनुकूल साहित्य रचने की प्रेरणा लेखकों में जगायी। उन्होंने साहित्य को समाज से जोड़ा।

SubQuestion No : 20

Q.20 निम्न में से 'अनुकूल' का विलोम शब्द है--

Ans ✗ 1. भिन्न

✗ 2. आकुल

✓ 3. प्रतिकूल

✗ 4. विकल

Question ID : **441009830883**
Option 1 ID : **4410093276785**
Option 2 ID : **4410093276783**
Option 3 ID : **4410093276782**
Option 4 ID : **4410093276784**

Section : **Discipline1**

Q.1 The water in a cross-flow turbine passes through the runner:

Ans ✓ 1. twice, entering the runner first from outside, then through the inside

✗ 2. only tangentially without entering the runner

✗ 3. multiple times through the same path

✗ 4. once in a single direction

Question ID : **4410091287712**
Option 1 ID : **4410095082634**
Option 2 ID : **4410095082636**
Option 3 ID : **4410095082635**
Option 4 ID : **4410095082633**

Q.2 The intake valve in a four-stroke diesel engine typically opens:

Ans ✗ 1. at bottom dead centre (BDC)

✗ 2. after bottom dead centre (ABDC)

✓ 3. before top dead centre (BTDC)

✗ 4. at top dead centre (TDC)

Question ID : **4410091287693**
Option 1 ID : **4410095082565**
Option 2 ID : **4410095082564**
Option 3 ID : **4410095082563**
Option 4 ID : **4410095082562**

Q.3 Negative slip occurs in a reciprocating pump when:

Ans ✗ 1. actual discharge < theoretical discharge

✗ 2. suction lift is very high

✓ 3. actual discharge > theoretical discharge

✗ 4. suction pipe is long and pump speed is low

Question ID : **4410091287852**
Option 1 ID : **4410095083218**
Option 2 ID : **4410095083221**
Option 3 ID : **4410095083220**
Option 4 ID : **4410095083219**

Q.4 The Francis turbine is classified as:

Ans ✓ 1. mixed flow reaction turbine

✗ 2. pure impulse turbine

✗ 3. axial flow turbine

✗ 4. tangential flow turbine

Question ID : **4410091287787**
Option 1 ID : **4410095082950**
Option 2 ID : **4410095082951**
Option 3 ID : **4410095082949**
Option 4 ID : **4410095082948**

Q.5 In an impulse turbine, the pressure drop occurs:

Ans ✗ 1. only in the runner

✗ 2. throughout the runner and nozzle

✓ 3. only in the nozzle

✗ 4. nowhere, the pressure remains constant

Question ID : **4410091287802**
Option 1 ID : **4410095083022**
Option 2 ID : **4410095083024**
Option 3 ID : **4410095083023**
Option 4 ID : **4410095083025**

Q.6 In a single-acting reciprocating pump, water is delivered:

Ans ✗ 1. continuously without fluctuation

✗ 2. during suction stroke only

✗ 3. during both strokes

✓ 4. during delivery stroke only

Question ID : **4410091287860**
Option 1 ID : **4410095083255**
Option 2 ID : **4410095083252**
Option 3 ID : **4410095083254**
Option 4 ID : **4410095083253**

Q.7 For engineering stress-strain diagram, which of the following statements is correct about stress calculation?

Ans ✗ 1. Yield stress calculation is based on real cross-sectional area and ultimate stress calculation is based on original cross-sectional area.

✓ 2. Stress calculation is based on original cross-sectional area.

✗ 3. Yield stress calculation is based on original cross-sectional area and ultimate stress calculation is based on real cross-sectional area.

✗ 4. Stress calculation is based on real cross-sectional area.

Question ID : **4410091150792**
Option 1 ID : **4410094538126**
Option 2 ID : **4410094538125**
Option 3 ID : **4410094538127**
Option 4 ID : **4410094538124**

Q.8 The Kaplan turbine is a/an:

Ans ✗ 1. tangential flow impulse turbine

✓ 2. axial flow reaction turbine

✗ 3. mixed flow impulse turbine

✗ 4. axial flow impulse turbine

Question ID : **4410091287797**
Option 1 ID : **4410095082994**
Option 2 ID : **4410095082995**
Option 3 ID : **4410095082996**
Option 4 ID : **4410095082997**

Q.9 Which assumption is made in the ideal Otto cycle?

Ans ✗ 1. Compression and expansion are isobaric

✓ 2. Combustion occurs at constant volume

✗ 3. Heat is rejected at constant volume

✗ 4. Combustion occurs at constant pressure

Question ID : **4410091287684**
Option 1 ID : **4410095082516**
Option 2 ID : **4410095082515**
Option 3 ID : **4410095082517**
Option 4 ID : **4410095082514**

Q.10 Which of the following statements is true for shear force and bending moment?

Ans ✗ 1. Integration of bending moment with respect to x is equal to shear force.

✓ 2. The rate of change of the bending moment with respect to x is equal to the shearing force.

✗ 3. The rate of change of the shear force with respect to x is equal to the bending moment.

✗ 4. Double Integration of bending moment with respect to x is equal to shear force.

Question ID : **4410091150784**
Option 1 ID : **4410094538094**
Option 2 ID : **4410094538092**
Option 3 ID : **4410094538093**
Option 4 ID : **4410094538095**

Q.11 Which of the following is NOT a correct basis for classifying internal combustion engines?

Ans ✗ 1. Type of fuel used

✗ 2. Method of ignition

✗ 3. Method of cooling

✓ 4. Type of working fluid

Question ID : **4410091287687**
Option 1 ID : **4410095082534**
Option 2 ID : **4410095082535**
Option 3 ID : **4410095082537**
Option 4 ID : **4410095082536**

Q.12 When a short column is subjected to eccentric loading, in which of the following cases will the resulting stresses be partly tensile and partly compressive across the section?

Ans ✗ 1. When direct compressive stress is greater than bending stress produced due to bending couple

✗ 2. In all cases, the resulting stresses at any layer in the cross-section will be compressive stress

✗ 3. When direct compressive stress is equal to bending stress produced due to bending couple

✓ 4. When bending stress produced due to bending couple is greater than the direct compressive stress

Question ID : **4410091150787**
Option 1 ID : **4410094538104**
Option 2 ID : **4410094538107**
Option 3 ID : **4410094538106**
Option 4 ID : **4410094538105**

Q.13 When a column is subjected to axial load which does not pass through the geometrical axis of the column, the two stresses – direct compressive stress and bending stress (either tensile or compressive) – develop in the cross-section of the column. The resulting stresses at any layer in the cross-section will be _____.

Ans ✗ 1. greater of the two stresses

✓ 2. the algebraic sum of the two stresses

✗ 3. smaller of the two stresses

✗ 4. the difference of the two stresses

Question ID : **4410091150786**
Option 1 ID : **4410094538100**
Option 2 ID : **4410094538102**
Option 3 ID : **4410094538101**
Option 4 ID : **4410094538103**

Q.14 If a beam is subjected to bending, which of the following expressions will give maximum moment of resistance for a rectangular section, having depth 'd' equal to twice the width and maximum bending stress 'f' max?

Ans ✗ 1. $\frac{1}{24} d^4 f_{max}$

✗ 2. $\frac{1}{6} d^3 f_{max}$

✓ 3. $\frac{1}{12} d^3 f_{max}$

✗ 4. $\frac{1}{12} d^4 f_{max}$

Question ID : **4410091150789**
Option 1 ID : **4410094538114**
Option 2 ID : **4410094538112**
Option 3 ID : **4410094538113**
Option 4 ID : **4410094538115**

Q.15 The section modulus depends on which of the following?

Ans ✓ 1. Moment of inertia

✗ 2. Modulus of rigidity

✗ 3. Poisson's ratio

✗ 4. Toughness

Question ID : **4410091150788**
Option 1 ID : **4410094538109**
Option 2 ID : **4410094538110**
Option 3 ID : **4410094538111**
Option 4 ID : **4410094538108**

Q.16 In a reaction turbine, the pressure drop occurs:

Ans ✓ 1. partly in fixed blades and partly in moving blades

✗ 2. only in the draft tube

✗ 3. only in the nozzle

✗ 4. only in the runner

Question ID : **4410091287811**
Option 1 ID : **4410095083056**
Option 2 ID : **4410095083057**
Option 3 ID : **4410095083054**
Option 4 ID : **4410095083055**

Q.17 The nature of variation of the bending stress, along the depth of a beam, is:

Ans ✗ 1. non-linear

✓ 2. linear

✗ 3. cubic

✗ 4. parabolic

Question ID : **4410091150785**
Option 1 ID : **4410094538099**
Option 2 ID : **4410094538096**
Option 3 ID : **4410094538098**
Option 4 ID : **4410094538097**

Q.18 Which of the following is NOT an application of jet propulsion devices?

Ans ✗ 1. Spacecraft

✗ 2. High-altitude aircraft

✓ 3. Scuba diving

✗ 4. Missiles

Question ID : **4410091159633**
Option 1 ID : **4410094573156**
Option 2 ID : **4410094573154**
Option 3 ID : **4410094573157**
Option 4 ID : **4410094573155**

Q.19 A cantilever beam of 4 m length carries a uniformly distributed load (UDL) 2 kN/m over the half span from the free end of a cantilever. What is the bending moment at the fixed end of the cantilever?

Ans ✗ 1. 0 kN-m

✓ 2. 12 kN-m

✗ 3. 2 kN-m

✗ 4. 4 kN-m

Question ID : **4410091150790**
Option 1 ID : **4410094538116**
Option 2 ID : **4410094538118**
Option 3 ID : **4410094538119**
Option 4 ID : **4410094538117**

Q.20 On a Temperature–Entropy (T–S) diagram, the constant pressure line within the wet region of steam is represented by:

Ans ✗ 1. a straight line with a positive slope from the entropy axis

✗ 2. a straight line with a negative slope from the entropy axis

✗ 3. a straight line parallel to the temperature axis

✓ 4. a straight line parallel to the entropy axis

Question ID : **4410091296164**
Option 1 ID : **4410095116782**
Option 2 ID : **4410095116783**
Option 3 ID : **4410095116781**
Option 4 ID : **4410095116780**

Section : **Discipline2**

Q.1 Which of the following is NOT a valid reason for using V-belts in factories and workshops?

Ans ✔ 1. The drive is negative due to a significant slip.

✘ 2. They can be run in either direction.

✘ 3. They are easy to install and remove.

✘ 4. They are made endlessly, so there is no problem with joints.

Question ID : **4410091293085**
Option 1 ID : **4410095104436**
Option 2 ID : **4410095104437**
Option 3 ID : **4410095104438**
Option 4 ID : **4410095104439**

Q.2 The difference between the tooth space and the tooth thickness in a spur gear, as measured along the pitch circle, is known as:

Ans ✘ 1. pitch error

✘ 2. tooth clearance

✘ 3. runout

✔ 4. backlash

Question ID : **4410091291707**
Option 1 ID : **4410095098863**
Option 2 ID : **4410095098865**
Option 3 ID : **4410095098864**
Option 4 ID : **4410095098862**

Q.3 If the torque causing failure is 1000 N-m and the design factor is 2, then what will the value of the design torque be?

Ans ✔ 1. 500 N-m

✘ 2. 1000 N-m

✘ 3. 800 N-m

✘ 4. 2000 N-m

Question ID : **4410091150772**
Option 1 ID : **4410094538046**
Option 2 ID : **4410094538045**
Option 3 ID : **4410094538047**
Option 4 ID : **4410094538044**

Q.4 In a simple wheel and axle machine, a load of 25 kN is raised by an effort of 5 kN at an efficiency of 80%. What will be the diameter of the axle if the diameter of the wheel is 375 mm?

Ans ✘ 1. 40 mm

✘ 2. 30 mm

✘ 3. 50 mm

✔ 4. 60 mm

Question ID : **4410091159686**
Option 1 ID : **4410094573369**
Option 2 ID : **4410094573370**
Option 3 ID : **4410094573368**
Option 4 ID : **4410094573367**

Q.5 **When rotating parts are NOT completely balanced, which of the following is a possible outcome?**

Ans ✅ 1. Enhanced loads on bearings

❌ 2. Relieving stress in the various members

❌ 3. Decreased loads on bearings

❌ 4. Elimination of vibration

Question ID : **4410091292841**
Option 1 ID : **4410095103463**
Option 2 ID : **4410095103465**
Option 3 ID : **4410095103466**
Option 4 ID : **4410095103464**

Q.6 **Which of the following is a derived unit?**

Ans ❌ 1. Candela

✅ 2. Radian/second

❌ 3. Steradian

❌ 4. Radian

Question ID : **4410091159689**
Option 1 ID : **4410094573382**
Option 2 ID : **4410094573379**
Option 3 ID : **4410094573381**
Option 4 ID : **4410094573380**

Q.7 **Which of the following is a type of spring-controlled Governor?**

Ans ✅ 1. Pickering Governor

❌ 2. Watt Governor

❌ 3. Porter Governor

❌ 4. Inertia Governor

Question ID : **4410091292760**
Option 1 ID : **4410095103141**
Option 2 ID : **4410095103140**
Option 3 ID : **4410095103139**
Option 4 ID : **4410095103142**

Q.8 **What is the primary reason for a slip in a belt drive?**

Ans ❌ 1. Elastic stretch of the belt

✅ 2. Insufficient friction between the belt and pulley

❌ 3. Incorrect pulley alignment

❌ 4. Initial tension in the belt

Question ID : **4410091293203**
Option 1 ID : **4410095104909**
Option 2 ID : **4410095104908**
Option 3 ID : **4410095104910**
Option 4 ID : **4410095104911**

Q.9 Which of the following expressions correctly defines the Power of a Governor?

Ans ✗ 1. Power = Mean effort − Lift of sleeve

✗ 2. Power = Mean effort + Lift of sleeve

✓ 3. Power = Mean effort × Lift of sleeve

✗ 4. Power = Mean effort / Lift of sleeve

Question ID : **4410091292720**
Option 1 ID : **4410095102981**
Option 2 ID : **4410095102980**
Option 3 ID : **4410095102979**
Option 4 ID : **4410095102982**

Q.10 The Parallelogram law of forces is applicable for:

Ans ✗ 1. non-coplanar forces

✗ 2. offset forces

✓ 3. concurrent forces

✗ 4. non-concurrent forces

Question ID : **4410091291578**
Option 1 ID : **4410095098337**
Option 2 ID : **4410095098335**
Option 3 ID : **4410095098334**
Option 4 ID : **4410095098336**

Q.11 If three coplanar forces acting on a body are represented in magnitude and direction by the sides of a closed triangle taken in order, then:

Ans ✗ 1. the resultant force must be maximum

✗ 2. the body must not be in equilibrium

✓ 3. the body must be in equilibrium

✗ 4. the body must accelerate

Question ID : **4410091291624**
Option 1 ID : **4410095098525**
Option 2 ID : **4410095098523**
Option 3 ID : **4410095098522**
Option 4 ID : **4410095098524**

Q.12 The working compartment of which of the following types of dynamometers consists of special, semi-circular shaped vanes cast into a stainless steel rotor and stators?

Ans ✗ 1. Prony brake dynamometer

✗ 2. Eddy current dynamometer

✗ 3. Rope brake dynamometer

✓ 4. Hydraulic dynamometer

Question ID : **4410091159631**
Option 1 ID : **4410094573147**
Option 2 ID : **4410094573146**
Option 3 ID : **4410094573149**
Option 4 ID : **4410094573148**

Q.13 Which material is commonly used in the construction of flat V-belts for industrial applications?

Ans ✔ 1. Rubber

✘ 2. Leather

✘ 3. Ceramic

✘ 4. Brass

Question ID : **4410091143987**
Option 1 ID : **4410094510908**
Option 2 ID : **4410094510909**
Option 3 ID : **4410094510910**
Option 4 ID : **4410094510911**

Q.14 A block of mass m rests on an adjustable frictional incline. When the plane is gradually elevated, the block just commences motion at an inclination of 30° to the horizontal. Determine the coefficient of static friction (μ) between the block and the plane.

Ans ✘ 1. $\dfrac{\sqrt{3}}{2}$

✔ 2. $\dfrac{1}{\sqrt{3}}$

✘ 3. $\dfrac{1}{2}$

✘ 4. $\dfrac{2}{\sqrt{3}}$

Question ID : **4410091291686**
Option 1 ID : **4410095098780**
Option 2 ID : **4410095098779**
Option 3 ID : **4410095098778**
Option 4 ID : **4410095098781**

Q.15 What is the composition of Biogas that is produced by anaerobic fermentation of wet livestock wastes?

Ans ✘ 1. Ethane (30% to 50%) and carbon dioxide

✔ 2. Methane (40% to 70%) and carbon dioxide

✘ 3. Ethane (30% to 50%) and hydrogen

✘ 4. Methane (40% to 70%) and hydrogen

Question ID : **4410091159630**
Option 1 ID : **4410094573144**
Option 2 ID : **4410094573143**
Option 3 ID : **4410094573142**
Option 4 ID : **4410094573145**

Q.16 A small block of weight 100 N is placed on an inclined plane, which makes an angle of 30° with the horizontal. The component of weight perpendicular to the inclined plane is:

Ans ✘ 1. 50 N

✘ 2. 100 N

✘ 3. 10 N

✔ 4. 86.6 N

Question ID : **4410091159688**
Option 1 ID : **4410094573377**
Option 2 ID : **4410094573378**
Option 3 ID : **4410094573375**
Option 4 ID : **4410094573376**

Q.17 Which of the following is generally NOT required for the representation of a force?

Ans ✔ 1. Mass

✘ 2. Point of application

✘ 3. Direction

✘ 4. Magnitude

Question ID : **4410091291649**
Option 1 ID : **4410095098631**
Option 2 ID : **4410095098633**
Option 3 ID : **4410095098632**
Option 4 ID : **4410095098630**

Q.18 A flat belt drive has a tension of 20 N on the tight side and 10 N on the slack side. What will be the initial tension in the belt?

Ans ✘ 1. Zero

✘ 2. 5N

✘ 3. 30 N

✔ 4. 15 N

Question ID : **4410091294740**
Option 1 ID : **4410095110933**
Option 2 ID : **4410095110935**
Option 3 ID : **4410095110936**
Option 4 ID : **4410095110934**

Q.19 Which of the following forces are considered in any free-body diagram (FBD)?
1. External forces
2. Internal forces
3. Weight of the body
4. Reaction by support

Ans ✘ 1. Only 1, 2, and 3

✘ 2. Only 1, 2 and 4

✘ 3. Only 2, 3 and 4

✔ 4. Only 1, 3 and 4

Question ID : **4410091291456**
Option 1 ID : **4410095097817**
Option 2 ID : **4410095097816**
Option 3 ID : **4410095097815**
Option 4 ID : **4410095097814**

Q.20 Which of the following statements is INCORRECT about the requirement of an ignition system?

Ans ✔ 1. An ignition system should produce very little spark between electrodes of plugs at the correct timing.

✘ 2. An ignition system should be compact and easy to maintain.

✘ 3. An ignition system should be inexpensive and convenient to handle.

✘ 4. An ignition system should function efficiently over the entire range of the engine speed.

Question ID : **4410091159632**
Option 1 ID : **4410094573153**
Option 2 ID : **4410094573150**
Option 3 ID : **4410094573152**
Option 4 ID : **4410094573151**

Section : **Discipline3**

Q.1 **Armored and unarmored cables fall under which classification category?**

Ans ✗ 1. Insulation-based classification

✗ 2. Voltage-based classification

✗ 3. Application-based classification

✓ 4. Construction-based classification

Question ID : **44100959446**
Option 1 ID : **441009236732**
Option 2 ID : **441009236729**
Option 3 ID : **441009236731**
Option 4 ID : **441009236730**

Q.2 **What is the function of a STATCOM (static synchronous compensator)?**

Ans ✗ 1. To generate synchronous power for the AC system

✗ 2. To control the voltage and frequency of the AC system

✗ 3. To convert AC power to DC power for transmission

✓ 4. To provide reactive power compensation in the AC system

Question ID : **4410091129187**
Option 1 ID : **4410094452282**
Option 2 ID : **4410094452284**
Option 3 ID : **4410094452285**
Option 4 ID : **4410094452283**

Q.3 **Leaf springs are mostly used in which of the following applications?**

Ans ✗ 1. Electrical mechanisms

✗ 2. Watches

✓ 3. Automobiles

✗ 4. Valve mechanisms

Question ID : **4410091150774**
Option 1 ID : **4410094538052**
Option 2 ID : **4410094538054**
Option 3 ID : **4410094538053**
Option 4 ID : **4410094538055**

Q.4 **The application of measuring high voltages using AC potentiometers can be measured _____.**

Ans ✗ 1. directly

✗ 2. connecting two inductors in series in conjunction with potentiometers

✗ 3. connecting two capacitors in parallel in conjunction with potentiometers

✓ 4. connecting two capacitors in series in conjunction with potentiometers

Question ID : **4410091129192**
Option 1 ID : **4410094452302**
Option 2 ID : **4410094452303**
Option 3 ID : **4410094452305**
Option 4 ID : **4410094452304**

Q.5 The most suitable voltage level of a secondary distribution system is _____.

Ans ✓ 1. 230 V/415 V

✗ 2. 11 kV

✗ 3. 22 kV

✗ 4. 66 kV

Question ID : **4410091129184**
Option 1 ID : **4410094452272**
Option 2 ID : **4410094452271**
Option 3 ID : **4410094452273**
Option 4 ID : **4410094452270**

Q.6 Which of the following is a disadvantage of a gravity-controlled instrument?

Ans ✓ 1. It gives a cramped scale.

✗ 2. It is not subject to fatigue.

✗ 3. It is cheaper.

✗ 4. It is unaffected by temperature.

Question ID : **4410091129203**
Option 1 ID : **4410094452349**
Option 2 ID : **4410094452347**
Option 3 ID : **4410094452346**
Option 4 ID : **4410094452348**

Q.7 One of the main causes of power loss in a transmission line is _____.

Ans ✗ 1. Newton's effect

✗ 2. Faraday's effect

✓ 3. Joule effect

✗ 4. Fleming's effect

Question ID : **4410091129182**
Option 1 ID : **4410094452265**
Option 2 ID : **4410094452263**
Option 3 ID : **4410094452262**
Option 4 ID : **4410094452264**

Q.8 In an indicating instrument, the pointer comes back to zero when the deflecting torque is removed. This is done by _____.

Ans ✗ 1. a damping device

✓ 2. a controlling device

✗ 3. a deflecting device

✗ 4. both deflecting and controlling devices

Question ID : **4410091129194**
Option 1 ID : **4410094452312**
Option 2 ID : **4410094452311**
Option 3 ID : **4410094452310**
Option 4 ID : **4410094452313**

Q.9 The highest speed at which a bearing can continuously operate without seizure or other failures due to excessive heat is called:

Ans ✗ 1. operating slip speed

✗ 2. peak efficiency speed

✓ 3. limiting speed of a bearing

✗ 4. frictional speed of the bearing

Question ID : **4410091296893**
Option 1 ID : **4410095119835**
Option 2 ID : **4410095119834**
Option 3 ID : **4410095119833**
Option 4 ID : **4410095119836**

Q.10 In case of short transmission lines, the maximum voltage regulation occurs at:

Ans ✗ 1. both lagging and leading pf

✓ 2. lagging pf

✗ 3. unity pf

✗ 4. leading pf

Question ID : **4410091129183**
Option 1 ID : **4410094452269**
Option 2 ID : **4410094452268**
Option 3 ID : **4410094452266**
Option 4 ID : **4410094452267**

Q.11 Which of the following is NOT a reason for systematic error in measuring systems?

Ans ✗ 1. Sensitivity shift

✓ 2. Response time

✗ 3. Zero offset

✗ 4. Known non-linearity

Question ID : **4410091129198**
Option 1 ID : **4410094452326**
Option 2 ID : **4410094452327**
Option 3 ID : **4410094452328**
Option 4 ID : **4410094452329**

Q.12 The length of the coupler nut of a turnbuckle is obtained by considering which of the following criteria?

Ans ✓ 1. Shearing of the threads of the coupler nut at their root

✗ 2. Tearing of the threads of the rods at their root

✗ 3. Tearing of the coupler nut

✗ 4. Tearing of the coupler

Question ID : **4410091150775**
Option 1 ID : **4410094538057**
Option 2 ID : **4410094538056**
Option 3 ID : **4410094538058**
Option 4 ID : **4410094538059**

Q.13 Select the correct relation between the actual load causing failure and the design load.

Ans

❌ 1. $\text{Design load} = \dfrac{\text{Design factor}}{\text{Load causing failure}}$

❌ 2. $\text{Design load} = \text{Load causing failure}$

❌ 3. $\text{Design load} = \text{Load causing failure} \times \text{Design factor}$

✅ 4. $\text{Design load} = \dfrac{\text{Load causing failure}}{\text{Design factor}}$

Question ID : **4410091150773**
Option 1 ID : **4410094538050**
Option 2 ID : **4410094538051**
Option 3 ID : **4410094538049**
Option 4 ID : **4410094538048**

Q.14 How does a radial electrical power distribution system handle transformer failures?

Ans ✅ 1. By rerouting power through alternate feeders

❌ 2. By automatically switching to backup transformers

❌ 3. By reducing the overall power demand of the consumers

❌ 4. By increasing the power generation at the main substation

Question ID : **4410091129189**
Option 1 ID : **4410094452291**
Option 2 ID : **4410094452290**
Option 3 ID : **4410094452293**
Option 4 ID : **4410094452292**

Q.15 What is the electric field intensity at which the air in the immediate vicinity of conductors undergoes breakdown and becomes conducting?

Ans ❌ 1. 1000 kV/m

✅ 2. 3000 kV/m

❌ 3. 5000 kV/m

❌ 4. 10000 kV/m

Question ID : **4410091129188**
Option 1 ID : **4410094452286**
Option 2 ID : **4410094452287**
Option 3 ID : **4410094452288**
Option 4 ID : **4410094452289**

Q.16 The sensitivity of the oscilloscope is directly proportional to the _____ of the vertical amplifier.

Ans ❌ 1. frequency

✅ 2. gain

❌ 3. bandwidth

❌ 4. rise time

Question ID : **4410091129196**
Option 1 ID : **4410094452318**
Option 2 ID : **4410094452320**
Option 3 ID : **4410094452319**
Option 4 ID : **4410094452321**

Q.17 Which of the following statements is INCORRECT about standardisation?

Ans ✓ 1. Standardisation does not facilitate the production.

✗ 2. Number of normally applicable standard sizes and types are reduced.

✗ 3. Use of standardised parts increases system reliability.

✗ 4. Standardisation speeds up the design work.

Question ID : **4410091150777**
Option 1 ID : **4410094538067**
Option 2 ID : **4410094538066**
Option 3 ID : **4410094538064**
Option 4 ID : **4410094538065**

Q.18 Double parallel fillet-welded joints are primarily designed to resist:

Ans ✗ 1. tensile strength only

✗ 2. torsional strength only

✗ 3. bending strength only

✓ 4. shear strength only

Question ID : **4410091295602**
Option 1 ID : **4410095114370**
Option 2 ID : **4410095114372**
Option 3 ID : **4410095114371**
Option 4 ID : **4410095114369**

Q.19 In an axially loaded symmetrical welded joint, the transverse fillet welds are designed to resist:

Ans ✓ 1. tensile stress only

✗ 2. bending stress only

✗ 3. torsional stress only

✗ 4. bending stress and torsional stress only

Question ID : **4410091296809**
Option 1 ID : **4410095119466**
Option 2 ID : **4410095119467**
Option 3 ID : **4410095119468**
Option 4 ID : **4410095119469**

Q.20 In an oscilloscope, which amplifier is the principal factor in determining the sensitivity and bandwidth?

Ans ✗ 1. Horizontal amplifier

✓ 2. Vertical amplifier

✗ 3. Narrow bandwidth amplifier

✗ 4. Broad bandwidth amplifier

Question ID : **4410091129197**
Option 1 ID : **4410094452322**
Option 2 ID : **4410094452323**
Option 3 ID : **4410094452324**
Option 4 ID : **4410094452325**

Section : **Discipline4**

Q.1 **Which of the following can be used with the starch components for the production of bioethanol through fermentation?**

Ans ✗ 1. Alcohol

   ✗ 2. Milk

   ✓ 3. Sugar

   ✗ 4. Acid

Question ID : **4410091129227**
Option 1 ID : **4410094452445**
Option 2 ID : **4410094452444**
Option 3 ID : **4410094452443**
Option 4 ID : **4410094452442**

Q.2 **Which of the following formulas is correct for work, if F and s are force and displacement, respectively, and ϴ is the angle between them?**

Ans ✓ 1. W=F.s cosϴ

   ✗ 2. W=F.s cosecϴ

   ✗ 3. W=F.s sinϴ

   ✗ 4. W=F.s tanϴ

Question ID : **4410091129216**
Option 1 ID : **4410094452400**
Option 2 ID : **4410094452401**
Option 3 ID : **4410094452398**
Option 4 ID : **4410094452399**

Q.3 **If the installed capacity of plant 20 MW produces annual output of 2.24×10^6 kWh and remains in operation for 1000 hours in a year, then the value of plant use factor is _____.**

Ans ✗ 1. 0.1

   ✓ 2. 0.112

   ✗ 3. 0.13

   ✗ 4. 0.158

Question ID : **4410091129222**
Option 1 ID : **4410094452422**
Option 2 ID : **4410094452423**
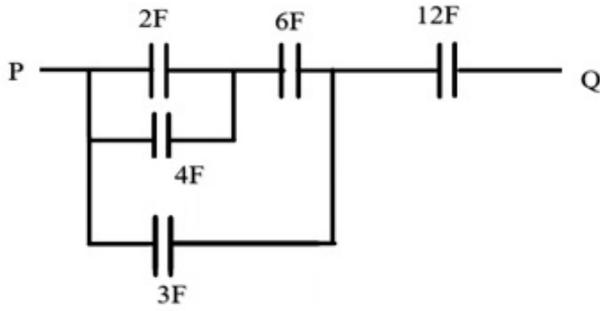Option 3 ID : **4410094452424**
Option 4 ID : **4410094452425**

Q.4 **Which of the following statements regarding damping systems is correct?**
(i) The damping system facilitates the pointer to rest within a short time.
(ii) When the moving system is at rest, the system should provide damping torque.
(iii) Damping torque is dependent on operating current.

Ans ✓ 1. Only statement (i)

   ✗ 2. Statements (i) and (ii)

   ✗ 3. Only statement (iii)

   ✗ 4. Only statement (ii)

Question ID : **4410091129195**
Option 1 ID : **4410094452314**
Option 2 ID : **4410094452316**
Option 3 ID : **4410094452317**
Option 4 ID : **4410094452315**

Q.5 The total capacitance between the points P and Q in the figure is:

Ans   ✗ 1. 18F

✓ 2. 4F

✗ 3. 27F

✗ 4. 20F

Question ID : **4410091129209**
Option 1 ID : **4410094452371**
Option 2 ID : **4410094452370**
Option 3 ID : **4410094452373**
Option 4 ID : **4410094452372**

Q.6 The purpose of an external prime mover to start a synchronous motor is to _____.

Ans   ✓ 1. bring the synchronous motor close to synchronous speed

✗ 2. reduce losses at the time of starting

✗ 3. improve the efficiency of the motor

✗ 4. excite the field winding of the rotor

Question ID : **4410091129230**
Option 1 ID : **4410094452456**
Option 2 ID : **4410094452454**
Option 3 ID : **4410094452457**
Option 4 ID : **4410094452455**

Q.7 What is the primary focus of mini and micro-hydel plants?

Ans   ✓ 1. Utilising low-head water sources in hilly terrain for power generation

✗ 2. Generating power from ocean tides

✗ 3. Harnessing power from coastal water sources

✗ 4. Generating power from high heads in urban areas

Question ID : **4410091129226**
Option 1 ID : **4410094452440**
Option 2 ID : **4410094452441**
Option 3 ID : **4410094452439**
Option 4 ID : **4410094452438**

Q.8 If the load of a synchronous motor is increased, keeping the excitation constant, then the condition arises when the motor is stopped and the rotor is _____.

Ans ✗ 1. pulled in synchronism

✗ 2. stopped

✗ 3. found to breakdown

✔ 4. pulled out of synchronism

Question ID : **4410091129236**
Option 1 ID : **4410094452480**
Option 2 ID : **4410094452481**
Option 3 ID : **4410094452478**
Option 4 ID : **4410094452479**

Q.9 Which material is used in filament illumination in the incandescent lamp?

Ans ✗ 1. Silicon
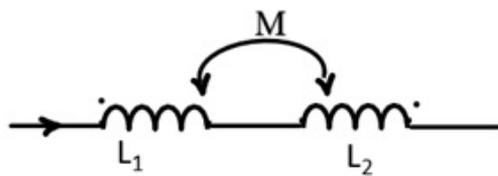
✗ 2. Aluminium

✗ 3. Copper

✔ 4. Tungsten

Question ID : **4410091129217**
Option 1 ID : **4410094452402**
Option 2 ID : **4410094452404**
Option 3 ID : **4410094452403**
Option 4 ID : **4410094452405**

Q.10 The current division rule can be applied in a node where _____.

Ans ✗ 1. either two resistances are connected in series or connected in parallel

✔ 2. two resistances are connected in parallel

✗ 3. three resistance are connected in series

✗ 4. two resistances are connected in series

Question ID : **4410091129213**
Option 1 ID : **4410094452388**
Option 2 ID : **4410094452386**
Option 3 ID : **4410094452389**
Option 4 ID : **4410094452387**

Q.11 If L_1 = 20 H, L_2 = 30 H and M = 7 H, the total inductance in the figure shown below is _____.

Ans ✔ 1. 36 H

✗ 2. 43 H

✗ 3. 64 H

✗ 4. 57 H

Question ID : **4410091129210**
Option 1 ID : **4410094452375**
Option 2 ID : **4410094452376**
Option 3 ID : **4410094452374**
Option 4 ID : **4410094452377**

Q.12 Which scenario would have the lowest cost per unit of electricity (kWh)?

Ans ✗ 1. A system with a load factor of 0.1

✗ 2. A system with a load factor of 0.2

✗ 3. A system with a load factor of 0.4

✓ 4. A system with a load factor of 0.8

Question ID : **4410091129225**
Option 1 ID : **4410094452436**
Option 2 ID : **4410094452437**
Option 3 ID : **4410094452434**
Option 4 ID : **4410094452435**

Q.13 Inside the infinite solenoid, what is the shape of magnetic field lines?

Ans ✓ 1. Parallel straight line

✗ 2. Ellipsoidal line

✗ 3. Perpendicular straight line

✗ 4. Circular line

Question ID : **4410091129215**
Option 1 ID : **4410094452395**
Option 2 ID : **4410094452396**
Option 3 ID : **4410094452394**
Option 4 ID : **4410094452397**

Q.14 The load curve is helpful in deciding _____.

Ans ✓ 1. the operating schedule of the generator units

✗ 2. the speed of the generator units

✗ 3. the maximum efficiency of generators

✗ 4. faults in the generator units

Question ID : **4410091129228**
Option 1 ID : **4410094452446**
Option 2 ID : **4410094452447**
Option 3 ID : **4410094452449**
Option 4 ID : **4410094452448**

Q.15 The input power consumption in an electrical circuit is 240 W and the output power is 120 W. The power efficiency will be ____.

Ans ✗ 1. 75%

✗ 2. 25%

✗ 3. 100%

✓ 4. 50%

Question ID : **4410091129214**
Option 1 ID : **4410094452392**
Option 2 ID : **4410094452390**
Option 3 ID : **4410094452393**
Option 4 ID : **4410094452391**

Q.16 A generating station has a connected load of 93MW and a maximum demand of 30 MW, the units generated being 87.6 × 106 per annum. Calculate the average demand.

Ans ✗ 1. 100 x 10-6 W

✓ 2. 10000 kW

✗ 3. 5789 kW

✗ 4. 6900 kW

Question ID : **4410091129223**
Option 1 ID : **4410094452428**
Option 2 ID : **4410094452429**
Option 3 ID : **4410094452426**
Option 4 ID : **4410094452427**

Q.17 Which of the following statements regarding Fire tube boiler is correct?

Ans ✗ 1. Water flows through the tubes and the hot water flow over these tubes.

✗ 2. Hot water flows through the tubes and the hot gases of combustion flow over these tubes.

✓ 3. The hot gasses of combustion pass through the tubes surrounded by water.

✗ 4. Water flows through the tubes and the hot gases of combustion flow over these tubes

Question ID : **4410091129221**
Option 1 ID : **4410094452421**
Option 2 ID : **4410094452420**
Option 3 ID : **4410094452419**
Option 4 ID : **4410094452418**

Q.18 What is the importance of a fusible plug in a geyser?

Ans ✗ 1. To protect the thermostat of the geyser

✗ 2. To release the extra water from the geyser

✓ 3. To protect the geyser against blasting due to excessive steam pressure

✗ 4. To protect the heating element against burning

Question ID : **4410091129218**
Option 1 ID : **4410094452408**
Option 2 ID : **4410094452407**
Option 3 ID : **4410094452409**
Option 4 ID : **4410094452406**

Q.19 Identify the INCORRECT statement about hunting in synchronous motors.

Ans ✗ 1. It can lead to loss of synchronism.

✗ 2. It causes shaft fatigue.

✓ 3. It causes oscillations of stator current frequency.

✗ 4. It causes oscillations in shaft torque.

Question ID : **4410091129231**
Option 1 ID : **4410094452458**
Option 2 ID : **4410094452461**
Option 3 ID : **4410094452460**
Option 4 ID : **4410094452459**

Q.20 In a synchronous motor, the output mechanical power available at the rotor shaft is _____ the gross mechanical power developed in the rotor.

Ans ✖ 1. independent of

✔ 2. less than

✖ 3. equal to

✖ 4. greater than

Question ID : **4410091129232**
Option 1 ID : **4410094452465**
Option 2 ID : **4410094452462**
Option 3 ID : **4410094452464**
Option 4 ID : **4410094452463**

Section : **Discipline5**

Q.1 The amount of luminous flux (visible light) incident on a surface per unit area is called _____.

Ans ✖ 1. luminance

✖ 2. candela power

✖ 3. candela

✔ 4. lux

Question ID : **4410091129249**
Option 1 ID : **4410094452532**
Option 2 ID : **4410094452531**
Option 3 ID : **4410094452530**
Option 4 ID : **4410094452533**

Q.2 If EA is the internal generated voltage of the synchronous generator and $V_ø$ is the phase voltage with Cos ø as power factor and torque angle as (δ) of the synchronous generator, then the static stability limit of the synchronous generator is _____.

Ans ✖ 1. Qout = 3 VøIA Sinø

✔ 2. P = 3 VøEAsinδ/Xs

✖ 3. Pout = 3 VøIA Cosø

✖ 4. Pmax = 3VøEA/Xs

Question ID : **4410091129238**
Option 1 ID : **4410094452489**
Option 2 ID : **4410094452487**
Option 3 ID : **4410094452488**
Option 4 ID : **4410094452486**

Q.3 For a NPN BJT, the maximum current DC gain is given in _____ configuration and minimum DC current gain is in _____ configuration.

Ans ✖ 1. common emitter; common base

✖ 2. common base; common emitter

✖ 3. common base; common collector

✔ 4. common collector; common base

Question ID : **4410091579**
Option 1 ID : **4410096311**
Option 2 ID : **4410096309**
Option 3 ID : **4410096312**
Option 4 ID : **4410096310**

Q.4 Which of the following statements regarding pitch factor are true?

A) The Nth harmonic pitch factor cannot be reduced to zero.
B) The flux density distribution contains both even and odd harmonics.
C) The components of the third harmonic do not appear in the line-line voltage.
D) Pitch factor is different for different harmonics.

Ans ✔ 1. Only C and D

✘ 2. Only A and C

✘ 3. Only A and B

✘ 4. Only B and C

Question ID : **4410091129239**
Option 1 ID : **4410094452491**
Option 2 ID : **4410094452490**
Option 3 ID : **4410094452492**
Option 4 ID : **4410094452493**

Q.5 How does the electric toaster adjust the toasting time?

Ans ✘ 1. By measuring the temperature of the heating element

✘ 2. By adjusting the power supply

✘ 3. By sensing the bread's moisture level

✔ 4. By using a built-in timer

Question ID : **4410091129257**
Option 1 ID : **4410094452565**
Option 2 ID : **4410094452563**
Option 3 ID : **4410094452564**
Option 4 ID : **4410094452562**

Q.6 If the cut-off frequency of an OP-AMP is 5 Hz and the voltage gain is 2,00,000, then the unity gain frequency is _____.

Ans ✘ 1. 40 kHz

✔ 2. 1 MHz

✘ 3. 10 MHz

✘ 4. 100 kHz

Question ID : **4410091142044**
Option 1 ID : **4410094503145**
Option 2 ID : **4410094503146**
Option 3 ID : **4410094503147**
Option 4 ID : **4410094503144**

Q.7 Which of the following amplifier configurations is also known as a source follower?

Ans ✔ 1. Common drain configuration

✘ 2. Common source configuration

✘ 3. Common gate configuration

✘ 4. Common substrate configuration

Question ID : **4410091142049**
Option 1 ID : **4410094503165**
Option 2 ID : **4410094503164**
Option 3 ID : **4410094503166**
Option 4 ID : **4410094503167**

Q.8 The Einstein relation in regard to semiconductors relates to _____.

Ans   ✗ 1. the gradient of electron concentration and the gradient of hole concentration in current equations

    ✔ 2. the mobility values in the drift current equations and the diffusion coefficient values in the diffusion current equation

    ✗ 3. the mobility values in the drift current equations and the diffusion current density in the diffusion current equation

    ✗ 4. intrinsic charge concentrations of electrons and holes in the semiconductor

Question ID : **4410091142045**
Option 1 ID : **4410094503150**
Option 2 ID : **4410094503148**
Option 3 ID : **4410094503149**
Option 4 ID : **4410094503151**

Q.9 If the Fermi level is nearer to conduction band and it lies just below the conduction band at room temprature, then the semiconductor is _____.

Ans   ✗ 1. a p-type semiconductor

    ✔ 2. an n-type semiconductor

    ✗ 3. both n-type and p-type semiconductor

    ✗ 4. an intrinsic semiconductor

Question ID : **4410091142050**
Option 1 ID : **4410094503170**
Option 2 ID : **4410094503169**
Option 3 ID : **4410094503171**
Option 4 ID : **4410094503168**

Q.10 The luminous flux emitted by a source per unit solid angle, measured in the direction in which the intensity is required, is called _____.

Ans   ✔ 1. luminous intensity

    ✗ 2. candle power

    ✗ 3. luminous flux

    ✗ 4. candela

Question ID : **4410091129250**
Option 1 ID : **4410094452535**
Option 2 ID : **4410094452536**
Option 3 ID : **4410094452534**
Option 4 ID : **4410094452537**

Q.11 The total quantity of light energy emitted per second from a luminous body is called _____.

Ans   ✗ 1. lumen

    ✗ 2. foot-candle

    ✔ 3. luminous flux

    ✗ 4. candle power

Question ID : **4410091129251**
Option 1 ID : **4410094452541**
Option 2 ID : **4410094452539**
Option 3 ID : **4410094452538**
Option 4 ID : **4410094452540**

Q.12 The electrode material used in spot welding is typically made of _____.

Ans   ✗ 1. stainless steel

✗ 2. chromium

✓ 3. copper

✗ 4. lead

Question ID : **4410091129253**
Option 1 ID : **4410094452547**
Option 2 ID : **4410094452549**
Option 3 ID : **4410094452548**
Option 4 ID : **4410094452546**

Q.13 Which of the following are the properties of Ajax Wyatt core type induction furnace?

I) The operating cost is high compared to the direct core type induction furnace.
II) Highly efficient for heat production
III) The furnace is suitable for continuous production
IV) The crucibles are present in the furnace

Ans   ✓ 1. Only II, III and IV

✗ 2. Only I and IV

✗ 3. Only II and III

✗ 4. Only I and III

Question ID : **4410091129254**
Option 1 ID : **4410094452553**
Option 2 ID : **4410094452550**
Option 3 ID : **4410094452552**
Option 4 ID : **4410094452551**

Q.14 Which of the following statements are correct about a ceiling fan?

I) It uses a permanent capacitor single phase induction motor.
II) The direction of rotation can be easily reversed by interchanging the connection to the supply of both the main and auxiliary winding.
III) It uses a capacitor start capacitor run single phase induction motor.
IV) The direction of rotation can be easily reversed by interchanging the connection to the supply of either the main or auxiliary winding alone.

Ans   ✗ 1. Only Statements III and IV

✓ 2. Only Statements I and IV

✗ 3. Only Statements I and III

✗ 4. Only Statements I and II

Question ID : **4410091129248**
Option 1 ID : **4410094452528**
Option 2 ID : **4410094452529**
Option 3 ID : **4410094452527**
Option 4 ID : **4410094452526**

Q.15 A 3-phase alternator has 3 poles and 36 stator slots with distributed windings. How many slots per pole per phase does it have?

Ans   ✓ 1. 4 slots per pole

✗ 2. 3 slots per pole

✗ 3. 6 slots per pole

✗ 4. 5 slots per pole

Question ID : **4410091184254**
Option 1 ID : **4410094671051**
Option 2 ID : **4410094671050**
Option 3 ID : **4410094671053**
Option 4 ID : **4410094671052**

Q.16 When light strikes a surface with an Absorption Factor of 0.8, what portion of the light is absorbed?

Ans ✅ 1. 80%

❌ 2. 20%

❌ 3. 0.8%

❌ 4. 8%

Question ID : **4410091129252**
Option 1 ID : **4410094452545**
Option 2 ID : **4410094452544**
Option 3 ID : **4410094452542**
Option 4 ID : **4410094452543**

Q.17 The NPN BJT transistor can work as closed switch in _____ region, open switch in _____ region and as an amplifier in the _____ region.

Ans ✅ 1. saturation; cut-off; active

❌ 2. cut-off; active; saturation

❌ 3. active; saturation; cut-off

❌ 4. active; cut-off; saturation

Question ID : **4410091572**
Option 1 ID : **4410096281**
Option 2 ID : **4410096283**
Option 3 ID : **4410096284**
Option 4 ID : **4410096282**

Q.18 Consider the following statements regarding the torque developed in synchronous motors.

A) It is the maximum torque at which a motor can start rotating at a given frequency.
B) Upon increasing the load, the magnetic locking between the stator and the rotor becomes weak.
C) At a load angle of 90°, the motor produces the maximum torque.

From the above-mentioned statements, the type of torque developed in synchronous motors is called the _____.

Ans ❌ 1. pull-in torque

❌ 2. starting torque

❌ 3. maximum torque

✅ 4. pull-out torque

Question ID : **4410091129233**
Option 1 ID : **4410094452466**
Option 2 ID : **4410094452469**
Option 3 ID : **4410094452468**
Option 4 ID : **4410094452467**

Q.19 A MOSFET will work as a switch when it is operated in _____.

Ans ❌ 1. linear region only

❌ 2. saturation region only

✅ 3. both cut-off and saturation region

❌ 4. cut-off region only

Question ID : **4410091142048**
Option 1 ID : **4410094503163**
Option 2 ID : **4410094503161**
Option 3 ID : **4410094503162**
Option 4 ID : **4410094503160**

Q.20 Which of the following relations is correct about the amplification factor of a JFET?

Ans   ✗ 1. Amplification factor = AC drain resistance / trance-conductance

       ✗ 2. Amplification factor = AC drain resistance + trance-conductance

       ✓ 3. Amplification factor = AC drain resistance × trance-conductance

       ✗ 4. Amplification factor = AC drain resistance – trance-conductance

Question ID : **4410091142047**
Option 1 ID : **4410094503157**
Option 2 ID : **4410094503159**
Option 3 ID : **4410094503156**
Option 4 ID : **4410094503158**

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