

DSSSB JE

Previous Year Paper
Electrical 22 June 2022
Shift 3





GOVT. OF NCT OF DELHI
Delhi Subordinate Services Selection Board
FC-18, Institutional Area, Karkardooma, Delhi – 110092.
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Participant Name	
Test Center Name	
Test Date	22/06/2022
Test Time	4:30 PM - 6:30 PM
Subject	Junior Engineer (Electrical) or Section Officer (Electrical)

Section : Mental Ability

Q.1 Given below are 2 statements followed by 3 conclusions. Consider the statements and conclusions to be true even if they vary from commonly known facts and then decide which of the conclusions follow/s from the given statements.

Statement:
Some flowers are leaves.
All petals are flowers.

Conclusions:
I. All petals are leaves.
II. Some leaves are petals.
III. No petal is a leaf.

- Ans
- A. Only conclusion III follows.
 - B. All the conclusions follow.
 - C. None of the conclusions follows.
 - D. Conclusions I and II follow.

Question ID : 1841222083

Q.2 Choose the wrong number in the given number series.

13, 47, 193, 769, 3073

- Ans
- A. 47
 - B. 13
 - C. 769
 - D. 193

Question ID : 1841222098

Q.3 छह दोस्त M, N, O, P, Q और R, एक ही कक्षा में पढ़ते हैं, एक ही इमारत में रहते हैं लेकिन अलग-अलग मंजिलों पर रहते हैं। भूतल को पहली मंजिल के रूप में, इसके ऊपर की मंजिल को दूसरी मंजिल के रूप में क्रमांकित किया गया है और इसी तरह से अन्य मंजिलों को क्रमांकित करते हुए सबसे ऊपरी मंजिल को छठी मंजिल के रूप में क्रमांकित किया गया है। P, M के मंजिल से दो मंजिल ऊपर रहता है, जो कि Q के मंजिल से तीन मंजिल ऊपर रहता है। R, M के मंजिल के ऊपर या नीचे नहीं रहता है। R किस मंजिल पर रहता है?

- Ans
- A. 2nd
 - B. 5th
 - C. 1st
 - D. 4th

Question ID : 1841222082

Q.4 If in a code language 'LAWYER' is written as 'NIUAWP', then how will 'JUDGE' be written in the same code language?

- Ans
- A. HCINQ
 - B. ICHQN
 - C. IKHYN
 - D. ACZQF

Question ID : 1841222087

Q.5 If

- A % B means A is multiplied to B,
- A # B means A is added to B,
- A @ B means A is divided by B,
- A \$ B means B is subtracted from A;

then what is the value of $17 \# 19 \$ 23 \% 18 @ 3$?

- Ans
- A. 39
 - B. -102
 - C. -86
 - D. 47

Question ID : 1841222099

Q.6 Students of a class are standing in the order of increasing height for going to playground in games period. Only five friends are standing after Sohini. Only Thirteen friends are shorter than Sohini. How many total students are standing in the queue?

- Ans
- A. 18
 - B. 19
 - C. 14
 - D. 17

Question ID : 1841222081

Q.7 Three out of four letter cluster-pairs are similar in some manner and one is different. Select the odd one out.

- Ans A. GPD : TKW
 B. OMG : LNT
 C. SFI : HUR
 D. LTP : OGL

Question ID : 1841222093

Q.8 Which number will be there in place of the question mark (?) in the given number matrix?

7	13	81
15	9	125
18	14	?

- Ans A. 256
 B. 514
 C. 242
 D. 302

Question ID : 1841222097

Q.9 If all the letters of word 'ELEPHANTS' are rearranged in alphabetical order, which letter is in the middle most position?

- Ans A. N
 B. L
 C. P
 D. H

Question ID : 1841222086

Q.10 If

A * B means A is the father of B,
A # B means A is the mother of B,
A @ B means A is the husband of B,
A \$ B means A is the son of B;

then for the given expression T \$ M @ Q # F * X, how is T related to X?

- Ans A. Cousin
 B. Brother
 C. Grandfather
 D. Uncle

Question ID : 1841222089

Q.11 Which two numbers should be interchanged to make the given equation correct?

$$81 \div 25 - 76 \times 2 + 3 = -100$$

- Ans A. 25 and 3
 B. 76 and 2
 C. 3 and 81
 D. 25 and 76

Question ID : 1841222100

Q.12 If at 3.30, a clock's minute hand directs towards South West, which direction will the minute hand of the same clock direct at 4.15?

- Ans A. North-East
 B. East
 C. North-West
 D. South-East

Question ID : 1841222088

Q.13 Five friends A, B, C, D and E are sitting together and talking about their ages. E is elder to only two friends. C is younger to only three friends. B is not the youngest. D is younger to only one friend. Who is the youngest?

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

Question ID : 1841222084

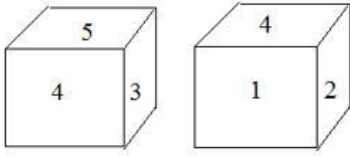
Q.14 Select the option which is related to the third term in the same way as second term is related to the first term.

RYG : NCC :: SLP : ?

- Ans A. OHL
 B. WPT
 C. WTP
 D. OPL

Question ID : 1841222091

Q.15 Two positions of the same dice, the six faces of which are numbed 1 to 6, are given.



Which face is opposite the face marked 6?

- Ans A. 4
 B. 5
 C. 3
 D. 2

Question ID : 1841222096

Q.16 Select the correct mirror image of the given figure if the mirror is placed at the right side of the figure.



Ans

- A.
- B.
- C.
- D.

Question ID : 1841222095

Q.17 E is the daughter of F's mother's mother-in-law T. G is the husband of T and has only one son Y. How is Y related to F?

- Ans
- A. Uncle
 - B. Brother
 - C. Cousin
 - D. Father

Question ID : 1841222090

Q.18 Three out of four letter clusters are similar in some manner and one is different . Select the odd one out .

- Ans
- A. SMR
 - B. JEI
 - C. QKP
 - D. VPU

Question ID : 1841222092

Q.19 What will be the missing letter in the given letter series.

W, Q, ?, H, E

- Ans
- A. O
 - B. K
 - C. N
 - D. L

Question ID : 1841222085

Q.20 Given below is a statement followed by two assumptions. Decide which of the assumptions is/are implicit in the given statement.

Statement :

A teacher warns the students, " If you don't complete the homework, I will call your parents."

Assumptions :

- I. All students don't complete homework.
- II. With the warning, all the students may complete the homework.

- Ans
- A. Both the assumptions are implicit.
 - B. None of the assumptions is implicit.
 - C. Only assumption II is implicit.
 - D. Only assumption I is implicit.

Question ID : 1841222094

Section : General Awareness

Q.1 The Finance Commission of India is constituted by the President of India as per provision of which Article of the Indian constitution?

- Ans A. 232
 B. 219
 C. 280
 D. 210

Question ID : 1841222120

Q.2 Where is the headquarter of Small Industries Development Bank of India (SIDBI)?

- Ans A. Lucknow
 B. Ahmedabad
 C. Bengaluru
 D. Jaipur

Question ID : 1841222114

Q.3 The feature in the Indian constitution related to the removal of Supreme Court and High court judges has been taken from which country?

- Ans A. Canada
 B. Japan
 C. United States of America
 D. Australia

Question ID : 1841222119

Q.4 Union Railway minister Ashwini Vaishnaw flagged off the Jan Shatabdi Express between Agartala and Jiribam connecting which two north eastern states?

- Ans A. Assam and Manipur
 B. Meghalaya and Assam
 C. Assam and Tripura
 D. Tripura and Manipur

Question ID : 1841222116

Q.5 निम्नलिखित में से वह कौन सा स्थान है जहां इंडियन ऑयल कंपनी (अब कॉर्पोरेशन) लिमिटेड द्वारा भारत की पहली सार्वजनिक क्षेत्र की रिफाइनरी शुरू की गई थी?

- Ans A. रसोन
 B. एबन
 C. नूनमती
 D. अभय

Question ID : 1841222117

Q.6 Who became the first Indian to grab World no 1 in Under-19 (U-19) Girls Singles category with 10,810 points in the latest Badminton World Federation (BWF) Junior rankings?

- Ans**
- A. Simran Singhi
 - B. Ritika Thakar
 - C. Tasnim Mir
 - D. Malvika Bansod

Question ID : 1841222107

Q.7 The Indian Space Research Organisation (ISRO) successfully test-fired which engine that would power India's first human-carry rocket (Gaganyaan human space mission) on 24th January 2022.

- Ans**
- A. Vikas
 - B. Charu
 - C. Nirbhay
 - D. Naman

Question ID : 1841222102

Q.8 Which planet's one orbit around the sun takes nearly 164 years?

- Ans**
- A. Jupiter
 - B. Uranus
 - C. Saturn
 - D. Neptune

Question ID : 1841222118

Q.9 Which of the following Panch Prayag indicates the place where the river Alaknanda meets river Bhagirathi -GANGA?

- Ans**
- A. Devprayag
 - B. Rudraprayag
 - C. Nandprayag
 - D. Karnaprayag

Question ID : 1841222115

Q.10 The group of temples of Khajuraho testifies to the culmination of northern Indian temple art and architecture of the which dynasty?

- Ans**
- A. Rashtrakutas
 - B. Chandella
 - C. Haryanka
 - D. Chalukya

Question ID : 1841222111

Q.11 Who is the goalkeeper named as the captain of India Women's Hockey team at the upcoming women's Asia Cup in Muscat?

- Ans A. Nikki Pradhan
 B. Savita Punia
 C. Sushila Chanu
 D. Deep Grace

Question ID : 1841222106

Q.12 In which of the following state Ghode Modni dance is performed during the festival of Shigmo?

- Ans A. Sikkim
 B. Karnataka
 C. Manipur
 D. Goa

Question ID : 1841222112

Q.13 Odisha Cabinet has decided to extend the upper age limit for entry to state government service to ____ for three years up to 2023.

- Ans A. 42
 B. 40
 C. 38
 D. 35

Question ID : 1841222105

Q.14 Insurance regulator IRDAI has announced that three companies have been identified as Domestic Systemically Important Insurers (D-SIIs) for 2021-22. Which of the following is NOT one of them?

- Ans A. General Insurance Corporation of India
 B. Max Life Insurance Company Ltd.
 C. Life Insurance Corporation of India
 D. New India Assurance Company Ltd.

Question ID : 1841222104

Q.15 Which of the following festivals is NOT celebrated in Jharkhand?

- Ans A. Chhau
 B. Rohini
 C. Tusu
 D. Karama Utsav

Question ID : 1841222113

Q.16 The Charter Act of ____ was the first step towards education being made an objective of the government.

Ans A. 1813

B. 1865

C. 1837

D. 1848

Question ID : 1841222110

Q.17 In which year did Humayun captured Kandhar with the help of Shah Tahmāsp of Iran?

Ans A. 1567

B. 1545

C. 1654

D. 1612

Question ID : 1841222108

Q.18 Who becomes first Indian to complete prestigious International Air and Space Program (IASP) at NASA Launch Operations' Kennedy Space Centre in Alabama, the U.S?

Ans A. Nancy Elan

B. Sunita Gehlot

C. Jahnvi Dangeti

D. Anita Roman

Question ID : 1841222103

Q.19 CSIR-Central Drug Research Institute (CDRI) has developed an indigenous RT-PCR diagnostic kit for the testing of the Omicron variant of coronavirus. It is the first kit made by any government institution. What is it named?

Ans A. "Omni C "

B. "Shanti"

C. 'Om'

D. "Jeevan"

Question ID : 1841222101

Q.20 Who visited England as an ambassador of the Mughal king Akbar Shah II (father of Bahadur Shah II)?

Ans A. Raja Ram Mohan Roy

B. Bankim Chandra Bose

C. Subhash Chandra Bose

D. Bal Gangadhar Tilak

Question ID : 1841222109

Q.1

Simplify: $\frac{\left(\frac{27+15}{2}\right)^2 - \left(\frac{27-15}{2}\right)^2}{5}$

Ans

- A. $\frac{81}{4}$
- B. 81
- C. $\frac{81}{20}$
- D. 8.1

Question ID : 1841222123

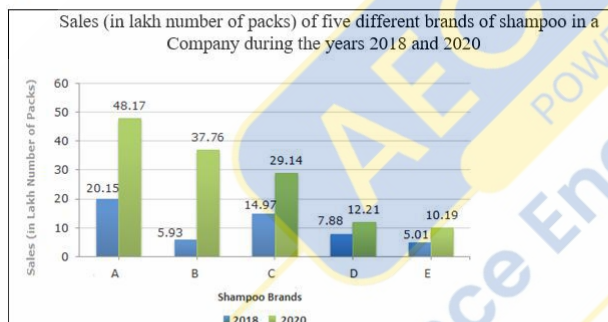
Q.2 The sum of three natural numbers is 125. If the ratio of the first number to the second number is 3 : 2 and that of the second number to the third number is 3 : 5, then what is the second number?

Ans

- A. 35
- B. 30
- C. 38
- D. 42

Question ID : 1841222126

Q.3 A company provides five different brands of shampoo A, B, C, D and E. The sales of these five brands (in lakh number of packs) during the years 2018 and 2020 are shown in the following bar graph.



The sale of brand A shampoo in 2020 was by what percentage more than the sales of brand B shampoo in 2020? (Rounded off to nearest integer)

Ans

- A. 22%
- B. 23%
- C. 21%
- D. 25%

Question ID : 1841222139

Q.4 How many metres of cloth 5 m wide will be required to make a conical tent, the radius of whose base is 14 m and height is 48 m?

- Ans
- A. 415
 - B. 410
 - C. 440
 - D. 390

Question ID : 1841222136

Q.5 The value of $63 \times 6 \div 54 - 11 \div 7 \times 35 + 156 \times 8 \div 13 - 9 \div 49 \times 196 + 108 \times 14 \div 36$ is:

- Ans
- A. 62
 - B. 73
 - C. 46
 - D. 54

Question ID : 1841222124

Q.6 8 males or 16 females can do a work in 48 days. In how many days can 5 males and 12 females together complete the same work? (nearest to integer)

- Ans
- A. 35
 - B. 36
 - C. 37
 - D. 38

Question ID : 1841222130

Q.7 The value of $\frac{(4.9)^2 - (1.1)^2}{4.9 \times 4.9 + 2.2 \times 4.9 + 1.1 \times 1.1}$ is:

- Ans
- A. $\frac{19}{30}$
 - B. $\frac{7}{10}$
 - C. $\frac{9}{15}$
 - D. $\frac{2}{3}$

Question ID : 1841222121

Q.8 The following table shows the total number of students joined in six different schools A, B, C, D, E and F in three different years 2017 -2019, and the ratio of boys and girls among them.

Schools	2017		2018		2019	
	Total	Boys : Girls	Total	Boys : Girls	Total	Boys : Girls
A	870	3 : 2	726	7 : 4	715	8 : 5
B	986	17 : 12	867	12 : 5	924	8 : 13
C	810	8 : 7	792	7 : 4	637	4 : 3
D	876	7 : 5	828	11 : 7	988	7 : 12
E	646	11 : 8	754	7 : 6	672	3 : 5
F	847	4 : 7	845	8 : 5	952	9 : 8

What is the total number of boys from all six schools in the year 2018?

- Ans**
- A. 2460
 - B. 3010
 - C. 2930
 - D. 1802

Question ID : 1841222138

Q.9 The profit earned on an item is 150% of the cost price. If the cost price increases by 50% but the selling price remains same, then what is the new profit percentage?

- Ans**
- A. $72\frac{2}{3}\%$
 - B. $66\frac{2}{3}\%$
 - C. $64\frac{1}{3}\%$
 - D. $54\frac{1}{3}\%$

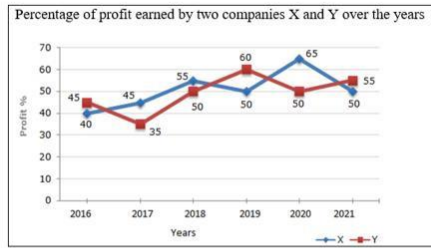
Question ID : 1841222127

Q.10 The average of five numbers A, B, C, D and E is 48. If the sum of A and B is equal to one-third of sum of C, D and E, then what is the average of A and B?

- Ans**
- A. 38
 - B. 42
 - C. 34
 - D. 30

Question ID : 1841222132

Q.11 The following line graph represents the percentage of profit earned by two companies X and Y during the period 2016 - 2021.



Formula: Profit % = $\frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$

The incomes of two companies X and Y in 2020 were in the ratio of 3 : 4 respectively. What was the respective ratio of their expenditures in 2020?

- Ans**
- A. 18 : 25
 - B. 15 : 22
 - C. 20 : 8
 - D. 17 : 9

Question ID : 1841222140

Q.12 If the difference between the 11% and 21% of a number is 56, then what is the 12.5% of the same number?

- Ans**
- A. 60
 - B. 80
 - C. 90
 - D. 70

Question ID : 1841222125

Q.13 The following table shows the number of players from six different states A, B, C, D, E and F in a certain country who participated in eight international sports events in the year 2018.

Events	States					
	A	B	C	D	E	F
Gymnastics	9	9	12	14	6	10
High Jump	14	8	16	20	12	20
100 m Race	16	9	15	6	12	8
Judo	13	10	9	11	8	15
Long Jump	7	13	11	12	15	14
Shooting	13	10	9	11	8	15
Shot Put	8	12	22	14	18	16
Swimming	10	8	17	15	10	12

The number of players from E who participated in high jump is what percentage more or less than the number of players from F who participated in shooting?

- Ans**
- A. 30% less
 - B. 20% less
 - C. 30% more
 - D. 20% more

Question ID : 1841222137

Q.14 If the radius of in-circle of a triangle is 6.5 cm and the perimeter of a triangle is 48 cm, then what is the area (in cm^2) of the triangle?

- Ans
- A. 312
 - B. 164
 - C. 142
 - D. 156

Question ID : 1841222134

Q.15 The difference between the compound interest and simple interest on a certain sum at an interest of 10% per annum for 2 years is ₹128. What is the sum (in ₹) of amount?

- Ans
- A. 10,600
 - B. 9,860
 - C. 12,800
 - D. 11,320

Question ID : 1841222128

Q.16 If the area of a triangle is $1,815 \text{ cm}^2$ and the ratio of its base and the corresponding altitude in 5 : 6, then what is the altitude (in cm) of the triangle?

- Ans
- A. 66
 - B. 42
 - C. 56
 - D. 55

Question ID : 1841222135

Q.17 The greatest number that exactly divides 133, 1085 and 2380 is:

- Ans
- A. 7
 - B. 133
 - C. 28
 - D. 14

Question ID : 1841222122

Q.18 A family has two grandparents, two parents and two grandchildren. Three years ago, the average ages of grandparents, parents and grandchildren were 75, 35 and 4 respectively. What is the average age of the family after seven years from now?

- Ans
- A. 48
 - B. 49
 - C. 52
 - D. 50

Question ID : 1841222133

Q.19 If P, Q and R together can finish a piece of work in 12 days, P alone can do this work in 24 days and Q in 30 days, then in how many days R can do this work?

- Ans
- A. 150
 - B. 140
 - C. 110
 - D. 120

Question ID : 1841222129

Q.20 A builder can build a rental toilet in 25 hours while a destroyer can demolish such a shop completely in 45 hours. Both the builder and the destroyer were initially set to work together on level ground. But after 30 hours, the destroyer was taken out. What was the total time taken to build the toilet?

- Ans
- A. 41 hours 40 minutes
 - B. 40 hours 15 minutes
 - C. 42 hours 20 minutes
 - D. 38 hours 30 minutes

Question ID : 1841222131

Section : General English

Q.1 Select the most appropriate option to fill in the blank.
He came in very quietly to avoid _____ his father.

- Ans
- A. waking
 - B. sleeping
 - C. walking
 - D. carrying

Question ID : 1841222155

Q.2 Select the most appropriate Antonym of the given word.
PITY

- Ans
- A. scandal
 - B. dishonor
 - C. Acclaim
 - D. cruelty

Question ID : 1841222147

Q.3 Read the sentence and select the homophone which will correctly complete the sentence.
The past few _____ have turned out to be the worse in her life.

- Ans
- A. Days
 - B. Dais
 - C. Dose
 - D. Daze

Question ID : 1841222149

Q.4 Complete the sentence using an appropriate preposition choosing from the following options given.

We need to get _____ the train at the next stop.

- Ans
- A. of
 - B. in
 - C. off
 - D. on

Question ID : 1841222143

Q.5 Complete the sentence using an appropriate preposition choosing from the following options given.

All passengers _____ this flight must complete a landing form.

- Ans
- A. at
 - B. across
 - C. aboard
 - D. in

Question ID : 1841222141

Q.6 Put the verbs in brackets into correct or more suitable verb form (future tense) choosing from the options given below.

I (met) Mr. Rawat Singh tomorrow.

- Ans
- A. Will meet
 - B. Have met
 - C. Was to meet
 - D. Will be meet

Question ID : 1841222145

Q.7 Given below are four jumbled sentences select the option that gives their correct logical sequence.

A. The study of food science involves an understanding of the changes that occur in these components during food preparation whether natural or induced by handling procedures.

B. Food is a mixture of many different chemical components.

C. These reactions may be a result of the interaction between components, with the medium of cooking, and the environmental conditions to which they are subjected during cooking

D. Many physical and chemical reactions occur during food preparation.

- Ans
- A. DBAC
 - B. ACBD
 - C. BADC
 - D. BCDA

Question ID : 1841222154

Q.8 Put the verbs in brackets into correct or more suitable verb form (past tense) choosing from the options given below.
I (have) a shower when the phone (ring).

- Ans
- A. will have, will ring
 - B. will have, rang
 - C. was having, will ring
 - D. was having, rang

Question ID : 1841222146

Q.9 Fill in the blank with the correctly spelled word choosing from the options given below.
The reason of him being unavailable soon became _____.

- Ans
- A. Aparent
 - B. Aparrent
 - C. Apparrent
 - D. Apparent

Question ID : 1841222152

Q.10 Select the most appropriate Synonym of the given word.
GUILT

- Ans
- A. Injury
 - B. Regret
 - C. Heartache
 - D. Corrupt

Question ID : 1841222148

Q.11 Select the most appropriate meaning which best expresses the meaning of the given Idiom/Phrase in the bold.
Satish bore away many prizes at the school sports.

- Ans
- A. Won
 - B. Recommended
 - C. Reaped
 - D. Profited

Question ID : 1841222151

Q.12 Select the most appropriate meaning which best expresses the meaning of the Idiom/Phrase in the bold.
The matter has been cleared up.

- Ans
- A. commented
 - B. explained
 - C. Said
 - D. Defined

Question ID : 1841222150

Q.13 Complete the sentence using an appropriate adverb choosing from the following options given.

By the end of party, there was _____ any food left.

- Ans
- A. Hardly
 - B. Lastly
 - C. Generally
 - D. Softly

Question ID : 1841222142

Q.14 Identify the Adverb/Adverbs in the following sentence choosing one among the options given.

He thereupon nearly died of laughing at the poor fellow wearily struggling there in the filthiest mud.

- Ans
- A. died, struggling
 - B. thereupon, mud
 - C. nearly, wearily
 - D. laughing, filthiest

Question ID : 1841222144

Q.15 Fill in the blank with the correctly spelled word choosing from the options given below.

The doctor and nurses rushed as the patient seemed to be _____.

- Ans
- A. Consious
 - B. Conscous
 - C. Conciuous
 - D. Conscious

Question ID : 1841222153

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Comprehension:

Read the following passage and answer the questions given below.

Breakfast is important particularly for a school child. It breaks the fast of the sleep hours and prepares a child for problem solving and memory spans in the learning period at school. Children who skip breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast. Study conducted by NIN (2003-2004) confirmed that eating breakfast regularly is a significant factor influencing better academic performance. Eating breakfast at home is a healthy habit. It is not enough for children to have just a glass of milk. An ideal breakfast should have all basic five food groups.

Liquids like porridges are absorbed quickly. Solids like idlis and rotis are preferred. It is better to include eggs in breakfast as they are rich in protein, vitamins and minerals. A good mix of low and high glycaemic index foods release energy continuously. Ready to eat cereals provide calcium, protein, iron and vitamin due to the added substances such as milk, fruits, dry fruits and nuts.

Benefits of breakfast eating include

- improved cognitive function and academic performance in school.
- improved school attendance.
- improved micronutrient profile.
- reduced body mass index.
- improvement in psychosocial wellbeing, discipline and social behaviour.
- less aggression and fewer suspensions.

Government of Tamil Nadu is planning to introduce breakfast for school children in addition to mid-day meal.

SubQuestion No : 16

Q.16 Select the most appropriate Antonym of the word SUSPENSION?

- Ans A. Merge
 B. Reunion
 C. Unity
 D. Junction

Question ID : 1841222161

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Comprehension:

Read the following passage and answer the questions given below.

Breakfast is important particularly for a school child. It breaks the fast of the sleep hours and prepares a child for problem solving and memory spans in the learning period at school. Children who skip breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast. Study conducted by NIN (2003-2004) confirmed that eating breakfast regularly is a significant factor influencing better academic performance. Eating breakfast at home is a healthy habit. It is not enough for children to have just a glass of milk. An ideal breakfast should have all basic five food groups.

Liquids like porridges are absorbed quickly. Solids like idlis and rotis are preferred. It is better to include eggs in breakfast as they are rich in protein, vitamins and minerals. A good mix of low and high glycaemic index foods release energy continuously. Ready to eat cereals provide calcium, protein, iron and vitamin due to the added substances such as milk, fruits, dry fruits and nuts.

Benefits of breakfast eating include

- improved cognitive function and academic performance in school.
- improved school attendance.
- improved micronutrient profile.
- reduced body mass index.
- improvement in psychosocial wellbeing, discipline and social behaviour.
- less aggression and fewer suspensions.

Government of Tamil Nadu is planning to introduce breakfast for school children in addition to mid-day meal.

SubQuestion No : 17

Q.17 How many food groups does an ideal breakfast consist of?

- Ans**
- A. Two
 - B. Three
 - C. Five
 - D. Four

Question ID : 1841222158

Comprehension:

Read the following passage and answer the questions given below.

Breakfast is important particularly for a school child. It breaks the fast of the sleep hours and prepares a child for problem solving and memory spans in the learning period at school. Children who skip breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast. Study conducted by NIN (2003-2004) confirmed that eating breakfast regularly is a significant factor influencing better academic performance. Eating breakfast at home is a healthy habit. It is not enough for children to have just a glass of milk. An ideal breakfast should have all basic five food groups.

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Government of Tamil Nadu is planning to introduce breakfast for school children in addition to mid-day meal.

SubQuestion No : 18

Q.18 Which among these options does not include in the benefits of breakfast?

- Ans
- A. Improves cognitive function
 - B. Improves micronutrient profile
 - C. Reduces body mass index
 - D. Causes aggression and suspensions

Question ID : 1841222159

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Comprehension:

Read the following passage and answer the questions given below.

Breakfast is important particularly for a school child. It breaks the fast of the sleep hours and prepares a child for problem solving and memory spans in the learning period at school. Children who skip breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast. Study conducted by NIN (2003-2004) confirmed that eating breakfast regularly is a significant factor influencing better academic performance. Eating breakfast at home is a healthy habit. It is not enough for children to have just a glass of milk. An ideal breakfast should have all basic five food groups.

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SubQuestion No : 19

Q.19 Which among these titles best suits the given passage?

- Ans
- A. Particulars of school child
 - B. Side effects of Breakfast
 - C. Healthy habits of a child
 - D. Importance of Breakfast

Question ID : 1841222160

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Advance Engineering Classes

Comprehension:

Read the following passage and answer the questions given below.

Breakfast is important particularly for a school child. It breaks the fast of the sleep hours and prepares a child for problem solving and memory spans in the learning period at school. Children who skip breakfast do not make up for nutrient and energy deficits later in the day and tend to perform more poorly on tests of cognition than those who eat breakfast. Study conducted by NIN (2003-2004) confirmed that eating breakfast regularly is a significant factor influencing better academic performance. Eating breakfast at home is a healthy habit. It is not enough for children to have just a glass of milk. An ideal breakfast should have all basic five food groups.

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- improved micronutrient profile.
- reduced body mass index.
- improvement in psychosocial wellbeing, discipline and social behaviour.
- less aggression and fewer suspensions.

Government of Tamil Nadu is planning to introduce breakfast for school children in addition to mid-day meal.

SubQuestion No : 20

Q.20 What factor does eating breakfast regularly promote to?

- Ans
- A. Communication Skills
 - B. Better life span
 - C. Academic performance
 - D. Metabolic rate

Question ID : 1841222157

Section : General Hindi

Q.1 'देखने में अच्छा-भला, भीतर से दुखी' अर्थ के लिए उपयुक्त लोकोक्ति कौन सी है?

- Ans
- A. चिकना मुँह पेट खाली
 - B. चिकने घड़े पर पानी नहीं ठहरता
 - C. चिराग तले अँधेरा
 - D. चिकने मुँह को सब चूमते हैं

Question ID : 1841222170

Q.2 'सरोज' का सही संधि विच्छेद कौन सा है?

- Ans
- A. सर: + ओज
 - B. सर + ओज
 - C. सर: + ज
 - D. स: + ओज

Question ID : 1841222165

Q.3 'तुम निरंतर प्रगतिपथ पर अग्रसर रहो।' यह किस प्रकार का वाक्य है?

- Ans A. विस्मयवाचक
 B. इच्छावाचक
 C. संकेतवाचक
 D. संदेहवाचक

Question ID : 1841222174

Q.4 'हवा चल रही थी।' वाक्य का काल है-

- Ans A. पूर्ण भूत
 B. संदिग्ध भूत
 C. सामान्य भूत
 D. अपूर्ण भूत

Question ID : 1841222171

Q.5 'तिरस्कृत' का विलोम होगा-

- Ans A. समर्पित
 B. निरादृत
 C. अनादृत
 D. आदृत

Question ID : 1841222168

Q.6 'मन को शांति मिलने' के अर्थ में किस मुहावरे का प्रयोग होता है?

- Ans A. कलेजा ठंडा होना
 B. कलेजा मुँह को आना
 C. कलेजे पर साँप लोटना
 D. कलेजा धक से रह जाना

Question ID : 1841222169

Q.7 'शिलीमुख' किसका पर्यायवाची है?

- Ans A. किरण
 B. बाण
 C. पर्वत
 D. तालाब

Question ID : 1841222167

Q.8 'शस्त्रास्त्र' का सही संधि विच्छेद है-

- Ans A. शस्त + रस्त्र
 B. शस्त + अस्त्र
 C. शास्त्र + अस्त्र
 D. शस्त्र + अस्त्र

Question ID : 1841222166

Q.9 'सूर्य उगता होगा।' वाक्य का काल है-

- Ans A. सामान्य भविष्य
 B. सामान्य वर्तमान
 C. संदिग्ध भूत
 D. संदिग्ध वर्तमान

Question ID : 1841222172

Q.10 'वह विद्वान है पर लोग ऐसा नहीं समझते।' यह किस प्रकार का वाक्य है?

- Ans A. मिश्र वाक्य
 B. सरल वाक्य
 C. संयुक्त वाक्य
 D. उपवाक्य

Question ID : 1841222173

Q.11 कृष्ण ने गोपियों की मटकी _____ दी। वाक्य के रिक्त स्थान के लिए उपयुक्त शब्द होगा-

- Ans A. तोड़
 B. मरोड़
 C. फोड़
 D. जोड़

Question ID : 1841222175

Q.12 'अपना दोष दूसरों के सिर जड़ना अच्छी बात नहीं है।' वाक्य के रेखांकित अंश को किस शब्द से प्रतिस्थापित किया जा सकता है?

- Ans A. रखना
 B. जोड़ना
 C. मढ़ना
 D. फोड़ना

Question ID : 1841222176

Q.13 'तुम्हारा घर बहुत सुंदर है।' वाक्य के रेखांकित पद में किस कारक का प्रत्यय है?

- Ans A. कर्ताकारक
 B. सम्बोधनकारक
 C. अधिकरणकारक
 D. संबंधकारक

Question ID : 1841222162

Q.14 'सफेद' किस प्रकार का विशेषण है?

- Ans A. गुणवाचक
 B. परिमाणबोधक
 C. संख्यावाचक
 D. सार्वनामिक

Question ID : 1841222164

Q.15 निम्नलिखित में से कौन सा विकल्प 'मूल क्रियाविशेषण' है?

- Ans A. अचानक
 B. प्रतिदिन
 C. आजन्म
 D. धड़ाधड़

Question ID : 1841222163

Comprehension:

जो यथार्थ है, वह तर्कमूलक है और जो तर्कमूलक है उन सबको अपना विषय बनाने का दावादार्शनशास्त्र करता है। प्रकृति और मानव जीवन के केवल सामान्यीकरण का पतालगाना ही इसका व्यवसाय नहीं है, बल्कि प्रकृति में, मानव मन में, समस्त सामाजिकसंस्थाओं और राष्ट्रों के इतिहास में तथा विश्व के प्रगतिशील उत्थान में इस उपस्थितिकी, जैविक गतिविधियों की और तर्क की प्रतिक्रिया की खोज करना भी दर्शन का कार्य है। दूसरे शब्दों में, जो कुछ ससीम और सापेक्ष है, उसमें विश्राम लेने के बजाय, दर्शनशास्त्र का विशिष्ट कार्यक्षेत्र पूरे सत्य की खोज है। उपरोक्त गद्यांश के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए-

SubQuestion No : 16

Q.16 दर्शन के आधार में क्या है?

- Ans A. तर्क
 B. संवेदना
 C. कल्पना
 D. अनुमान

Question ID : 1841222178

Comprehension:

जो यथार्थ है, वह तर्कमूलक है और जो तर्कमूलक है उन सबको अपना विषय बनाने का दावादार्शनशास्त्र करता है। प्रकृति और मानव जीवन के केवल सामान्यीकरण का पतालगाना ही इसका व्यवसाय नहीं है, बल्कि प्रकृति में, मानव मन में, समस्त सामाजिकसंस्थाओं और राष्ट्रों के इतिहास में तथा विश्व के प्रगतिशील उत्थान में इस उपस्थितिकी, जैविक गतिविधियों की और तर्क की प्रतिक्रिया की खोज करना भी दर्शन का कार्य है। दूसरे शब्दों में, जो कुछ ससीम और सापेक्ष है, उसमें विश्राम लेने के बजाय, दर्शनशास्त्र का विशिष्ट कार्यक्षेत्र पूरे सत्य की खोज है। उपरोक्त गद्यांश के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए-

SubQuestion No : 17

Q.17 दर्शनशास्त्र का कार्य है-

- Ans A. सच्चाई का अनुमान लगाना
 B. पूरी सच्चाई का पता लगाना
 C. सच्चाई के अंशों का पता लगाना
 D. सच्चाई की कल्पना करना

Question ID : 1841222179

Comprehension:

जो यथार्थ है, वह तर्कमूलक है और जो तर्कमूलक है उन सबको अपना विषय बनाने का दावा दर्शनशास्त्र करता है। प्रकृति और मानव जीवन के केवल सामान्यीकरण का पता लगाना ही इसका व्यवसाय नहीं है, बल्कि प्रकृति में, मानव मन में, समस्त सामाजिक संस्थाओं और राष्ट्रों के इतिहास में तथा विश्व के प्रगतिशील उत्थान में इस उपस्थितिकी, जैविक गतिविधियों की और तर्क की प्रतिक्रिया की खोज करना भी दर्शन का कार्य है। दूसरे शब्दों में, जो कुछ ससीम और सापेक्ष है, उसमें विश्राम लेने के बजाय, दर्शनशास्त्र का विशिष्ट कार्यक्षेत्र पूरे सत्य की खोज है। उपरोक्त गद्यांश के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए-

SubQuestion No : 18**Q.18 'ससीम' का अर्थ होता है-**

- Ans A. सुन्दर
 B. असीमित
 C. सीमित
 D. शान्त

Question ID : 1841222181

Comprehension:

जो यथार्थ है, वह तर्कमूलक है और जो तर्कमूलक है उन सबको अपना विषय बनाने का दावा दर्शनशास्त्र करता है। प्रकृति और मानव जीवन के केवल सामान्यीकरण का पता लगाना ही इसका व्यवसाय नहीं है, बल्कि प्रकृति में, मानव मन में, समस्त सामाजिक संस्थाओं और राष्ट्रों के इतिहास में तथा विश्व के प्रगतिशील उत्थान में इस उपस्थितिकी, जैविक गतिविधियों की और तर्क की प्रतिक्रिया की खोज करना भी दर्शन का कार्य है। दूसरे शब्दों में, जो कुछ ससीम और सापेक्ष है, उसमें विश्राम लेने के बजाय, दर्शनशास्त्र का विशिष्ट कार्यक्षेत्र पूरे सत्य की खोज है। उपरोक्त गद्यांश के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए-

SubQuestion No : 19**Q.19 यथार्थ की प्रकृति है-**

- Ans A. संवेदनामूलक
 B. स्वप्नमूलक
 C. तर्कमूलक
 D. कल्पनामूलक

Question ID : 1841222180

Comprehension:

जो यथार्थ है, वह तर्कमूलक है और जो तर्कमूलक है उन सबको अपना विषय बनाने का दावा दर्शनशास्त्र करता है। प्रकृति और मानव जीवन के केवल सामान्यीकरण का पता लगाना ही इसका व्यवसाय नहीं है, बल्कि प्रकृति में, मानव मन में, समस्त सामाजिक संस्थाओं और राष्ट्रों के इतिहास में तथा विश्व के प्रगतिशील उत्थान में इस उपस्थितिकी, जैविक गतिविधियों की और तर्क की प्रतिक्रिया की खोज करना भी दर्शन का कार्य है। दूसरे शब्दों में, जो कुछ ससीम और सापेक्ष है, उसमें विश्राम लेने के बजाय, दर्शनशास्त्र का विशिष्ट कार्यक्षेत्र पूरे सत्य की खोज है। उपरोक्त गद्यांश के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए-

SubQuestion No : 20**Q.20 गद्यांश का सर्वाधिक उपयुक्त शीर्षक क्या होगा?**

- Ans A. दर्शनशिक्षा
 B. दर्शनशास्त्र
 C. दर्शनविज्ञान
 D. विज्ञान

Question ID : 1841222182

Q.1 Molarity is defined as the ration of:

- Ans A. moles of solute / litres of solution
 B. None of the above
 C. Molarity / normality
 D. gram equivalent weight of solute / litre of solution

Question ID : 1841222183

Q.2 Find the 14th term of the following arithmetic progression.
7, 12, 17, 22, 27,.....

- Ans A. 70
 B. 72
 C. 73
 D. 75

Question ID : 1841222191

Q.3 For a temperature rise of 20°C, a resistance is increased by 40%, the temperature coefficient is:

- Ans A. 0.02/°C
 B. 0.008/°C
 C. 0.004/°C
 D. 0.04/°C

Question ID : 1841222199

Q.4 A Coil has 1500 turns. A current of 4 Amp causes a flux of 8 mWb to link the coil. Find the self inductance of the coil.

- Ans A. 1.5 kH
 B. 3 H
 C. 1.5 H
 D. 3 kH

Question ID : 1841222201

Q.5 'If two charged particle are brought near each othe, they each exert a force on the other.' Which law is it?

- Ans A. Newtons 2nd law
 B. Gauss's Law
 C. Coulomb's Law
 D. Maxwell's Law

Question ID : 1841222186

Q.6 A free body diagram helps to analyze, which of the following?

- Ans
- A. the force only acted downward for weight
 - B. all the forces acted on the body
 - C. only gravitational force acted on the body
 - D. the force happened at joining point

Question ID : 1841222196

Q.7 If algebraic sum of moments of all the forces acting on the body about the axis of rotation is zero, the body _____.

- Ans
- A. is in equilibrium
 - B. is in instable
 - C. moves forward
 - D. moves backward

Question ID : 1841222195

Q.8 "The induced emf in a coil is equal to the rate of change of flux linkage", represents which of the following law?

- Ans
- A. Faraday's law of electromagnetic induction
 - B. Bio Savart's Law
 - C. Lenz Law
 - D. Ampere Circuital law

Question ID : 1841222187

Q.9 Find the differential equation of the curve $y^2 = 4ax$

- Ans
- A. $\frac{dy}{dx} = \frac{2x}{y}$
 - B. $\frac{xdy}{dx} = \frac{y}{2x}$
 - C. $\frac{dy}{dx} = \frac{y}{2x}$
 - D. $\frac{ydy}{dx} = \frac{y}{2x}$

Question ID : 1841222189

Q.10 Find the distance between the points (2, -3) and (-6, 3).

- Ans
- A. 10 units
 - B. 100 units
 - C. 8 units
 - D. 4 units

Question ID : 1841222192

Q.11 Three resistances each of $20\ \Omega$, $30\ \Omega$ and $50\ \Omega$ are connected in parallel. Determine the equivalent resistance.

- Ans
- A. $14\ \Omega$
 - B. $15\ \Omega$
 - C. $13\ \Omega$
 - D. $9.67\ \Omega$

Question ID : 1841222200

Q.12 Which gas has the highest calorific value?

- Ans
- A. Methane
 - B. Nitrogen
 - C. Oxygen
 - D. Hydrogen

Question ID : 1841222184

Q.13 You are standing in a running bus. When the bus is suddenly stopped, what will happen?

- Ans
- A. Your lower body stopped with the bus but the upper body moves forward
 - B. Your lower body moves upward but the upper body moves downward
 - C. There is no movement of your body
 - D. Your lower body stopped with the bus but the upper body moves downward

Question ID : 1841222197

Q.14
$$\begin{bmatrix} 2x + 2 & 5 \\ 3 & -2 \end{bmatrix} = \begin{bmatrix} 6 & 5 \\ 3 & -2 \end{bmatrix}$$

Find the value of x.

- Ans
- A. 2
 - B. 0
 - C. 3
 - D. 1

Question ID : 1841222190

Q.15 Find the value of $\left\{ i^{23} + \left(\frac{1}{i} \right)^{29} \right\}$ where i is imaginary number.

- Ans
- A. $2i$
 - B. $-2i$
 - C. Zero
 - D. 2

Question ID : 1841222193

Q.16 Eddy current and hysteresis loss put together are called as _____.

- Ans
- A. Magnetic losses
 - B. Core losses
 - C. All of the given options
 - D. Iron losses

Question ID : 1841222202

Q.17 Hard water is water that especially contains:

- Ans
- A. Ca^{+2} and Mg^{+2}
 - B. CO_2 and N_2
 - C. Ca and N_2
 - D. Ca and CO_2

Question ID : 1841222185

Q.18 A unit vector, \hat{a} is represented as _____.

- Ans
- A. $(2)X\frac{\vec{a}}{|a|}$
 - B. $3X(\frac{\vec{a}}{|a|})$
 - C. $\frac{\vec{a}}{|a|}$
 - D. $\frac{\vec{a}}{\vec{a}}$

Question ID : 1841222194

Q.19 "An object will not change its motion unless a force acts on it" Which law is it?

- Ans
- A. Newton's First Law
 - B. Biot-Savart Law
 - C. Newton's second law
 - D. Gauss Law

Question ID : 1841222198

Q.20 Which statement is incorrect for extrinsic semiconductor?

- Ans
- A. It is made by doping
 - B. Electrical conductivity is higher in comparison to intrinsic material
 - C. The number of holes and electrons is equal
 - D. It is impured material

Question ID : 1841222188

Section : Discipline2

Q.1 Which of the following is false regarding insulators?

- Ans
- A. Positive temperature coefficient
 - B. Very high resistivity
 - C. Large forbidden gap
 - D. Low conductivity

Question ID : 1841222213

Q.2 The operating state that distinguishes a SCR from diode is _____ state.

- Ans
- A. Reverse Blocking
 - B. Reverse Conduction
 - C. Forward Blocking
 - D. Forward Conduction

Question ID : 1841222220

Q.3 According to Fleming's Left hand rule:

- Ans
- A. Forefinger: Magnetic Field ; Thumb : Direction of Force
 - B. Forefinger: Direction of current ; Thumb : Direction of Force
 - C. Forefinger: Direction of Force ; Thumb : Direction of current
 - D. Forefinger: Direction of Force ; Thumb : Magnetic Field

Question ID : 1841222205

Q.4 A scale is defined in engineering drawing as _____.

- Ans
- A. Co-ordinates of a point
 - B. Linear distance between two objects
 - C. Ratio of actual dimension to linear dimension of the object
 - D. Ratio of linear dimension to the actual dimension of the object

Question ID : 1841222210

Q.5 A semiconductor is formed by _____ bonds.

- Ans A. Covalent
 B. Co-ordinate
 C. Covalent and Electrovalent both
 D. Electrovalent

Question ID : 1841222212

Q.6 A semiconrolled rectifier operates in _____ quadrant.

- Ans A. I – quadrant
 B. I & IV – quadrant
 C. II – quadrant
 D. I & II – quadrant

Question ID : 1841222221

Q.7 In Schottky diode current flows because of _____.

- Ans A. Electrons only
 B. Holes only
 C. Majority carriers only
 D. Minority carriers only

Question ID : 1841222219

Q.8 In one time constant, the current response has dropped to _____.

- Ans A. 64 percent of its initial value
 B. 36.8 percents of its initial value
 C. 37 percent of its initial value
 D. 63.2 percent of its initial value

Question ID : 1841222208

Q.9 In P-type semiconductor, the majority carrier is _____.

- Ans A. Holes
 B. Neutrons
 C. Atoms
 D. Electrons

Question ID : 1841222214

Q.10 A filter circuit that restricts all frequencies above a certain frequency is known as _____.

- Ans A. Low Pass Filter
 B. Notch filter
 C. High Pass Filter
 D. Band Pass Filter

Question ID : 1841222222

Q.11 The ability of a material to conduct magnetic lines of force through it is called the _____ of the material.

- Ans
- A. Resistivity
 - B. Reluctance
 - C. Permeability
 - D. Magnetic field intensity

Question ID : 1841222216

Q.12 The property of one coil due to which it opposes the change of current in the other coil is called as _____.

- Ans
- A. Mutual inductance
 - B. Mutual flux
 - C. Mutual capacitance
 - D. Self capacitance

Question ID : 1841222217

Q.13 The time constant of RL circuit is _____.

- Ans
- A. L/R
 - B. R/LC
 - C. R/L
 - D. L^2/R

Question ID : 1841222207

Q.14 A substance which has very few free electrons is called as _____.

- Ans
- A. Insulator
 - B. Conductor
 - C. Valence electron
 - D. Semi-conductor

Question ID : 1841222211

Q.15 The property of magnetic hard material is _____.

- Ans
- A. High Retentivity, High coercivity
 - B. Low Coercivity, Low retentivity
 - C. High coercivity, Low retentivity
 - D. Low coercivity, High retentivity

Question ID : 1841222215

Q.16 Functional dimensioning in engineering drawing is essential _____.

- Ans
- A. For representing angle
 - B. Not for the function of piece of the drawing sheet
 - C. To the function of space
 - D. For information pupose only

Question ID : 1841222209

Q.17 Comparing magnetic flux and electric current, which statement is not true?

- Ans
- A. A goodnumber of perfect Insulators exist for both magnetic flux and electric current
 - B. Flux = mmf/re reluctance where current = emf/resistance
 - C. T he reluctance of a magnetic circuit varies but the resistance of an electric circuit is almost constant
 - D. Flux is represented as Wb and Current is in ampere

Question ID : 1841222203

Q.18 The unit of conductivity is _____.

- Ans
- A. Meter/mho
 - B. Mho/meter
 - C. Mho/meter²
 - D. Mho

Question ID : 1841222218

Q.19 Two coils having inductance L and mutual inductance M are connected in series aiding. The equivalent inductance is:

- Ans
- A. $2L-M$
 - B. $2(L+M)$
 - C. $2(L-M)$
 - D. $2L+M$

Question ID : 1841222204

Q.20 If two resistors are connected in parallel and their equivalent resistance is 2 ohm. What would be the value of each resistor if both have same value?

- Ans
- A. $R_1 = 8 \Omega, R_2 = 4 \Omega$
 - B. $R_1 = 4 \Omega, R_2 = 8 \Omega$
 - C. $R_1 = 4 \Omega, R_2 = 4 \Omega$
 - D. $R_1 = 8 \Omega, R_2 = 8 \Omega$

Question ID : 1841222206

Q.1 In Pin diagram of 8085 microprocessor, which in the following does not exist?

- Ans A. READY
 B. ADLH
 C. HLDA
 D. SOD

Question ID : 1841222232

Q.2 How many switches are required for three phase bridge rectifier?

- Ans A. 4
 B. 3
 C. 2
 D. 6

Question ID : 1841222227

Q.3 For 3 inputs logical inputs to AND gate, which one in the followings will give the high output?

- Ans A. 1(1st input) 0(2nd input) 1(3rd input)
 B. 0(1st input) 0(2nd input) 0(3rd input)
 C. 1(1st input) 0(2nd input) 0(3rd input)
 D. 1(1st input) 1(2nd input) 1(3rd input)

Question ID : 1841222228

Q.4 Sag is _____.

- Ans A. Directly proportional to square of the tensile strength of the conductor
 B. Directly proportional to the eight times of the tensile strength of the conductor
 C. Inversely proportional to the tensile strength of the conductor
 D. Directly proportional to the tensile strength of the conductor

Question ID : 1841222242

Q.5 For no load and light loading condition, the voltage of the receiving bus for long transmission line will be higher because of _____.

- Ans A. Gaussian effect
 B. Ferranti effect
 C. Skin effect
 D. Proximity effect

Question ID : 1841222239

Q.6 If the internal sheath radius, radius of core and length of the cable are 2.4 cm, 1.3 cm, 1 km respectively then Insulation thickness of a single core conductor will be

-
- Ans
- A. 3.7 cm
 - B. 2.35 cm
 - C. 2.5 cm
 - D. 1.1 cm

Question ID : 1841222237

Q.7 Convert Decimal number 7 to Binary number.

- Ans
- A. 110
 - B. 010
 - C. 111
 - D. 000

Question ID : 1841222235

Q.8 In radial distribution system, the lowest voltage is received along a single feeder at the _____.

- Ans
- A. last bus bar of the feeder
 - B. After the 2/3rd distance from the first bus bar
 - C. At the middle bus bar
 - D. At the first bus bar

Question ID : 1841222236

Q.9 Current gain of NPN Common Emitter Configuration is defined as _____.

- Ans
- A. $\frac{\Delta I_B}{\Delta I_C}$
 - B. $\frac{\Delta I_E}{\Delta I_B}$
 - C. $\frac{\Delta I_C}{\Delta I_B}$
 - D. $\frac{\Delta V_C}{\Delta I_B}$

Question ID : 1841222224

Q.10 In nominal pi configuration medium line length, if the voltage at the sending end and admittance of sending end shunt branch are V and $Y/2$ then charging current of that shunt branch is _____.

- Ans
- A. $V \times (Y/2)^2$
 - B. $V \div Y/2$
 - C. $V \times Y/2$
 - D. $V \times 2/Y$

Question ID : 1841222240

Q.11 Pi filter is basically _____.

- Ans
- A. one inductor in series and one capacitor in parallel with line
 - B. one inductor surrounded by two capacitors
 - C. one capacitor surrounded by two inductors
 - D. one inductor in series

Question ID : 1841222225

Q.12 With 4 boolean variables, how many Boolean expressions can be formed?

- Ans
- A. 64K (64x1024)
 - B. 256
 - C. 1024
 - D. 16

Question ID : 1841222229

Q.13 For two inputs NAND gate, What will be the logical output if both the inputs are low?

- Ans
- A. 4
 - B. 1
 - C. 0
 - D. 3

Question ID : 1841222233

Q.14 Flip - Flops are the basic building block of _____.

- Ans
- A. Amplifier circuit
 - B. Current divider circuit
 - C. Voltage divider circuit
 - D. Sequential circuit

Question ID : 1841222234

Q.15 Which of the followings A to D converter is fastest?

- Ans A. Flash type
 B. Ramp type
 C. Integration type
 D. SAR type

Question ID : 1841222231

Q.16 The maximum efficiency for half wave rectifier is _____.

- Ans A. 40.6%
 B. 60%
 C. 81%
 D. 50%

Question ID : 1841222226

Q.17 Covert $(23)_8$ into its decimal number.

- Ans A. 18
 B. 8
 C. 19
 D. 7

Question ID : 1841222230

Q.18 The longer the cross arms, the string efficiency will be _____.

- Ans A. The same irrespective of the length of cross arm
 B. Zero at one particular length of cross arm
 C. Greater
 D. Lesser

Question ID : 1841222241

Q.19 The capacitance of short transmission line is neglected because _____.

- Ans A. The charging current is low
 B. The load current is low
 C. The series inductive current is low
 D. The charging current is high

Question ID : 1841222238

Q.20 In NPN Common Emitter Configuration, the output is taken across _____.

- Ans A. Base and Emitter
 B. Collector and Base
 C. Base and ground
 D. Collector and Emitter

Question ID : 1841222223

Section : Discipline4

Q.1 A four pole three phase induction motor is running at 4% slip and full load. If the speed of the motor is 720 rpm, the supply frequency is _____.

- Ans
- A. 25 Hz
 - B. 50 Hz
 - C. $16\frac{2}{3}$ Hz
 - D. 100 HZ

Question ID : 1841222259

Q.2 The synchronous speed of 50 Hz, 2 pole synchronous motor is _____.

- Ans
- A. 4000 rpm
 - B. 3600 rpm
 - C. 3200 rpm
 - D. 3000 rpm

Question ID : 1841222262

Q.3 For a single phase full bridge VSI, the output fundamental voltage is _____ for DC link voltage to be 48 V. Load is resistive in nature.

- Ans
- A. 24 V
 - B. 21.61 V
 - C. 43.2 V
 - D. 48 V

Question ID : 1841222252

Q.4 The back emf in a dc motor _____.

- Ans
- A. aids the armature current
 - B. opposes the applied voltage
 - C. aids the applied voltage
 - D. aids the applied voltage and aids the armature current both

Question ID : 1841222256

Q.5 A 0 -150 volt voltmeter has a guaranteed accuracy of 1 percent fullscale reading. The magnitude of limiting error on full scale is _____.

- Ans
- A. 15 V
 - B. 0 V
 - C. 1.5 V
 - D. 3 V

Question ID : 1841222246

Q.6 In single phase full wave mid point converter, each SCR is subjected to a peak voltage of _____, where V_m is the maximum voltage of input supply.

- Ans
- A. $2 V_m$
 - B. $4 V_m$
 - C. $4 V_m/\pi$
 - D. $2 V_m/\pi$

Question ID : 1841222249

Q.7 A chopper can be used on _____.

- Ans
- A. Amplitude Modulation (AM) only
 - B. Pulse Width Modulation (PWM) only
 - C. Both PWM & FM
 - D. Frequency Modulation (FM) only

Question ID : 1841222251

Q.8 For type A chopper, find the average output voltage when dc voltage = 230 V across chopper, load resistance = 10 ohm and duty cycle = 0.4. Take a voltage drop of 2 V across the chopper.

- Ans
- A. 0 V
 - B. 912 V
 - C. 92 V
 - D. 91.2 V

Question ID : 1841222250

Q.9 Energy Meter is _____.

- Ans
- A. Playing Instrument
 - B. Indicating instrument
 - C. Integrating Instrument
 - D. Recording Instrument

Question ID : 1841222243

Q.10 How many switches are used in half bridge voltage sourced inverter?

- Ans
- A. 2
 - B. 1
 - C. 5
 - D. 3

Question ID : 1841222253

Q.11 A 6 pole, 50 Hz, 3-phase induction motor is running at 950 rpm and has rotor cu loss of 5 kW. The rotor input is _____.

- Ans A. 100 kW
 B. 50 kW
 C. 10 kW
 D. 5 kW

Question ID : 1841222258

Q.12 Which transducer in the following converts electromagnetic radiation into voltage?

- Ans A. Strain Gauge
 B. LVDT
 C. Photovoltaic cell
 D. Potentiometer

Question ID : 1841222245

Q.13 A dc shunt generator delivers 395 A at 250 V and the resistance of the shunt field and armature are 50 ohm and 0.05 ohm respectively. The generated emf will be _____.

- Ans A. 250 V
 B. 220 V
 C. 290 V
 D. 270 V

Question ID : 1841222260

Q.14 A TRIAC is equivalent to:

- Ans A. two SCRs joined together in series
 B. a single SCR joined in parallel to switch
 C. two SCRs joined together in parallel
 D. one SCR

Question ID : 1841222248

Q.15 Constant of Inertia about axis of rotation appeared in retarding torque of measuring device is measured in _____.

- Ans A. Kg/m²
 B. Kg
 C. Kg-m
 D. Kg-m²

Question ID : 1841222244

Q.16 Direction of rotation of motor is determined by _____.

- Ans
- A. Lenz law
 - B. Faradays law
 - C. Coulombs law
 - D. Flemings left hand rule

Question ID : 1841222257

Q.17 SCR is a sort of thyristor, a four layered solid-state device having turn on characteristics that can be controlled externally by:

- Ans
- A. Frequency
 - B. Voltage or current
 - C. Speed
 - D. Resistance

Question ID : 1841222247

Q.18 The efficiency of a transformer will be maximum when _____.

- Ans
- A. Eddy current losses = copper losses
 - B. Copper losses = Iron losses
 - C. Copper loss = Hysteresis loss
 - D. Hysteresis loss = Eddy current loss

Question ID : 1841222261

Q.19 The ac armature winding of an alternator operates at _____ the field winding voltage.

- Ans
- A. The same voltage as
 - B. Much lesser voltage than
 - C. Much higher voltage than
 - D. Half the voltage of

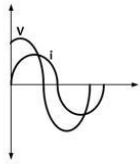
Question ID : 1841222254

Q.20 In a dc machine, the generated emf will increase with _____.

- Ans
- A. the increment of armature current
 - B. None of the given options
 - C. the decrement of speed
 - D. the decrement of armature conductors

Question ID : 1841222255

Q.1 A voltage is applied to a certain device and oscilloscope read following waveforms of current and voltage. Which of conclusions can be drawn from it?



- Ans**
- A. Lagging by 5 degree
 - B. No phase difference
 - C. Circuit is leading
 - D. Circuit is lagging

Question ID : 1841222271

Q.2 A capacitor start, capacitor run single phase induction motor is basically a ____.

- Ans**
- A. AC Series Motor
 - B. 2 phase induction motor
 - C. 3 phase induction motor
 - D. DC series Motor

Question ID : 1841222263

Q.3 Fuse in electrical wiring ____.

- Ans**
- A. Should be placed in live wire
 - B. Should be placed in neutral wire
 - C. Should be placed in earth wire
 - D. May be placed either in live or neutral wire

Question ID : 1841222282

Q.4 100 V is applied to a circuit where current flow is $(10+j5)$ A. The active power will be _____.

- Ans**
- A. 1000 W
 - B. 100 W
 - C. 500 W
 - D. 1500 W

Question ID : 1841222268

Q.5 Diversity factor is generally _____.

- Ans**
- A. Equal to zero
 - B. Less than unity
 - C. Greater than unity
 - D. Equal to unity

Question ID : 1841222273

Q.6 If the capacitive reactance of the circuit is 53.2Ω and the frequency is 60 Hz. The capacitance of the circuit is _____.

- Ans A. $50 \mu\text{F}$
 B. 50 F
 C. $7 \mu\text{F}$
 D. $70 \mu\text{F}$

Question ID : 1841222269

Q.7 A resistance, an inductance and a capacitance are connected in series. The impedance values of R, L, C are 20Ω , 30Ω and 10Ω respectively. The net reactance of the circuit is _____.

- Ans A. 78.28Ω
 B. 10Ω
 C. 20Ω
 D. zero

Question ID : 1841222270

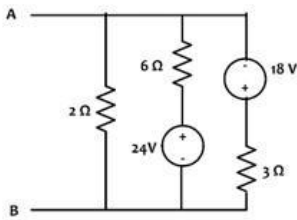
Q.8 Which of the following is incorrect with respect to concealed conduit wiring?

- Ans A. No risk of shocks
 B. Expensive as compared to surface conduit wiring
 C. It is reliable and safe wiring system
 D. Installation is easy

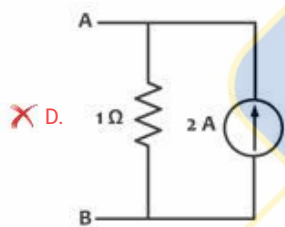
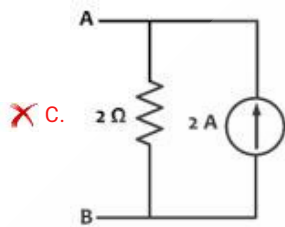
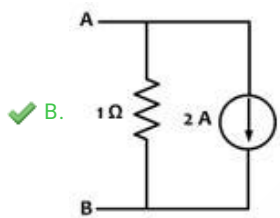
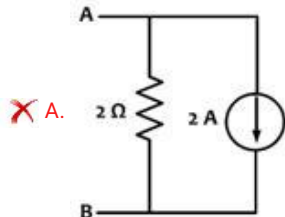
Question ID : 1841222278

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Q.9 The single equivalent current source representation of the following circuit will be:



Ans



Question ID : 1841222267

Q.10 The load on each power sub circuit in electrical wiring should normally to restricted to ____.

- Ans A. 3000 watts
 B. 500 watts
 C. 200 watts
 D. 100000 watts

Question ID : 1841222281

Q.11 The electrical earthing is done with the help of ____.

- Ans
- A. Low resistance wire connected between phase wire and ground
 - B. High resistance wire connected between non carrying current part of the equipment and ground
 - C. Low resistance wire connected between non carrying current part of the equipment and ground
 - D. High resistance wire connected between phase wire and ground

Question ID : 1841222279

Q.12 Find the average value of the current, $I(t)=10+10\pi \sin 314t$

- Ans
- A. 20 Amp
 - B. 10 Amp
 - C. Zero Amp
 - D. 30 Amp

Question ID : 1841222272

Q.13 Which of the following is not a technique of electrical wiring?

- Ans
- A. Casing and Capping Wiring
 - B. Lead Sheathed Wiring
 - C. Hampton wiring
 - D. Batten Wiring

Question ID : 1841222280

Q.14 Penstocks, valve, gate, generator are involved with _____.

- Ans
- A. Nuclear Power
 - B. Hydro power
 - C. Thermal power
 - D. Fuel Cell

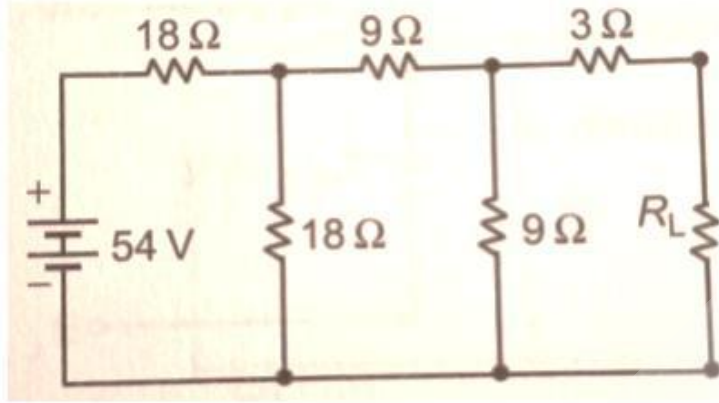
Question ID : 1841222275

Q.15 Three resistances R , $2R$ and $4R$ are connected in star connection, its equivalent delta connection will have resistances:

- Ans
- A. $3.5R$, $7R$ and $14R$
 - B. $2R$, $4R$ and $8R$
 - C. $3R$, $6R$ and $12R$
 - D. R , $R/2$ and $R/4$

Question ID : 1841222266

Q.16



What will be the Thevenin equivalent impedance across R_L

- Ans
- A. 10.5 ohm
 - B. 16.5 ohm
 - C. 3 ohm
 - D. 9 ohm

Question ID : 1841222265

Q.17 Coal is used to produce steam for ____.

- Ans
- A. Gas Power
 - B. Hydro power
 - C. Thermal power
 - D. Diesel Engine

Question ID : 1841222274

Q.18 For maximum power transfer from source to $5-j2$ ohm of load, the source impedance will be ____.

- Ans
- A. $j2$ ohm
 - B. $-j2$ ohm
 - C. $5+j2$ ohm
 - D. 5 ohm

Question ID : 1841222264

Q.19 Which of the following is not a part of thermal power plant?

- Ans
- A. Superheater
 - B. Tailrace
 - C. Cooling tower
 - D. Condenser

Question ID : 1841222276

Q.20 Energy produced due to gravitational force of attraction between earth and moon or sun and earth is:

- Ans
- A. Micro-hydel Energy
 - B. Fusion Energy
 - C. Tidal Energy
 - D. Geothermal Energy

Question ID : 184122277

