CIL MT Electrical

Previous Year Paper
27 Feb 2020

Coal India Limited 27th Feb 2020

Participant ID	
Participant Name	
Test Center Name	
Test Date	27/02/2020
Test Time	5:00 PM - 8:00 PM
Subject	Electrical

Section : **General Knowledge and Awareness**

Q.1 Qutub Minar is situated in _____.

Ans ✗ A. Punjab

✗ B. Madhya Pradesh

✗ C. Haryana

✓ D. New Delhi

Question ID : **59445917428**
Status : **Answered**
Chosen Option : **4**

Q.2 Where is the famous Vallanadu Wildlife Sanctuary located?

Ans ✗ A. Maharashtra

✗ B. Kerala

✓ C. Tamil Nadu

✗ D. Karnataka

Question ID : **59445917431**
Status : **Answered**
Chosen Option : **3**

Q.3 Who is the current Revenue Secretary of India?

Ans ✗ A. Ramesh Singh

✓ B. Ajay Bhushan Pandey

✗ C. S.K. Sharma

✗ D. Rajiv Kumar

Question ID : **59445917442**
Status : **Marked For Review**
Chosen Option : **4**

Q.4 In which of the following country 8th session of the International Treaty of Plant Genetic Resources for Food and Agriculture (ITPGRFA) was held?

Ans ✗ A. Australia

✗ B. France

✔ C. Italy

✗ D. Sweden

Question ID : **59445917432**

Status : **Answered**

Chosen Option : **4**

Q.5 How many Lok sabha seats come from Tamil Nadu?

Ans ✗ A. 43

✗ B. 29

✔ C. 39

✗ D. 34

Question ID : **59445917436**

Status : **Answered**

Chosen Option : **3**

Q.6 Kummi is the famous ancient dance form of which of the following state?

Ans ✗ A. Odisha

✔ B. Tamil Nadu

✗ C. Karnataka

✗ D. West Bengal

Question ID : **59445917427**

Status : **Answered**

Chosen Option : **2**

Q.7 Which pollutant gas dissolves with hemoglobin faster than oxygen?

Ans ✗ A. Carbon dioxide

✔ B. Carbon Monoxide

✗ C. Nitric oxide

✗ D. Hydrogen sulphide

Question ID : **59445917422**

Status : **Answered**

Chosen Option : **2**

Q.8 Which of the following country hosted the BRICS summit 2019?

Ans ✔ A. Brazil

✘ B. India

✘ C. China

✘ D. Russia

Question ID : **59445917437**
Status : **Answered**
Chosen Option : **1**

Q.9 Who is the current Finance Secretary?

Ans ✘ A. Rajiv Gauba

✘ B. Subhash Chandra Garg

✘ C. Atanu Chakraborty

✔ D. Rajiv Kumar

Question ID : **59445917433**
Status : **Answered**
Chosen Option : **2**

Q.10 From January 2020, banks can no longer charge savings bank account holders for online transactions in which of the following systems?

Ans ✔ A. NEFT

✘ B. IMPS

✘ C. RTGS

✘ D. IFSC

Question ID : **59445917434**
Status : **Answered**
Chosen Option : **2**

Q.11 Who is the current Lt. Governor of Ladakh?

Ans ✘ A. Satya Pal Malik

✘ B. Girish Chander Murmu

✔ C. R K Mathur

✘ D. Mridula Sinha

Question ID : **59445917435**
Status : **Answered**
Chosen Option : **3**

Q.12 Which of the following is the first spacecraft of NASA that can study all the four planets (Jupiter, Neptune, Saturn and Uranus) together?

Ans ✗ A. Voyager 1

✗ B. DSCOVR

✗ C. Insight

✓ D. Voyager 2

Question ID : **59445917424**	
Status : **Answered**	
Chosen Option : **2**	

Q.13 Which country has hosted 2020 ICC Women's T20 World Cup?

Ans ✗ A. Spain

✗ B. India

✗ C. South Africa

✓ D. Australia

Question ID : **59445917426**	
Status : **Answered**	
Chosen Option : **4**	

Q.14 Who had given the slogan 'Back to Vedas'?

Ans ✓ A. Dayanand Saraswati

✗ B. Mahatma Gandhi

✗ C. Guru Nanak Dev

✗ D. Bhimrao Ambedkar

Question ID : **59445917429**	
Status : **Answered**	
Chosen Option : **1**	

Q.15 Which of the following country had organized ADIPEC 2019 event?

Ans ✗ A. Kuwait

✓ B. UAE

✗ C. Jordon

✗ D. Qatar

Question ID : **59445917439**	
Status : **Marked For Review**	
Chosen Option : **2**	

Q.16 Which state in India is the first one to get law on contract farming?

Ans ❌ A. Karnataka

✅ B. Tamil Nadu

❌ C. Kerala

❌ D. Maharashtra

Question ID : **59445917441**
Status : **Answered**
Chosen Option : **1**

Q.17 Who among the following has won the 37th Athens Marathon?

Ans ❌ A. Geoffrey Mutai

❌ B. Felicien Muhitira

❌ C. Martin Lel

✅ D. John Kipkorir Komen

Question ID : **59445917425**
Status : **Answered**
Chosen Option : **1**

Q.18 Which of the following ruler has given permission to the East India Company to trade in India?

Ans ❌ A. Bahadur Shah Jafar

❌ B. Humayun

✅ C. Jahangir

❌ D. Akbar

Question ID : **59445917430**
Status : **Answered**
Chosen Option : **3**

Q.19 Who among the following has been appointed as the Ambassador of India to the Republic of Mali?

Ans ❌ A. S.K. Sharma

❌ B. Pradeep Kumar Gupta

❌ C. Rajiv Kumar

✅ D. Anjani Kumar

Question ID : **59445917438**
Status : **Marked For Review**
Chosen Option : **2**

Q.20 Who has been appointed as a new country manager of Google India?

Ans ✗ A. Sundar Pichai

✗ B. Rajiv Kumar

✗ C. S.K. Sharma

✓ D. Sanjay Gupta

Question ID : **59445917445**
Status : **Answered**
Chosen Option : **4**

Q.21 Goodwill is related to which of the following assets?

Ans ✗ A. Floating assets

✗ B. Fictitious assets

✗ C. Tangible assets

✓ D. Intangible assets

Question ID : **59445917443**
Status : **Answered**
Chosen Option : **4**

Q.22 With which crop production Round Revolution is related?

Ans ✗ A. Rice

✓ B. Potato

✗ C. Wheat

✗ D. Oilseeds

Question ID : **59445917440**
Status : **Answered**
Chosen Option : **2**

Q.23 Which of the following vitamin helps to absorb calcium in the body and maintain our bone health?

Ans ✗ A. Vitamin A

✗ B. Vitamin C

✓ C. Vitamin D

✗ D. Vitamin K

Question ID : **59445917421**
Status : **Answered**
Chosen Option : **3**

Q.24 Where is the Kudankulam Nuclear Power Plant located?

Ans ✔ A. Tamil Nadu

✘ B. Kerala

✘ C. Karnataka

✘ D. Maharashtra

Question ID : **59445917423**
Status : **Marked For Review**
Chosen Option : **1**

Q.25 What will be the full form of GIF?

Ans ✘ A. Global Interchange File

✔ B. Graphic Interchange Format

✘ C. Graphic Information Format

✘ D. Global Information Forum

Question ID : **59445917444**
Status : **Marked For Review**
Chosen Option : **1**

Section : **Numerical Ability**

Q.1 If $x^2 - \sqrt{8}x + 1 = 0$, then $(x^3 + x^{-3}) =$

Ans ✔ A. $5\sqrt{8}$

✘ B. $2\sqrt{8}$

✘ C. $4\sqrt{8}$

✘ D. $8\sqrt{8}$

Question ID : **59445917517**
Status : **Not Answered**
Chosen Option : **--**

Q.2 A woman distributed her savings between her daughters A, B and C in the ratio 6 : 7 : 11. If B gives Rs. 700 from his share to A, the ratio of shares of A, B and C becomes 5 : 4 : 3. What is the average sum of shares (in Rs.) of A and B, in the beginning?

Ans ✘ A. 5235

✔ B. 4550

✘ C. 5100

✘ D. 4750

Question ID : **59445917504**
Status : **Not Answered**
Chosen Option : **--**

Q.3 As observed from the top of a lighthouse, 54 m high above the sea-level, the angle of depression of a ship, sailing directly towards it, changes from 45° to 60°. The distance (in m) travelled by the ship during the period of observation is (correct to one decimal place)

Ans ✔ A. 22.8

✘ B. 37.8

✘ C. 27.5

✘ D. 39.5

Question ID : **59445917516**
Status : **Answered**
Chosen Option : **4**

Q.4 **The ratio of efficiencies of A and B is 3: 7. Working together, they can complete the work in 21 days. They work together for 6 days. In how many days, 70% of the remaining work will be completed by B alone?**

Ans ✘ A. 7

✘ B. 8

✔ C. 9

✘ D. 10

Question ID : **59445917514**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.5 A person sold a watch at a profit of 17%. If he sold it for Rs. 417.60 more, he gained $x\%$. If the cost price of the watch is Rs.4570, then the value of x (to the nearest integer) is:

Ans ✘ A. 18

✘ B. 24

✘ C. 32

✔ D. 26

Question ID : **59445917502**
Status : **Not Answered**
Chosen Option : **--**

Q.6 The average marks of boys in a class is 78.2 and that of girls in the same class is 89.4. If the average marks of all the boys and girls in the class is 80.8, then the percentage of the number of girls in the class is :

Ans

✔ A. $23\dfrac{3}{14}$

✘ B. $23\dfrac{9}{14}$

✘ C. $33\dfrac{9}{14}$

✘ D. $33\dfrac{3}{14}$

Question ID : **59445917498**
Status : **Answered**
Chosen Option : **2**

Q.7 In a college, 63% of the number of students are girls and the rest are boys. If 15% of the number of girls failed and 65% of the number of boys passed in the examination, then the percentage of total number of students who passed is:

Ans

✘ A. 80.2

✘ B. 67.8

✘ C. 72.4

✔ D. 77.6

Question ID : **59445917500**
Status : **Answered**
Chosen Option : **3**

Q.8 X can do a work in 5 days, Y does two times in 15 days, and Z three times in 7 days. If they have to work together for 8 hrs in a day, then in how much time can they complete the work?

Ans

✘ A. 10 hrs 15 minute

✘ B. 9 hrs 45 minute

✔ C. 10 hrs 30 minute

✘ D. 11 hrs 15 minute

Question ID : **59445917513**
Status : **Answered**
Chosen Option : **2**

Q.9 The average of fifteen numbers is 49. The average of first four numbers is 51 that of next eight numbers is 47. The 13th number is two times the 14th number and 14th number is 3 less than the 15th number. What is the average of 13th and 15th numbers?

Ans   ✗ A. 53.5

     ✗ B. 49.5

     ✗ C. 55.5

     ✔ D. 58.5

Question ID : **59445917499**
Status : **Answered**
Chosen Option : **1**

Q.10 The compound interest compounded annually on a sum of Rs.15625 in three years is Rs. 4058. What is the annual rate of interest?

Ans   ✗ A. 7%

     ✔ B. 8%

     ✗ C. 10%

     ✗ D. 9%

Question ID : **59445917508**
Status : **Answered**
Chosen Option : **2**

Q.11 If x and y are real numbers, then the least possible value of $9(y-3)^2 + (x-5)^2 - 7(y-2)^2$ is:

Ans   ✗ A. -338

     ✔ B. -285

     ✗ C. 0

     ✗ D. 20

Question ID : **59445917518**
Status : **Answered**
Chosen Option : **1**

Q.12 The ratios of salt and sugar in mixtures A and B are 3 : 4 and 5 : 9, respectively. A and B are taken in the ratio 2 : 3 and mixed to form a new mixture C. What is the ratio of sugar and salt in C?

Ans   ✔ A. 43 : 27

     ✗ B. 25 : 17

     ✗ C. 27 : 43

     ✗ D. 17 : 25

Question ID : **59445917510**
Status : **Answered**
Chosen Option : **1**

Q.13 An instrument cost a certain factory Rs. 520,000. If it depreciates in value, 16.5% the first year, 15 % the next year, 13.5% the third year, and so on, what will be its value (in Rs.) at the end of 8 years, all percentages applying to the original cost?

Ans
✗ A. 57500

✗ B. 65000

✗ C. 62000

✔ D. 52000

Question ID : **59445917520**

Status : **Not Answered**

Chosen Option : **--**

Q.14 Which among the following can be expressed as (10p + q) (10q + p), where p and q are integers?

Ans
✗ A. 1344

✗ B. 1728

✗ C. 1296

✔ D. 1207

Question ID : **59445917507**

Status : **Not Answered**

Chosen Option : **--**

Q.15 A flyover has three spans whose lengths are in the ratio 2 : 3 : 5. A bus whose length is one fifth of the total length of the flyover, takes t seconds to cross the first span. How many seconds does it take to cross the full flyover?

Ans
✗ A. 2t

✗ B. 5t

✔ C. 3t

✗ D. 4t

Question ID : **59445917512**

Status : **Answered**

Chosen Option : **2**

Q.16 The value of $\dfrac{1}{\sqrt{15-6\sqrt{6}}}$ is closest to:

Ans
✗ A. 2.4

✗ B. 1.2

✔ C. 1.8

✗ D. 1

Question ID : **59445917506**

Status : **Not Answered**

Chosen Option : **--**

Q.17 In what ratio, rice costing Rs. 90 per kg be mixed with rice costing Rs. 63 per kg such that by selling the mixture at Rs. 86.25 per kg there is a gain of 15%?

Ans ✗ A. 5 : 4

✓ B. 4 : 5

✗ C. 3 : 5

✗ D. 2 : 3

Question ID : **59445917509**

Status : **Answered**

Chosen Option : **1**

Q.18 A bag is sold at a certain price. If it is sold at $23\frac{1}{3}\%$ of this price, there is a loss of $33\frac{1}{3}\%$. What is the percentage profit when it is sold at 56% of the original selling price?

Ans ✗ A. 40

✓ B. 60

✗ C. 75

✗ D. 50

Question ID : **59445917503**

Status : **Answered**

Chosen Option : **2**

Q.19 The value of $\dfrac{5.169 \times 5.169 \times 5.169 - 64 \times (0.888)^3}{(5.169)^2 + (3.552)^2 + 4(0.888)(5.169)}$ is $(2 - k)$, where $k =$

Ans ✗ A. 0.123

✓ B. 0.383

✗ C. 0.987

✗ D. 0.456

Question ID : **59445917497**

Status : **Answered**

Chosen Option : **2**

Q.20 A person by car travel a distance of 125 km in time t_1 and when he decreases his speed by 20%, then the time taken is t_2 to cover the same distance. Then the ratio of $t_2 : t_1$ is equal to:

Ans ✗ A. 5 : 2

✗ B. 4 : 5

✓ C. 5 : 4

✗ D. 2 : 5

Question ID : **59445917511**

Status : **Answered**

Chosen Option : **2**

Q.21 A girl spends 82% of her income. If her income increases by 15% and the savings decrease by 15%, then what is the percent increase in the expenditure (correct to one decimal place)?

Ans ✔ A. 21.6

✖ B. 17.5

✖ C. 23.5

✖ D. 20

Question ID : **59445917501**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Q.22 A 22 m long ladder (whose foot is on the ground) leans against a wall making an angle of 30° with the wall. What is the distance (in m) between the point where the ladder touches the ground to the wall?

Ans ✖ A. $\dfrac{11\sqrt{3}}{2}$

✔ B. 11

✖ C. $11\sqrt{2}$

✖ D. $11\sqrt{3}$

Question ID : **59445917515**

Status : **Answered**

Chosen Option : **4**

Q.23 The third term of a geometric progression is 6. Then the product of first five terms is:

Ans ✖ A. 6^3

✖ B. 6^4

✖ C. 6^6

✔ D. 6^5

Question ID : **59445917519**

Status : **Answered**

Chosen Option : **2**

Q.24 Let $x = (733)^{24} - (397)^{38} + (566)^{54}$. What is the units digit of x ?

Ans ✖ A. 2

✖ B. 5

✖ C. 6

✔ D. 8

Question ID : **59445917496**

Status : **Not Answered**

Chosen Option : **--**

Q.25 The value of $\sqrt{31 + 3\sqrt{48}} = a + b\sqrt{3}$, then what is the value of $\sqrt{b^2 - a^2}$, correct to one decimal place?

Ans ✗ A. 2.4

✗ B. 1.8

✔ C. 2.2

✗ D. 2.6

Question ID : **59445917505**

Status : **Not Answered**

Chosen Option : **--**

Section : **Reasoning**

Q.1 A + B means 'A is father of B'
A – B means 'A is daughter of B'
A × B means 'A is brother of B'
A ÷ B means 'A is sister of B'

If P -V + L× N - V, then how is P related to N?

Ans ✗ A. Daughter

✗ B. Grand daughter

✔ C. Sister

✗ D. Son

Question ID : **59445917582**

Status : **Answered**

Chosen Option : **3**

Q.2 The following are the criteria set by a Retail outlet for selection of candidates for the post of Store Incharge in a reputed mall.

1. The candidate must be a graduate in any stream with minimum 50% marks.
2. The candidate must have Minimum 5 years Sales experience in Retail.
3. The age of candidate should not be less than 25 years and more than 34 years as on 1st October, 2019.

(a) If a candidate satisfies all the criteria except 2 as given above but has a MBA degree and has minimum 2years work experience in sales, she/he must be sent to the General Manager, Recruitment for further interview.

(b) If a candidate satisfies all the criteria except 3, but has more than 5years experience as a Group manager and above in Sales managing a team of sales executives, then she/he must be sent to the Regional Manager, Sales & Marketing, for further interview

Based on the above criteria and conditions, analyze and decide which of the following course of action should be taken for the candidate whose description is provided below. Please note that you are not to assume anything other than the given information.

Sujoy is graduate with 55% marks and MBA through Correspondence. He was born on Sept 20, 1990. He has 1year work experience as sales executive and 2years experience as Group manager, Sales.

On the basis of the information as given above, which of the following decisions would be appropriate

Ans ✗ A. The candidate is to be selected.

✗ B. The candidate is not to be selected.

✗ C. The case is to be referred to the Regional Manager, Sales & Marketing, for further interview.

✔ D. The case is to be referred to the General Manager, Recruitment.
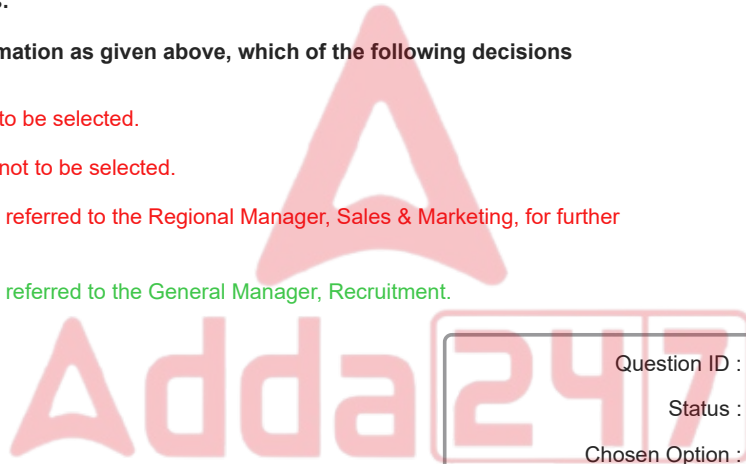
Question ID : **59445917579**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.3 How many triangles are there in the given figure?
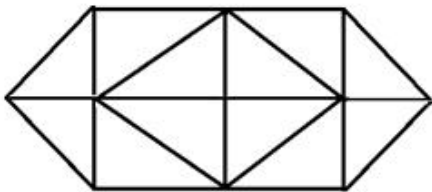
Ans ✗ A. 17

✗ B. 20

✔ C. 18

✗ D. 19

Question ID : **59445917580**
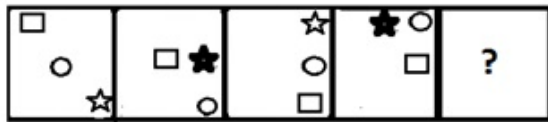Status : **Answered**
Chosen Option : **2**

Q.4 From the following which statement is correct in regards to the given series?

49, 66, 89, (124), 165, 218, (278)

Ans ✗ A. Both the bracketed numbers are correct.

✔ B. The first bracketed number is correct and the second bracketed number is incorrect.

✗ C. Both the bracketed numbers are incorrect.

✗ D. The first bracketed number is incorrect and the second bracketed number is correct.

Question ID : **59445917585**
Status : **Answered**
Chosen Option : **2**

Q.5 Select the figure that will come next in the following figure series.

Ans

✔ A.

✗ B.

✗ C.

✗ D.

Question ID : **59445917586**
Status : **Answered**
Chosen Option : **1**

Q.6 Two statements are given followed by two conclusions I, II, III and IV. You have to consider these statements to be true, even if they seem at variance from commonly known facts. Decide which of the given conclusions logically follow/s from the given statement.

Statements:

1. All judges are lawyers.
2. Some lawyers are seniors.

Conclusions:

I. Some seniors are judges.
II. Some seniors are lawyers.
III. Some lawyers are judges.
IV. Some judges are seniors.

Ans ✗ A. Only conclusions I and IV follow

✗ B. Only conclusions III and IV follow

✗ C. Only conclusions I and II follow

✔ D. Only conclusions II and III follow

Question ID : **59445917591**
Status : **Answered**
Chosen Option : **4**

Q.7 If Akshay is 13th in the queue from either end then, how many people are there in the queue?

Ans ✗ A. 24

✗ B. 22

✗ C. 26

✔ D. 25

Question ID : **59445917592**
Status : **Answered**
Chosen Option : **4**

Q.8 Three of the following four number pairs are alike in a certain way and one is different. Pick the odd one out.

Ans ✗ A. 22 : 242

✔ B. 14 : 96

✗ C. 16 : 128

✗ D. 26 : 338

Question ID : **59445917574**
Status : **Answered**
Chosen Option : **2**

Q.9 A recent survey for Delhi showed that 44% of the families own only one car per family, 25% of the remaining families own two cars per family and the rest of the population own three or more cars per family. Then, what is the percentage of people with three or more cars?

Ans   ✗ A. 58%

      ✔ B. 42%

      ✗ C. 43%

      ✗ D. 31%

Question ID : **59445917584**

Status : **Answered**

Chosen Option : **2**

Q.10 A statement is given followed by two courses of actions I and II. You have to assume everything in the statement to be true, then decide which of the suggested given courses of action logically follows for pursuing.

Statement: The consumption of junk food in school going children is leading to obesity and early onset of diabetes.

Courses of action:
I. The sale of junk food in the school canteens should be banned
II. The sale of junk food should be disallowed in the 100 meter area around schools.

Ans   ✔ A. Both I and II follow.

      ✗ B. Only I follows.

      ✗ C. Neither I nor II follows.

      ✗ D. Only II follows.
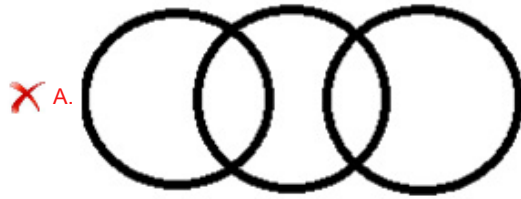
Question ID : **59445917578**

Status : **Answered**

Chosen Option : **4**

Q.11 Choose the Venn diagram from the given options which represents the correct relationship amongst the following classes:

Starfish, Shark, Fish

Ans

✗ A.

✗ B.

✗ C.

✔ D.

Question ID : **59445917593**
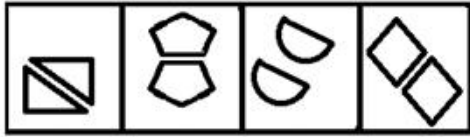
Status : **Marked For Review**

Chosen Option : **4**

Q.12 Some equations are solved on the basis of a certain system. Find the correct answer for the given equations on that basis:-

75 + 23 = 18
93 + 35 = 27
62 + 84 = ?

Ans

✔ A. 40

✗ B. 44

✗ C. 24

✗ D. 42

Question ID : **59445917594**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Q.13 Select the figure which is different from the other three alternatives.

A   B   C   D

Ans   ✗ A. D

✗ B. B

✗ C. A

✔ D. C

Question ID : **59445917583**
Status : **Answered**
Chosen Option : **4**

Q.14 Eight friends, P, Q, R, S, T, U, V and W are sitting around a square table facing centre. One each is sitting at the midpoints of the sides and one each at the corners of the table. Each person is wearing different colour T-shirt. One in Yellow color is occupying one of the corners. He has the Q in red T-shirt to his immediate left who is second to the right of 'V' in green T-shirt. W in white is opposite 'V' in Green and is between T and R. S in grey T-shirt is between P in black and R in Pink T-shirt. U in Blue T-shirt is diagonally opposite R. Who is wearing yellow T-shirt?

Ans   ✔ A. T

✗ B. P

✗ C. V

✗ D. Q

Question ID : **59445917577**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.15 Select the pair of words from the given options that shares a similar relationship as the given set of words.

Thermometer : Temperature : Degrees

Ans   ✔ A. Scale : Length : Meter

✗ B. Voltmeter : Current :Ampere

✗ C. Ammeter : Potential : Volt

✗ D. Barometer : Pressure : Watt

Question ID : **59445917573**
Status : **Answered**
Chosen Option : **1**

Q.16 In a certain code language, 'FATHER' is written as '9-22-19-7-26-21' then how will 'ADVICE' be written in the same code language?

Ans

✗ A. 22-25-18-5-23-26

✗ B. 21-24-9-5-23-2

✗ C. 22-24-18-5-24-2

✔ D. 22-24-18-5-23-26

Question ID : **59445917589**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Q.17 A group of letters are numbered from 1 to 9. Four options given below depict combinations of these numbers. Select that combination of numbers so that letters arranged accordingly form a meaningful word.

I E O G C N Z E R
1 2 3 4 5 6 7 8 9

Ans

✗ A. 3, 5, 4, 7, 1, 6, 9, 2, 8

✔ B. 9, 2, 5, 3, 4, 6, 1, 7, 8

✗ C. 5, 3, 4, 1, 6, 2, 7, 8,9

✗ D. 1, 7, 3, 4, 2, 6, 5, 8, 9

Question ID : **59445917590**

Status : **Answered**

Chosen Option : **2**

Q.18 Which of the answer figures is the exact mirror image of the given problem figure when the mirror is held at the right side?
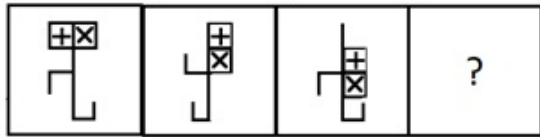
zEBRA205s

Ans

✗ A. ƨ202AЯBƧz

✔ B. ƨ502AЯBƧz

✗ C. ƨ502AЯBϐz
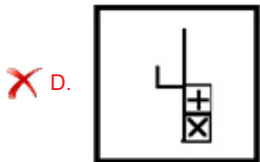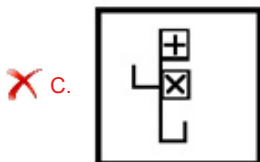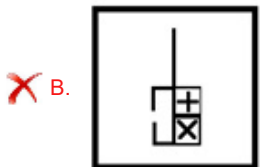
✗ D. ƨ502AЯBϐz

Question ID : **59445917575**

Status : **Answered**

Chosen Option : **2**

Q.19 Select the figure that will come next in the following figure series.

Ans

✔ A.

✘ B.

✘ C.

✘ D.
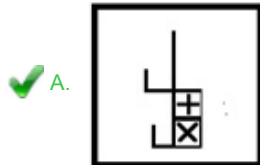
Question ID : **59445917587**
Status : **Answered**
Chosen Option : **1**

Q.20 Select the option that is related to the third term in the same way as the second term is related to the first term.

HABIT : GRYZS : PEDAL :_____

Ans

✔ A. OZWVK

✘ B. PZWVK

✘ C. ZOWVK

✘ D. KVWZO

Question ID : **59445917572**
Status : **Answered**
Chosen Option : **1**

Q.21 Select the option that is related to the third term in the same way as the second term is related to the first term.

Night : Nocturnal : Morning : ?

Ans   ✓ A. Matutinal

✗ B. Slumbering

✗ C. Meridian

✗ D. Evening

Question ID : **59445917571**

Status : **Answered**

Chosen Option : **2**

Q.22 Four groups of numbers are given out of which the numbers in three groups bear a certain common relationship. Choose the group in which the numbers are differently related.

Ans   ✓ A. (121, 145, 197)

✗ B. (169, 197, 227)

✗ C. (289, 325 , 363)

✗ D. (81, 101, 123)

Question ID : **59445917595**

Status : **Answered**

Chosen Option : **2**

Q.23 Jayant who is the only son of his father pointed to the photograph of a kid and said, 'he is the grandson of my son's sister's mother's father-in-law. How is Jayant related to that boy?

Ans   ✗ A. Son

✓ B. Father

✗ C. Brother

✗ D. Sister

Question ID : **59445917581**

Status : **Answered**

Chosen Option : **2**

Q.24 If each of the letters in the English alphabet is assigned odd numerical value beginning A = 1, B = 3 and so on, what will be the total value of the letters of the word 'EARLIER':

Ans   ✗ A. 90

✗ B. 99

✗ C. 125

✓ D. 129

Question ID : **59445917588**

Status : **Answered**

Chosen Option : **4**

Q.25 In an exam, Hiral scored more marks than Jaya. Kiara has less marks than Zubin. Latika has as much marks as Jaya. John has more marks than Hiral. What conclusion can definitely be drawn from the above statements?

Ans ✗ A. Zubin has more marks than John.

  ✗ B. Jaya has lesser marks than Kiara.

  ✗ C. Kiara has more marks than Latika.

  ✔ D. Latika has lesser marks than Hiral

Question ID : **59445917576**
Status : **Answered**
Chosen Option : **4**

Section : **General English**

Q.1 Choose the word that means the opposite of the highlighted word in the sentence.

The supervisor was asked to slacken the pace of work as there was no immediate hurry.

Ans ✗ A. monitor

  ✔ B. accelerate

  ✗ C. supervise

  ✗ D. control

Question ID : **59445917644**
Status : **Answered**
Chosen Option : **2**

Q.2 Choose the correct structure to complete the sentence.

The government helps the poor by providing them loans at _____ rates of interest.

Ans ✗ A. very less

  ✗ B. mainly lesser

  ✗ C. mostly less

  ✔ D. very low

Question ID : **59445917650**
Status : **Answered**
Chosen Option : **2**

Q.3 Choose the correct word(s) to fill in the blanks.

_____ the eve _____ the Prime Minister's visit, there was tight security _____ the airport and en route _____ the venue.

Ans ✗ A. At; of; in; along

  ✗ B. By; of; at; in

  ✔ C. On; of; at; to

  ✗ D. In; of; in; to

Question ID : **59445917639**
Status : **Answered**
Chosen Option : **3**

Q.4 Choose the correct phrase or expression to complete the sentence.

My former colleague is _____ now because he has no job and he has to support his family.

Ans ✔ A. in a spot

✘ B. in charge

✘ C. in check

✘ D. in favour

Question ID : **59445917649**
Status : **Answered**
Chosen Option : **4**

Q.5 Choose the correct word(s) to fill in the blanks.

The advantage _____ investing _____ post office schemes is that we get exemption _____ tax.

Ans ✘ A. of; by; in

✘ B. in; among; by

✘ C. in; by; in

✔ D. of; in; from

Question ID : **59445917638**
Status : **Answered**
Chosen Option : **4**

Q.6 Choose the correct spelling from the options given.

Ans ✔ A. repetition

✘ B. reparticion

✘ C. repatision

✘ D. repeatition

Question ID : **59445917647**
Status : **Answered**
Chosen Option : **1**

Q.7 Choose the word that means the opposite of the highlighted word in the sentence.

Rohit's analysis of the poem is profound.

Ans ✔ A. superficial

✘ B. exacting

✘ C. good

✘ D. mysterious

Question ID : **59445917645**
Status : **Answered**
Chosen Option : **4**

Q.8 Choose the word that roughly means the same as the word highlighted in the sentence.

The police said that the exam paper was stolen, copied and sold for a high price.

Ans ✗ A. repeated

✗ B. initiated

✗ C. imitated

✓ D. reproduced

Question ID : **59445917643**
Status : **Answered**
Chosen Option : **4**

Q.9 Identify the part of the sentence which contains an error.

According to the finance ministry, / every senior citizens / will benefit a lot / from the new scheme.

Ans ✓ A. every senior citizens

✗ B. will benefit a lot

✗ C. from the new scheme

✗ D. According to the finance ministry,

Question ID : **59445917637**
Status : **Answered**
Chosen Option : **1**

Q.10 Complete the sentence with the appropriate word.

Students should pay _____ to the explanations given by the teachers in the classroom.

Ans ✓ A. attention

✗ B. concentration

✗ C. notice

✗ D. focus

Question ID : **59445917652**
Status : **Answered**
Chosen Option : **1**

Q.11 Complete the sentence with the appropriate word.

Pedestrians should be _____ when walking on the roads on rainy days, as the roads get slippery.

Ans ✗ A. dangerous

✓ B. cautious

✗ C. clever

✗ D. smart

Question ID : **59445917653**
Status : **Answered**
Chosen Option : **2**

Q.12 Choose the word that best replaces the words highlighted in the sentence.

RADAR is a word formed from the initial letters of a set of words.

Ans   ✗ A. an anachronism

       ✔ B. an anagram

       ✗ C. an abbreviation

       ✗ D. an idiom

Question ID : **59445917641**
Status : **Answered**
Chosen Option : **3**

Q.13 Choose the correct phrase or expression to complete the sentence.

She likes to wear clothes that would make her _____ in a group.

Ans   ✗ A. stand for

       ✔ B. stand out

       ✗ C. stand to

       ✗ D. stand by

Question ID : **59445917648**
Status : **Answered**
Chosen Option : **1**

Q.14 Choose the correct order of sentences to form a meaningful paragraph.

Ans   ✗ A. He has started spraying chemical insecticides and pesticides on the land indiscriminately.
He has added a new chapter to this record of destruction.
As man proceeds to achieve his goal of conquering nature, he starts destroying it.
As a result, birds, mammals, fishes and practically every form of wildlife are being killed.

       ✗ B. He has added a new chapter to this record of destruction.
As a result, birds, mammals, fishes and practically every form of wildlife are being killed.
As man proceeds to achieve his goal of conquering nature, he starts destroying it.
He has started spraying chemical insecticides and pesticides on the land indiscriminately.

       ✔ C. As man proceeds to achieve his goal of conquering nature, he starts destroying it.
He has added a new chapter to this record of destruction.
He has started spraying chemical insecticides and pesticides on the land indiscriminately.
As a result, birds, mammals, fishes and practically every form of wildlife are being killed.

       ✗ D. He has started spraying chemical insecticides and pesticides on the land indiscriminately.
As man proceeds to achieve his goal of conquering nature, he starts destroying it.
He has added a new chapter to this record of destruction.
As a result, birds, mammals, fishes and practically every form of wildlife are being killed.

Question ID : **59445917655**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.15 Choose the word that roughly means the same as the word highlighted in the sentence.

The current level of pollution in the capital city is very high.

Ans ✘ A. normal

✘ B. usual

✔ C. present

✘ D. electric

Question ID : **59445917642**
Status : **Answered**
Chosen Option : **3**

Q.16 Choose the correct structure to complete the sentence.

The manager asked me _____ the conditions of appointment.

Ans ✔ A. if I would accept

✘ B. would I accept

✘ C. if I will accept

✘ D. will I accept

Question ID : **59445917651**
Status : **Answered**
Chosen Option : **1**

Q.17 Put the jumbled words in the correct order to form a meaningful sentence.

visit / home / on / he / to / aunt / promised / his / way / his

Ans ✘ A. He promised on his way home to visit his aunt.

✘ B. On his way to his aunt, he promised visit home.

✘ C. To visit his aunt, he promised on his way home.

✔ D. He promised to visit his aunt on his way home.

Question ID : **59445917654**
Status : **Answered**
Chosen Option : **4**

Q.18 Choose the correct spelling from the options given.

Ans ✘ A. achive

✔ B. achieve

✘ C. acheeve

✘ D. acheive

Question ID : **59445917646**
Status : **Answered**
Chosen Option : **2**

Q.19 Choose the word (or words) that would best replace the words highlighted in the sentence.

They will be celebrating the 25th year of their marriage day.

Ans ✔ A. marriage anniversary

✘ B. marriage

✘ C. marriage function

✘ D. wedding

Question ID : **59445917640**
Status : **Answered**
Chosen Option : **1**

Q.20 Identify the part of the sentence which contains an error.

Many of our staff / find it difficult to / follow her as she / don't speak clearly.

Ans ✔ A. don't speak clearly

✘ B. find it difficult to

✘ C. Many of our staff

✘ D. follow her as she

Question ID : **59445917636**
Status : **Marked For Review**
Chosen Option : **1**

Comprehension:

Read the passage carefully and answer the questions that follow.

A certain king was travelling from one place to another in disguise because he wanted to check on his officers.

One day he was resting under a tree near a house which belonged to a goldsmith. He overheard a conversation between the father and the son in that house. The son was saying, "Father, don't worry, I shall cheat my customers fully." The king wanted to test him.

The next day the King sent for the son and said, "Make a gold crown for the temple goddess. Come to the palace every day and work on the crown."

The son agreed. He went every day and worked on the gold crown. In the evening when he returned home, he closed his room and used to work on something. He would go to bed late at night.

After some days he finished the work. On the last day before he went to the palace, he went to the river early in the morning to do puja. Then he went to the palace. After finishing the work he took the gold crown to the river to wash it. The soldiers went with him. He came back with the crown. The king was pleased at the work and also that the young man could not cheat him. He said, "You promised your father that you would cheat people fully. But now you know that you cannot." After some silence the young man replied, "I did cheat you fully, my lord."

SubQuestion No : 21

Q.21 What is the main idea of the passage?

Ans ✔ A. The cleverness of the goldsmith's son

✘ B. The goodness of the King in finding out his people's problems

✘ C. The cleverness of the King in moving in disguise

✘ D. The King's clever trick to prevent cheating by the goldsmith's son

Question ID : **59445918671**
Status : **Answered**
Chosen Option : **1**

Comprehension:

Read the passage carefully and answer the questions that follow.

A certain king was travelling from one place to another in disguise because he wanted to check on his officers.

One day he was resting under a tree near a house which belonged to a goldsmith. He overheard a conversation between the father and the son in that house. The son was saying, "Father, don't worry, I shall cheat my customers fully." The king wanted to test him.

The next day the King sent for the son and said, "Make a gold crown for the temple goddess. Come to the palace every day and work on the crown."

The son agreed. He went every day and worked on the gold crown. In the evening when he returned home, he closed his room and used to work on something. He would go to bed late at night.

After some days he finished the work. On the last day before he went to the palace, he went to the river early in the morning to do puja. Then he went to the palace. After finishing the work he took the gold crown to the river to wash it. The soldiers went with him. He came back with the crown. The king was pleased at the work and also that the young man could not cheat him. He said, "You promised your father that you would cheat people fully. But now you know that you cannot." After some silence the young man replied, "I did cheat you fully, my lord."

SubQuestion No : 22

Q.22 Which of these words describes the tone of the passage accurately?

Ans ✗ A. sentimental

✗ B. Objective

✗ C. moralistic

✔ D. mysterious

Question ID : **59445918672**
Status : **Answered**
Chosen Option : **4**

Comprehension:

Read the passage carefully and answer the questions that follow.

A certain king was travelling from one place to another in disguise because he wanted to check on his officers.

One day he was resting under a tree near a house which belonged to a goldsmith. He overheard a conversation between the father and the son in that house. The son was saying, "Father, don't worry, I shall cheat my customers fully." The king wanted to test him.

The next day the King sent for the son and said, "Make a gold crown for the temple goddess. Come to the palace every day and work on the crown."

The son agreed. He went every day and worked on the gold crown. In the evening when he returned home, he closed his room and used to work on something. He would go to bed late at night.

After some days he finished the work. On the last day before he went to the palace, he went to the river early in the morning to do puja. Then he went to the palace. After finishing the work he took the gold crown to the river to wash it. The soldiers went with him. He came back with the crown. The king was pleased at the work and also that the young man could not cheat him. He said, "You promised your father that you would cheat people fully. But now you know that you cannot." After some silence the young man replied, "I did cheat you fully, my lord."

SubQuestion No : 23

Q.23 "He overheard the conversation . . ." This means that

Ans

   ✘ A. the King heard them talk over the roof of their house.

   ✔ B. the King listened to the conversation without being seen.

   ✘ C. the King heard the conversation over and over again.

   ✘ D. the King could not hear the conversation fully.

Question ID : **59445918670**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the passage carefully and answer the questions that follow.

A certain king was travelling from one place to another in disguise because he wanted to check on his officers.

One day he was resting under a tree near a house which belonged to a goldsmith. He overheard a conversation between the father and the son in that house. The son was saying, "Father, don't worry, I shall cheat my customers fully." The king wanted to test him.

The next day the King sent for the son and said, "Make a gold crown for the temple goddess. Come to the palace every day and work on the crown."

The son agreed. He went every day and worked on the gold crown. In the evening when he returned home, he closed his room and used to work on something. He would go to bed late at night.

After some days he finished the work. On the last day before he went to the palace, he went to the river early in the morning to do puja. Then he went to the palace. After finishing the work he took the gold crown to the river to wash it. The soldiers went with him. He came back with the crown. The king was pleased at the work and also that the young man could not cheat him. He said, "You promised your father that you would cheat people fully. But now you know that you cannot." After some silence the young man replied, "I did cheat you fully, my lord."

SubQuestion No : 24

Q.24 Which of the following CANNOT be inferred from the passage?

Ans ✔ A.

The King understood how the goldsmith's son cheated him.

✗ B.

The King wanted to observe how his people lived their lives.

✗ C. The goldsmith's son kept to his promise to his father.

✗ D. The King often travelled through his kingdom in disguise.

Question ID : **59445918673**
Status : **Answered**
Chosen Option : **1**

Comprehension:

Read the passage carefully and answer the questions that follow.

A certain king was travelling from one place to another in disguise because he wanted to check on his officers.

One day he was resting under a tree near a house which belonged to a goldsmith. He overheard a conversation between the father and the son in that house. The son was saying, "Father, don't worry, I shall cheat my customers fully." The king wanted to test him.

The next day the King sent for the son and said, "Make a gold crown for the temple goddess. Come to the palace every day and work on the crown."

The son agreed. He went every day and worked on the gold crown. In the evening when he returned home, he closed his room and used to work on something. He would go to bed late at night.

After some days he finished the work. On the last day before he went to the palace, he went to the river early in the morning to do puja. Then he went to the palace. After finishing the work he took the gold crown to the river to wash it. The soldiers went with him. He came back with the crown. The king was pleased at the work and also that the young man could not cheat him. He said, "You promised your father that you would cheat people fully. But now you know that you cannot." After some silence the young man replied, "I did cheat you fully, my lord."

SubQuestion No : 25

Q.25 Why was the King travelling from one place to another in disguise?

Ans   ✔ A. He wanted to spy on his officials.

✗ B. He loved travelling from place to place.

✗ C. He wanted to find a goldsmith to make a crown.

✗ D. He always wanted to wander in disguise.

Question ID : **59445918669**
Status : **Answered**
Chosen Option : **1**

Q.1 The current flowing in the lines toward a balance load connected in delta are Ia=100∠0°, Ib=141.4∠225°, Ic=100 ∠90° ; find the symmetrical component of the line current:

Ans

✗ A. $I_{a0} = 0.07 \angle 115°$, $I_{a1} = 121 \angle 150°$, $I_{a2} = 209.88 \angle 5°$

✗ B. $I_{a0} = 7 \angle 125°$, $I_{a1} = 211 \angle 125°$, $I_{a2} = 229.88 \angle 150°$

✓ C. $I_{a0} = 0.007 \angle 45°$, $I_{a1} = 111 \angle 15°$, $I_{a2} = 29.88 \angle 105°$

✗ D. $I_{a0} = 0.7 \angle 145°$, $I_{a1} = 131 \angle 105°$, $I_{a2} = 290.88 \angle 10°$

Question ID : **59445918607**
Status : **Marked For Review**
Chosen Option : **1**

Q.2 A signal having a spectrum ranging from dc to 10 KHz Is to be sampled and converted into discrete form. What is the minimum number of samples per second that must be taken to ensure recovery?

Ans

✓ A. 20 K samples/sec

✗ B. 2000 samples/sec

✗ C. 20 samples/sec

✗ D. 200 samples/sec

Question ID : **59445918582**
Status : **Answered**
Chosen Option : **1**

Q.3 To improve power factor and feeder voltage control for a which compensation is required:

Ans

✓ A. Shunt capacitor

✗ B. Synchronous condensers

✗ C. Series capacitor

✗ D. Excitation control

Question ID : **59445918604**
Status : **Answered**
Chosen Option : **1**

Q.4 Find the laplacian of the potential function $V = x^2 + y^2 + z^2$

Ans

✗ A. $36 \ V/m^2$

✗ B. $60 \ V/m^2$

✓ C. $6 \ V/m^2$

✗ D. $83 \ V/m^2$

Question ID : **59445918572**
Status : **Answered**
Chosen Option : **3**

Q.5 The minimum number of watt meters required to measure 3-phase, 3-wire balance or unbalanced power is:

Ans ✗ A. 3

✔ B. 2

✗ C. 4

✗ D. 1

Question ID : **59445918564**
Status : **Answered**
Chosen Option : **2**

Q.6 Calculate the magnetic flux density due to circular coil of 100 ampere turns and area of 70 cm^2 on the axis of the coil at a distance of 10 cm from the centre.

Ans ✗ A. $130.7 \, \mu$ Tesla

✗ B. $13.7 \, \mu$ Tesla

✔ C. $103.7 \, \mu$ Tesla

✗ D. $130.07 \, \mu$ Tesla

Question ID : **59445918573**
Status : **Answered**
Chosen Option : **2**

Q.7 For a system transfer function $H(s)=\dfrac{s+5}{s^2+5s+6}$, Find the zero state response when the input x(t) is $e^{-3t} u(t)$

Ans ✗ A. $Y(t)=5e^{-2t} u(t)-7e^{-7t} u(t)-9te^{-9t} u(t)$

✗ B. $Y(t)=2e^{-4t} u(t)-9e^{-6t} u(t)-4te^{-8t} u(t)$

✗ C. $Y(t)=9e^{-2t} u(t)-6e^{-3t} u(t)-8te^{-3t} u(t)$

✔ D. $Y(t)=3e^{-2t} u(t)-3e^{-3t} u(t)-2te^{-3t} u(t)$

Question ID : **59445918584**
Status : **Answered**
Chosen Option : **2**

Q.8 The necessary and sufficient condition on the impulse response for stability is:

Ans

✗ A. $\sum_{k=0}^{1} |h(k)| = \infty$

✗ B. $\sum_{k=-\infty}^{0} |h(k)| > \infty$

✓ C. $\sum_{k=-\infty}^{\infty} |h(k)| < \infty$

✗ D. $\sum_{k=0}^{\infty} |h(k)| > \infty$

Question ID : **59445918577**
Status : **Answered**
Chosen Option : **3**

Q.9 When a single phase supply is connected across a single phase winding, the nature of the magnetic field produced is:

Ans

✓ A. Pulsating in nature

✗ B. Constant in magnitude and rotating at synchronous speed

✗ C. Constant in magnitude and direction

✗ D. Rotating in nature

Question ID : **59445918597**
Status : **Answered**
Chosen Option : **1**

Q.10 Determine the force between two parallel conductors of length 1m separated by 50 cm in air and carrying currents of 30A in same direction and opposite direction.

Ans

✗ A. 36×10^{-3} N & $0.036 x^{-3}$

✗ B. 3.6×10^{-3} N & $0.306 x^{-3}$

✓ C. 0.36×10^{-3} N & $0.36 x^{-3}$

✗ D. 0.6×10^{-3} N & $0.360 x^{-3}$

Question ID : **59445918567**
Status : **Answered**
Chosen Option : **3**

Q.11 The approximate efficiency of a three phase, 50 Hz, 4 pole induction motor running at 1350 rpm is:

Ans

✗ A. 94 percent

✓ B. 90 percent

✗ C. 40 percent

✗ D. 65 percent

Question ID : **59445918601**
Status : **Answered**
Chosen Option : **1**

Q.12 When the ammeter is connected across the load:

Ans ✅ A. High current will flow through the meter and meter may burnout.

❌ B. The meter acts as a voltmeter.

❌ C. The current will not flow through the meter.

❌ D. The meter reads the correct reading.

Question ID : **59445918629**
Status : **Answered**
Chosen Option : **1**

Q.13 A single phase 230 V, 1 kW heater is connected across single phase 230 V, 50 Hz
supply through a diode. Calculate the power delivered to the heater element.

Ans ❌ A. 434 W

✅ B. 500 W

❌ C. 1000 W

❌ D. 750 W

Question ID : **59445918655**
Status : **Answered**
Chosen Option : **3**

Q.14 Find the Y bus matrix for the data given below.

From	To	Resitance	reactance
1	2	0	0.34
2	3	0	0.42
1	3	0	0.30
2	0	0	0.15
3	0	0	0.1

Ans

✗ A. $\begin{vmatrix} -j45 & j15 & j10 \\ j15 & -j35 & j15 \\ j10 & j15 & -j45 \end{vmatrix}$

✔ B. $\begin{vmatrix} -j6.27 & j2.94 & j3.33 \\ j2.94 & -j11.98 & j2.381 \\ j3.33 & j2.381 & -j15.714 \end{vmatrix}$

✗ C. $\begin{vmatrix} -j10.44 & j7.10 & j3.33 \\ j7.10 & -j16.155 & j2.381 \\ j3.33 & j2.381 & -j15.714 \end{vmatrix}$

✗ D. $\begin{vmatrix} -j6.99 & j3.33 & j2.00 \\ j3.33 & -j5.83 & j2.5 \\ j2.00 & j2.5 & -j6.1617 \end{vmatrix}$

Question ID : **59445918609**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Q.15 How many numbers of coils will be there in a dynamo type power factor meter for balance three phase load?

Ans

✗ A. Three current coil and three pressure coil

✗ B. One current coil and one pressure coil

✔ C. One current coil and two pressure coil

✗ D. Two current coil and one pressure coil

Question ID : **59445918632**

Status : **Answered**

Chosen Option : **4**

Q.16 A three phase generator delivers 1 pu power to an infinite bus through a transmission network when a fault occurs. The maximum power which can be transferred during per fault, during fault, and post fault conditions are 1.75 pu, 0.4 pu, and 1.25 pu. Find the critical clearing angle.

Ans   ✘ A. 41.77°

✘ B. 71.97°

✔ C. 61.57°

✘ D. 51.27°

Question ID : **59445918612**
Status : **Answered**
Chosen Option : **2**

Q.17 Biot-Savart's law:

Ans   ✘ A. $\oint H.dl = I$

✘ B. $dB = dl\sin\theta / (4\mu I \pi r^2)$

✔ C. $dB = \mu I dl\sin\theta / (4\pi r^2)$

✘ D. $\iint_S B.ds = 0$

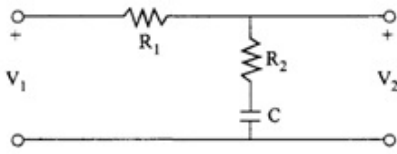Question ID : **59445918570**
Status : **Answered**
Chosen Option : **3**

Q.18 How many I/O ports can 8085 access:

Ans   ✔ A. 256

✘ B. 1028

✘ C. 512

✘ D. 128

Question ID : **59445918640**
Status : **Answered**
Chosen Option : **1**

**Q.19** Find the lag compensation of the given RC network:

Ans

✗ A. $Gc(s) = \dfrac{V_2(s)}{V_1(s)} = \dfrac{\beta\tau s + 1}{\tau s + 1}, \tau = R_2C, \beta = \dfrac{R_1 + R_2}{R_2} > 1$

✓ B. $Gc(s) = \dfrac{V_2(s)}{V_1(s)} = \dfrac{\tau s + 1}{\beta\tau s + 1}, \tau = R_2C, \beta = \dfrac{R_1 + R_2}{R_2} > 1$

✗ C. $Gc(s) = \dfrac{V_2(s)}{V_1(s)} = \dfrac{\tau s + 1}{\beta s + 1}, \tau = R_2C, \beta = \dfrac{R_1 + R_2}{R_2} > 1$

✗ D. $Gc(s) = \dfrac{V_2(s)}{V_1(s)} = \dfrac{\tau s + 1}{\beta(\tau s + 1)}, \tau = R_2C, \beta = \dfrac{R_1 + R_2}{R_2} > 1$

Question ID : **59445918620**

Status : **Answered**

Chosen Option : **1**

Q.20 The power input in blocked rotor test performed on a three phase induction motor is approximately equal to:

Ans

✗ A. Eddy current loss in the core

✗ B. Iron loss in the core

✗ C. Hysteresis loss in the core

✓ D. I^2R loss in the windings
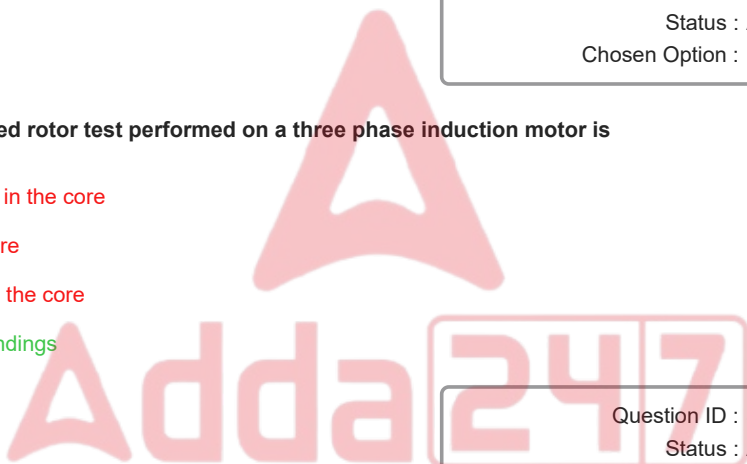
Question ID : **59445918595**

Status : **Answered**

Chosen Option : **4**

Q.21 Synchronous generators connected in parallel should maintain:

Ans

✗ A. Infinite frequency and infinite voltage

✗ B. Variable frequency and variable voltage

✗ C. Constant frequency and variable voltage

✓ D. Constant frequency and constant voltage

Question ID : **59445918600**

Status : **Answered**

Chosen Option : **4**

Q.22

Solution:
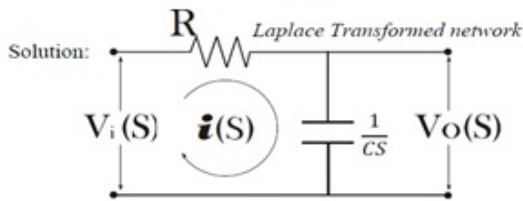
The transfer function of the circuit is:

Ans

✗ A. $\dfrac{Vo(s)}{Vi(s)} = \dfrac{1}{1+\tau s}, \tau = R/C$

✗ B. $\dfrac{Vo(s)}{Vi(s)} = \dfrac{1}{1+\tau s}, \tau = RC^2$

✗ C. $\dfrac{Vo(s)}{Vi(s)} = \dfrac{s}{1+\tau s}, \tau = RC$

✔ D. $\dfrac{Vo(s)}{Vi(s)} = \dfrac{1}{1+\tau s}, \tau = RC$

Question ID : **59445918614**
Status : **Answered**
Chosen Option : **4**

Q.23 The power factor is defined as:

Ans

✗ A. The ratio between apparent power to reactive power

✔ B. The ratio between true power to apparent power

✗ C. The ratio between true power to reactive power

✗ D. The ratio between apparent power to true power

Question ID : **59445918559**
Status : **Answered**
Chosen Option : **2**

Q.24 An amplifier has mid band voltage gain (A_v) of 1000 with F_L=50Hz and F_H=50KHz, if 5% feedback is applied then calculate gain F_L and F_H with feedback

6

Ans

✗ A. $A_v = 9.6, F_{Lv} = 98Hz, F_{Hv} = 55MHz$

✗ B. $A_v = 9.06, F_{Lv} = 908Hz, F_{Hv} = 2.55MHz$

✔ C. $A_v = 19.6, F_{Lv} = 0.98Hz, F_{Hv} = 2.55MHz$

✗ D. $A_v = 1.6, F_{Lv} = 9.8Hz, F_{Hv} = 25.5MHz$

Question ID : **59445918639**
Status : **Answered**
Chosen Option : **2**

Q.25 What about the multiplication and division instructions of 8085?

Ans
✗ A. Only multiplication instruction

✗ B. Both multiplication and division instruction

✗ C. Only division instruction

✔ D. Not support multiplication and division instruction

Question ID : **59445918641**
Status : **Answered**
Chosen Option : **4**

Q.26 Find the inverse z transform of:

$$x(z) = \frac{1}{1+2z^{-1}+2z^{-2}}$$

Ans

✔ A. $2^{\frac{n+1}{2}}[\cos\frac{(3n+1)\pi}{4}]$

✗ B. $2^{\frac{2n+1}{4}}[\cos\frac{(2n+1)\pi}{4}]$

✗ C. $2^{\frac{9n+1}{6}}[\cos\frac{(5n+1)\pi}{9}]$

✗ D. $2^{\frac{n+1}{4}}[\cos\frac{(9n+1)\pi}{8}]$

Question ID : **59445918585**
Status : **Answered**
Chosen Option : **2**

Q.27 In a two wattmeter method of measuring power in 3 phase system, one of the wattmeter reads negative, implying

Ans
✗ A. Power flow is in reverse direction

✗ B. Load is unbalanced

✗ C. Wattmeter connection is failure

✔ D. Power factor is less than 0.5

Question ID : **59445918630**
Status : **Answered**
Chosen Option : **4**

Q.28 The number of turns on the primary of current transformer is usually:

Ans
✗ A. 5 to 10

✗ B. 50 to 100

✔ C. 1 to 5

✗ D. Above 100

Question ID : **59445918633**
Status : **Answered**
Chosen Option : **3**

Q.29 The Schering bridge is ideally suited to measure:

Ans
✗ A. Mutual inductance of a coil

✓ B. Dielectric loss of an insulator

✗ C. Supply frequency of the bridge

✗ D. Self inductance of a coil

Question ID : **59445918626**
Status : **Answered**
Chosen Option : **2**

Q.30 Two coils A and B with 800 and 1200 turns respectively are having common magnetic circuit. A current of 0.5 A in coil. A produces a flux of 3 mWb and 80% of flux links with coil B. Find L_1, L_2 and M:

Ans
✗ A. 40.8H, 24.218H, 30.6H

✗ B. 14.8H, 34.218H, 23.6H

✓ C. 4.8H, 4.218H, 3.6H

✗ D. 48H, 42.18H, 36H

Question ID : **59445918575**
Status : **Answered**
Chosen Option : **2**

Q.31 The function of snubber circuit connected across an SCR is:

Ans
✗ A. Increase dv/dt

✗ B. To keep constant value

✓ C. Limit dv/dt

✗ D. Decrease dv/dt

Question ID : **59445918643**
Status : **Answered**
Chosen Option : **3**

Q.32 For satisfactory parallel operation of two transformers a number of conditions are to be filled. A number of conditions are written below. Indicate which of these is not required to be filled.

Ans
✓ A. kVA ratings of the two transformers should be equal.

✗ B. Voltage ratings of the primary windings should be suitable for supply system voltage and frequency.

✗ C. Transformers should be properly connected with regard to their polarity.

✗ D. The percentage impedance of the two transformers should be equal.

Question ID : **59445918588**
Status : **Answered**
Chosen Option : **1**

Q.33 A wattmeter reads 25.34 watts. The absolute error in the measurement is −0.11 watt. Determine the true value of power.

Ans
  ✗ A. 25.23 watts

  ✗ B. −25.23 watts

  ✗ C. −25.45 watts

  ✓ D. 25.45 watts

Question ID : **59445918634**
Status : **Answered**
Chosen Option : **4**

Q.34 For a 15 bus power system with a 3 voltage controlled bus, the size of the jacobian matrix is:

Ans
  ✓ A. 25x25

  ✗ B. 11x11

  ✗ C. 22x22

  ✗ D. 12x12

Question ID : **59445918603**
Status : **Answered**
Chosen Option : **1**

Q.35 Total harmonic distortion is defined as:

Ans
  ✗ A. The ratio of fundamental rms output voltage to the total rms output voltage.

  ✗ B. The ration of rms value of fundamental component to the rms value of all the harmonic component

  ✓ C. The ratio of rms value of all the harmonic components to the rms value of fundamental component.

  ✗ D. The ratio of rms value of nth harmonic voltage component to the rms value of fundamental voltage component.

Question ID : **59445918649**
Status : **Answered**
Chosen Option : **4**

Q.36 A 400 V, 50 Hz, 4-pole, three phase induction motor cannot run at 1500 rpm because:

Ans
  ✓ A. At 1500 rpm there will be no emf inducted in the rotor circuit and hence no torque will be developed

  ✗ B. At 1500 rpm, the rotor will draw excessive current and may be harmful to the motor

  ✗ C. An induction motor can run only at a speed higher than its synchronous speed

  ✗ D. At 1500 rpm, torque developed by the rotor may not sufficient to rotate the rotor

Question ID : **59445918594**
Status : **Answered**
Chosen Option : **1**

Q.37 Point out WRONG statement. In the node voltage technique of soling networks, choice of a reference node does not:

Ans ✗ A. Change the voltage across any element

✓ B. Affect the voltages of various nodes.

✗ C. Affect the operation of the circuit

✗ D. Alter the potential difference between any pair of nodes

Question ID : **59445918557**
Status : **Answered**
Chosen Option : **2**

Q.38 A triac is a:

Ans ✗ A. 2 terminal bidirectional switch

✗ B. 2 terminal unilateral switch

✗ C. 3 terminal unilateral switch

✓ D. 3 terminal bidirectional switch

Question ID : **59445918644**
Status : **Answered**
Chosen Option : **4**

Q.39 The voltage regulation of a synchronous generator may be negative when:

Ans ✓ A. The load power factor is leading

✗ B. It is loaded beyond its full load capacity

✗ C. The machine is run at very low loads

✗ D. The load power factor is lagging

Question ID : **59445918599**
Status : **Answered**
Chosen Option : **1**

Q.40
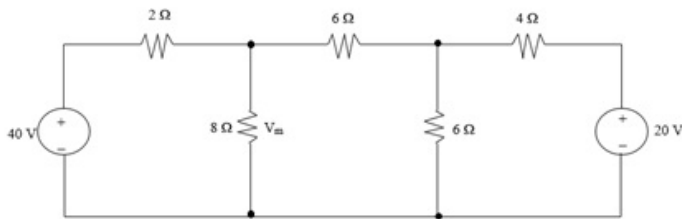
Use the mesh current method , Calculate the voltage across 8 Ω resistor

Ans ✗ A. 0 V

✗ B. 173 V

✓ C. 28.8 V

✗ D. 14.4 V

Question ID : **59445918556**
Status : **Answered**
Chosen Option : **3**

Q.41 A unit feedback system with $G(s) = \dfrac{K}{s(0.5s+1)(0.05s+1)}$ Find the gain margin and phase margin for K=1

Ans

✗ A. 36.86db, 101.768°

✔ B. 26.86db, 61.768°

✗ C. 56.86db, 81.768°

✗ D. 16.86db, 68.768°

Question ID : **59445918617**

Status : **Marked For Review**

Chosen Option : **2**

Q.42 _____ properties are
i. Maintain voltage at or near a constant level
ii. improve power system stability
iii. improve power factor
iv. correct phase unbalance.

Ans

✗ A. Series capacitor

✔ B. Static compensator

✗ C. Regulating transformer

✗ D. Boost transformer

Question ID : **59445918605**

Status : **Answered**

Chosen Option : **4**

Q.43 A single phase full bridge inverter can operate in load commutation mode in case load consist of:

Ans

✗ A. RLC criticallydamped

✗ B. RL

✔ C. RLC underdamped

✗ D. RLC overdamped

Question ID : **59445918648**

Status : **Answered**

Chosen Option : **3**

Q.44 Check which system y(n) is non-causal:

Ans

✗ A. $Y(n) = x(n) + \dfrac{1}{x(n-1)}$

✔ B. $Y(t) = x(t-2) + x(2-t)$

✗ C. $Y(n) = x^2(t) + x(t-2)$

✗ D. $Y(t) = \cos[x(n)]$

Question ID : **59445918580**

Status : **Answered**

Chosen Option : **2**

Q.45 Consider the system $T(s) = \dfrac{Y(s)}{U(s)} = \dfrac{s+3}{s^2+3s+2}$ Obtain the state space representation in the canonical form.

6

Ans

✗ A.

$$\begin{bmatrix} x'_1 \\ x'_2 \end{bmatrix} = \begin{bmatrix} 0 & -1 \\ 2 & 30 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} + \begin{bmatrix} 0 \\ -1 \end{bmatrix}u(t)$$
$$y(t) = \begin{bmatrix} 3 & -11 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix}$$

✗ B.

$$\begin{bmatrix} x'_1 \\ x'_2 \end{bmatrix} = \begin{bmatrix} 10 & 1 \\ -2 & -3 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} + \begin{bmatrix} 20 \\ 1 \end{bmatrix}u(t)$$
$$y(t) = \begin{bmatrix} 13 & 1 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix}$$

✔ C.

$$\begin{bmatrix} x'_1 \\ x'_2 \end{bmatrix} = \begin{bmatrix} 0 & 1 \\ -2 & -3 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} + \begin{bmatrix} 0 \\ 1 \end{bmatrix}u(t)$$
$$y(t) = \begin{bmatrix} 3 & 1 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix}$$

✗ D.

$$\begin{bmatrix} x'_1 \\ x'_2 \end{bmatrix} = \begin{bmatrix} 0 & -2 \\ -4 & -3 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix} + \begin{bmatrix} 0 \\ -1 \end{bmatrix}u(t)$$
$$y(t) = \begin{bmatrix} -3 & 1 \end{bmatrix}\begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix}$$

Question ID : **59445918622**
Status : **Answered**
Chosen Option : **3**

Q.46 A bridge generally used for measuring capacitance is:

Ans

✗ A. Maxwell's bridge

✗ B. Wien's bridge

✗ C. Owen's bridge

✔ D. De-Sauty's bridge

Question ID : **59445918625**
Status : **Answered**
Chosen Option : **4**

Q.47 Find the neutral current in the star, neutral ground system from the given symmetrical components. $I_{R1} = 5\angle 0°$, $I_{R2} = 2\angle 90°$, $I_{R0} = 2\angle 180°$

Ans

✗ A. $66\angle 150°$

✗ B. 0

✗ C. $6\angle 0°$

✔ D. $6\angle 180°$

Question ID : **59445918611**
Status : **Answered**
Chosen Option : **4**

Q.48 The open circuit EMF of the Weston standard cell used for standardization of potentiometer is:

Ans ✔️ A. 1.0183 V

❌ B. 1.183 V

❌ C. 1.1 V

❌ D. 1.0 V

Question ID : **59445918627**

Status : **Answered**

Chosen Option : **1**

Q.49 When the two windings of a transformer are connected electrically, it is called as:

Ans ✔️ A. Auto transformer

❌ B. Two winding transformer

❌ C. Electrical transformer

❌ D. Ideal transformer

Question ID : **59445918593**

Status : **Answered**

Chosen Option : **1**

Q.50 Find the Fourier series coefficients for the continuous time periodic signal

$x(t) = 1.5$ for $0 < t < 1$
$\qquad -1.5$ for $1 < t < 2$

With fundamental frequency $f_0 = \pi$

Ans ✔️ A. $\dfrac{3}{n\pi}[1 - \cos n\pi]$

❌ B. $\dfrac{3}{(n-1)\pi}[1 - \sin n\pi]$

❌ C. $\dfrac{3}{(n-1)\pi}[1 - \sin n\pi]$
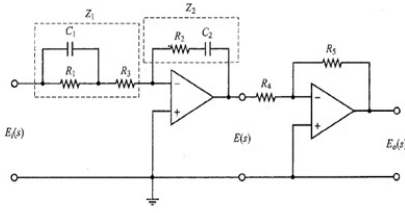
❌ D. $\dfrac{9}{2n\pi}[2 - \cos n\pi]$

Question ID : **59445918581**

Status : **Answered**

Chosen Option : **1**

Q.51 ABCD parameters are used in analysis of _____.

Ans ❌ A. Short circuit

❌ B. Electronic ciruits

❌ C. Open circuit

✔️ D. Transmission line

Question ID : **59445918563**

Status : **Answered**

Chosen Option : **4**

Q.52

In the above electronics circuits involving two operational amplifiers, A PID controller in that the transfer function involves an integrator and first order lag term. the transfer function of this pid controller is C(s)/R(s):

6

Ans

✗ A. $\dfrac{1+K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}{K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}$

✗ B. $\dfrac{K_p G_p(s)}{1+K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}$

✗ C. $\dfrac{K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}{1+K_p G_p(s)}$

✔ D. $\dfrac{K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}{1+K_p(1+\dfrac{1}{T_i s}+T_d s)G_p(s)}$

Question ID : **59445918621**
Status : **Answered**
Chosen Option : **2**

Q.53 Find the frequency response of an LTI system described by the differential equation.

$$\frac{d^2 y(t)}{dt^2}+5\frac{dy(t)}{dt}+6y(t)=2x(t)$$
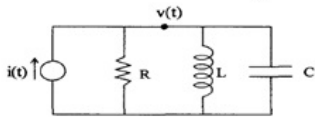
Ans

✗ A. $\dfrac{22}{(j\omega)^2+25(j\omega)+36}$

✗ B. $\dfrac{12}{(j\omega)^2+5(j\omega)+16}$

✗ C. $\dfrac{4}{(j\omega)^2+15(j\omega)+6}$

✔ D. $\dfrac{2}{(j\omega)^2+5(j\omega)+6}$

Question ID : **59445918583**
Status : **Answered**
Chosen Option : **4**

Q.54

A parallel RLC network excited by a current source write the transfer function form.

Ans

✗ A. $\dfrac{V(s)}{I(s)} = \dfrac{Cs}{Ls2 + LRs + 1}$

✗ B. $\dfrac{V(s)}{I(s)} = \dfrac{Rs}{Ls2 + LRs + C}$

✔ C. $\dfrac{V(s)}{I(s)} = \dfrac{Ls}{LCs2 + LGs + 1}$

✗ D. $\dfrac{V(s)}{I(s)} = \dfrac{LRs}{Cs2 + LGs + R}$

Question ID : **59445918613**
Status : **Answered**
Chosen Option : **3**

Q.55 In a split phase capacitor start induction motor, a time phase difference between currents in the main and auxiliary winding is achieved by:

Ans

✗ A.

Placing the two windings at an angle of 90° electrical in the stator slots

✗ B. Applying two phase supply across the two windings

✗ C. Connecting the two windings in series across a single phase supply.

✔ D. Introducing capacitive reactance in the auxiliary winding circuit

Question ID : **59445918598**
Status : **Answered**
Chosen Option : **1**

Q.56 The torque characteristics of a three phase induction motor is similar to that of _____.

Ans

✗ A. d.c. differentially compounded motor

✔ B. d.c. shunt motor

✗ C. d.c. series motor

✗ D. d.c. cumulatively compounded motor

Question ID : **59445918596**
Status : **Answered**
Chosen Option : **2**

Q.57 If x(t) is periodic with period T, fundamental frequency $\frac{2\pi}{T}$ and the fourier series coefficients of x(at) are FS(x(at)) is
_____ with fundamental frequency af_0 .

Ans ✔ A. C_n

✘ B. C^n

✘ C. C

✘ D. C/n

Question ID : **59445918579**
Status : **Answered**
Chosen Option : **1**

Q.58 If a=1 ∠120° ,which one is correct:

Ans ✘ A. $a^3 = a^4$

✘ B. $a + a^2 + a^3 = a$

✔ C. $1 + a + a^2 = 0$

✘ D. $a^4 = a$

Question ID : **59445918606**
Status : **Answered**
Chosen Option : **3**

Q.59 A chopper, in which current remains positive but voltage may be positive or negative, is known as:

Ans ✘ A. Chopper Type C

✔ B. Chopper Type D

✘ C. Chopper Type A

✘ D. Chopper Type E

Question ID : **59445918653**
Status : **Answered**
Chosen Option : **1**

Q.60 A band stop filter is:

Ans ✘ A. A filter significantly attenuates all frequencies above corner frequency and passes below corner frequency

✘ B. A filter significantly attenuates all frequencies below corner frequency and passes above corner frequency

✔ C. Filter reject all frequencies within a specified band and passes all those outside this band

✘ D. Filter allow all frequencies within a specified band and stops all those outside this band

Question ID : **59445918635**
Status : **Marked For Review**
Chosen Option : **4**

Q.61 The greatest percentage of heat loss in a d.c. machine is due to:

Ans ✗ A. Hysteresis loss

✔ B. Copper loss

✗ C. Frictional loss

✗ D. Eddy current loss

Question ID : **59445918602**
Status : **Answered**
Chosen Option : **2**

Q.62 An ideal transformer in one which?

Ans ✔ A. Has no loss and leakage reactance

✗ B. Does not work.

✗ C. Has low efficiency

✗ D. Has the same number of primary and secondary turns

Question ID : **59445918586**
Status : **Answered**
Chosen Option : **1**

Q.63 A PWM switching scheme is used in single phase inverters to:

Ans ✗ A. Reduce the higher order harmonics

✗ B. Minimize the effect of load

✔ C. Reduce the lower order harmonics

✗ D. Reduce the total harmonic distortion
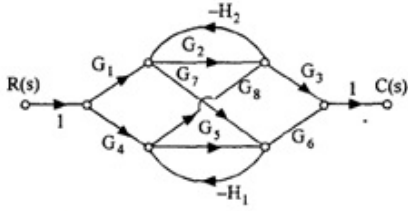
Question ID : **59445918651**
Status : **Answered**
Chosen Option : **3**

Q.64 In a CRO, an electron gun is having:

Ans ✗ A. Vertical plates

✔ B. Indirectly heated cathode and control grid

✗ C. Phosphorescent screen

✗ D. Horizontal plates

Question ID : **59445918628**
Status : **Answered**
Chosen Option : **4**

Q.65

Find the C(s)/R(s) for the signal flow graph

Ans

✗ A. $\dfrac{C(s)}{R(s)} = \dfrac{G_4 G_1 G_2 (1 + H_2 G_4) + G_4 G_1 G_3}{1 - G_2 H_1 + G_3 H_1 - G_7 G_8 H_1 H_2 + G_2 G_3 H_1 H_2}$

✔ B. $\dfrac{C(s)}{R(s)} = \dfrac{G_4 G_5 G_6 (1 + H_2 G_2) + G_4 G_8 G_3}{1 + G_2 H_2 + G_3 H_1 - G_7 G_8 H_1 H_2 + G_2 G_3 H_1 H_2}$

✗ C. $\dfrac{C(s)}{R(s)} = \dfrac{G_4 G_5 G_6 (1 - H_2 G_2) + G_4 G_8 G_3}{1 + G_2 H_2 + G_3 H_1 + G_7 G_8 H_1 H_2 - G_2 G_3 H_1 H_2}$

✗ D. $\dfrac{C(s)}{R(s)} = \dfrac{G_4 G_5 G_6 (1 + H_2) + G_4 G_3}{1 - G_2 H_2 + G_3 H_1 - G_7 G_8 H_1 + G_2 H_1 H_2}$

Question ID : **59445918616**
Status : **Answered**
Chosen Option : **2**

Q.66 Which of the following is the function of feedback diodes in McMurray inverter?

Ans

✔ A. To freewheel the load current

✗ B. To provide the path for the excess of commutation current above the load current.

✗ C. To provide required reverse bias across the outgoing thyristor

✗ D. To provide the return path for the reactive current of load

Question ID : **59445918650**
Status : **Answered**
Chosen Option : **2**

Q.67 A freewheeling diode in a phase controlled rectifier:

Ans

✗ A. Is responsible for additional harmonics

✗ B. Is responsible for additional reactive power

✗ C. Enables the inverter operation

✔ D. Improves the line power factor

Question ID : **59445918646**
Status : **Answered**
Chosen Option : **4**

Q.68 The electrical field intensity at a distance of 20cm from a charge of $2 \mu c$ in vacuum:

Ans
- ✅ A. 450 KV/m
- ❌ B. 50 KV/m
- ❌ C. 45 KV/m
- ❌ D. 540 KV/m

Question ID : **59445918568**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.69 Which converter has the polarity of the output voltage is opposite of input voltage?

Ans
- ✅ A. Cuk converter
- ❌ B. SEPIC converter
- ❌ C. Buck converter
- ❌ D. Boost converter

Question ID : **59445918654**
Status : **Answered**
Chosen Option : **2**

Q.70 A rectangular waveform varying from +E to −E is applied to a series connected C-R circuit. The waveform of the voltage drop across the resistor is observed. When R is small, voltage across the resistor is:

Ans
- ❌ A. 2E/R
- ❌ B. E
- ❌ C. −E
- ✅ D. 2E

Question ID : **59445918558**
Status : **Answered**
Chosen Option : **4**

Q.71 A DC constant voltage for a variable input voltage is called:

Ans
- ✅ A. Regulator
- ❌ B. Filter
- ❌ C. Rectifier
- ❌ D. Inverter

Question ID : **59445918638**
Status : **Answered**
Chosen Option : **1**

Q.72 The output of the vi characteristics mosfet has:

Ans
✗ A. Ohmic region alone

✗ B. Saturation region alone

✔ C. An ohmic region at low voltage followed by a saturation region at high voltage.

✗ D. Ohmic region at large voltage value preceded by a saturation region at low voltages

Question ID : **59445918636**
Status : **Answered**
Chosen Option : **3**

Q.73 Cumulatively compounded motors are used where we require:

Ans
✗ A. Poor speed regulation

✔ B. Sudden heavy loads for short duration

✗ C. Constant speed

✗ D. Variable speed

Question ID : **59445918591**
Status : **Answered**
Chosen Option : **2**

Q.74 If the load is purely resistive and adjustable, Maximum power transfer is achieved, when:

Ans
✗ A. $X_L = X_g$ and $R_L = R_g$

✗ B. $R_L = X_L$

✗ C. $R_L = R_g$

✔ D. $R_L = Z_g$

Question ID : **59445918561**
Status : **Answered**
Chosen Option : **1**

Q.75 The open circuit and short circuit tests on a transformer give the following losses. At what load will the efficiency of the transformer be maximum?

Ans
✔ A. At load of 40 kVA - Loss on OC test : 320 W and Loss on OC test : 320 W

✗ B. At load of 50 kVA - Loss on OC test : 320 W and Loss on OC test : 80 W

✗ C. At load of 30 kVA - Loss on OC test : 320 W and Loss on OC test : 180 W

✗ D. At load of 50 kVA - Loss on OC test : 320 W and Loss on OC test : 500 W

Question ID : **59445918587**
Status : **Answered**
Chosen Option : **1**

Q.76 Obtain the corner frequency of the transfer function are:

$$G(s) = \frac{20(0.1s+1)}{s^2(0.2s+1)(0.02s+1)}$$

Ans ✗ A. 15 rad/sec, 25 rad/sec,50 rad/sec

✗ B. 100 rad/sec, 50 rad/sec,5000 rad/sec

✗ C. 1 rad/sec, 15rad/sec,150 rad/sec

✓ D. 10 rad/sec, 5rad/sec,50 rad/sec

Question ID : **59445918618**
Status : **Answered**
Chosen Option : **4**

Q.77 MOV A, C
RAR
RAR
RAR
RAR
MOV C, A
HLTs
The program is for :

Ans ✓ A. Right shift

✗ B. Left shift

✗ C. Once complement of a number

✗ D. Storing the bcd number

Question ID : **59445918642**
Status : **Answered**
Chosen Option : **1**

Q.78 The direction of rotation of a dc motor can be reversed:

Ans ✗ A. By reversing the connections of both armature and the field windings with the supply

✗ B. By reducing the field flux

✓ C. By reversing the connections of either the armature or the field winding connection with the supply.

✗ D. By introducing an extra resistance in the armature circuit.

Question ID : **59445918589**
Status : **Answered**
Chosen Option : **3**

Q.79 The minimum rate at which a signal can be sampled and still be reconstructed from its samples is known as:

Ans ✗ A. Spectrum

✓ B. Nyquist rate

✗ C. Anti aliasing

✗ D. Sampling

Question ID : **59445918576**
Status : **Answered**
Chosen Option : **2**

Q.80 Find out step size and analog output for 4 bit R-2R ladder DAC when input is 1000 and 1111. Assume V_{ref}= +5V

Ans ✗ A. 6 V and 9 V

✗ B. 3 V and 6 V

✗ C. 10 V and 12 V

✓ D. 2.66 V and 5 V

Question ID : **59445918637**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.81 A dc series motor should always be started with load because:

Ans ✗ A. It cannot start without load

✗ B. At no-load it will not develop high starting torque

✗ C. It draws a small amount of current at no load.

✓ D. At no-load it will rotate at a dangerously high speed

Question ID : **59445918590**
Status : **Answered**
Chosen Option : **4**

Q.82 The root locus of a unity feedback system with

the angle made by asymptotes are:

Ans ✗ A. 20°, 220°

✗ B. 35°, 250°

✗ C. 85°, 120°

✓ D. 90°, 270°

Question ID : **59445918619**
Status : **Answered**
Chosen Option : **2**

Q.83 The magnetic flux density is:

Ans

✗ A. Magnetic flux * area

✔ B. Magnetic flux/area

✗ C. Magnetic flux/(area*area)

✗ D. Magnetic flux/μ

Question ID : **59445918569**

Status : **Answered**

Chosen Option : **2**

Q.84 Practical way of obtaining static voltage equalization in series connected SCRs by the use of:

Ans

✗ A. resistors connected in series with SCR

✔ B. Resistors of same value across each SCR

✗ C. One resistor across the string

✗ D. Resistors of different values across each SCR

Question ID : **59445918645**

Status : **Answered**

Chosen Option : **4**

Q.85 The line current in a three phase system are $I_a = 4\angle 60°$, $I_b = 0$, $I_c = 4\angle -120°$, find the negative sequence current.

Ans

✗ A. $12.909 \angle -30°$

✔ B. $2.309 \angle 30°$

✗ C. $3.303 \angle 60°$

✗ D. $6.913 \angle 70°$

Question ID : **59445918610**

Status : **Answered**

Chosen Option : **2**

Q.86 For a linear system the state coefficient matrices $A = \begin{bmatrix} 1 & 2 \\ -2 & 1 \end{bmatrix}, B = \begin{bmatrix} 1 \\ 0 \end{bmatrix}, C = \begin{bmatrix} 1 & 1 \end{bmatrix}, D = 0$ Find the transfer function.

6

Ans

✔ A. $\dfrac{s-3}{s^2 - 2s + 5}$

✗ B. $\dfrac{s-13}{s^2 + 12s + 5}$

✗ C. $\dfrac{s+3}{s^2 - 2s + 9}$

✗ D. $\dfrac{s-30}{5s^2 - 8s + 15}$

Question ID : **59445918623**

Status : **Answered**

Chosen Option : **3**

Q.87 The state transition matrix $\phi(t)$ is:

$$\begin{bmatrix} x'_1 \\ x'_2 \end{bmatrix} = \begin{bmatrix} 0 & 1 \\ -2 & -3 \end{bmatrix} \begin{bmatrix} x_1(t) \\ x_2(t) \end{bmatrix}$$

6

Obtain the inverse of the state transition matrix, $\phi^{-1}(t)$

Ans

✗ A. $e^{-At} = \begin{bmatrix} 2e^t & e^{2t} \\ -2e^t & -e^t \end{bmatrix}$

✗ B. $e^{-At} = \begin{bmatrix} e^t - e^{2t} & e^t - 2e^{2t} \\ -e^t + 2e^{2t} & -2e^t + e^{2t} \end{bmatrix}$

✓ C. $e^{-At} = \begin{bmatrix} e^t - e^{2t} & e^t - 2e^{2t} \\ -e^t + 2e^{2t} & -2e^t + e^{2t} \end{bmatrix}$

✗ D. $e^{-At} = \begin{bmatrix} 4e^t - e^{2t} & 11e^t - 4e^{2t} \\ -6e^t + 8e^{2t} & -4e^t + 2e^{2t} \end{bmatrix}$

Question ID : **59445918624**
Status : **Answered**
Chosen Option : **2**

Q.88 A star connected alternator supplies a delta connected load. The impedance of the load branch is (8+j6) ohm/phase. Determine the power factor.

Ans

✗ A. 0.6

✓ B. 0.8

✗ C. 0.57

✗ D. 0.9

Question ID : **59445918565**
Status : **Answered**
Chosen Option : **2**

Q.89 By flux control method of speed control of a dc series motor, we can obtain speeds:

Ans

✗ A. At normal speed

✓ B. Higher than its rated speed

✗ C. Above as well as below the rated speed

✗ D. Below rated speed

Question ID : **59445918592**
Status : **Answered**
Chosen Option : **2**

Q.90 Determine the capacitance of a parallel plat capacitor composed of thin foil sheets, 20 cm square for plates separated through a glass dielectric 0.4 cm thick with relative permittivity 6.

Ans ✗ A. 46.562x-12 F

✗ B. 36.562x-12 F

✓ C. 26.562x-12 F

✗ D. 20.2x-12 F

Question ID : **59445918574**
Status : **Answered**
Chosen Option : **2**

Q.91 Gauss Seidel iterative method for solving the:

Ans ✗ A. Both linear and non linear algebraic equations

✓ B. Both Linear and non linear differential equations

✗ C. Solving differential equation

✗ D. Solving algebraic equation

Question ID : **59445918608**
Status : **Answered**
Chosen Option : **1**

Q.92 An ideal voltage source has _____ source resistance.

Ans ✗ A. Equal amount of load resistance

✗ B. Very high load resistance

✗ C. Small amount

✓ D. Zero

Question ID : **59445918562**
Status : **Answered**
Chosen Option : **4**

Q.93 Which type of chopper is generally used in high power circuits where load fluctuation is not very large?

Ans ✗ A. Load commutated chopper

✗ B. Chopper Type A

✗ C. Current commutated chopper

✓ D. Voltage commutated chopper

Question ID : **59445918652**
Status : **Answered**
Chosen Option : **4**

Q.94 A simple low-pass RC filter having a cutoff frequency of 1 kHZ is connected to a constant ac source of 10 V. Calculate C if R=10 k Ω

Ans ✔ A. 15.9nF

✘ B. 15.9F

✘ C. 1nF

✘ D. 1F

Question ID : **59445918560**
Status : **Answered**
Chosen Option : **3**

Q.95 The creeping is occurs in:

Ans ✘ A. voltmeter

✘ B. wattmeter

✔ C. Energy meter

✘ D. ammeter

Question ID : **59445918631**
Status : **Answered**
Chosen Option : **3**

Q.96 Time shifting in Laplace transform If L$\{x(t)\}=x(s)$, then L($x(t-t_0)$) is:

Ans ✘ A. $e^{-s(t0-t)}x(s+s_0)$

✘ B. $e^{-st0}x(s-s_0)-t$

✘ C. $e^{-s(t-t0)}x(s/s_0)$

✔ D. $e^{-st0}x(s)$

Question ID : **59445918578**
Status : **Answered**
Chosen Option : **4**

Q.97 Magnetic field intensity around a close path is equal to the current enclosed by the path is:

Ans ✘ A. Biotsavart law

✔ B. Amplere's circuital law

✘ C. Coulomb's Law

✘ D. Gauss law

Question ID : **59445918571**
Status : **Answered**
Chosen Option : **2**

Q.98 The transfer function of the Armature control DC servo motor is:

Ans

✗ A. $\theta s = \dfrac{sK_T E_a(s)}{s^2[(R_a + sL_a)(Js + B_0)^2 + K_T K_b]}$

✗ B. $\theta s = \dfrac{K_T E_a(s)}{[(R_a + sL_a)(Js^2 + B_0) + K_T K_b]}$

✔ C. $\theta s = \dfrac{K_T E_a(s)}{s[(R_a + sL_a)(Js + B_0) + K_T K_b]}$

✗ D. $\theta s = \dfrac{K_T E_a(s)}{s[(R_a + sL_a)(B0s + J_0) + sK_T K_b]}$

Question ID : **59445918615**
Status : **Answered**
Chosen Option : **3**

Q.99 In a purely capacitive circuit the instantaneous power curve is a sinusoidal of _____ the frequency of V and I.

Ans

✗ A. $1/\sqrt{3}$ times

✗ B. Half

✗ C. Equal

✔ D. double

Question ID : **59445918566**
Status : **Answered**
Chosen Option : **2**

Q.100 A four quadrant operation requires:

Ans

✗ A. Two full converters connected in parallel

✔ B. Two full converters connected back to back

✗ C. Two full converters in series

✗ D. Two semi converters connected back to back

Question ID : **59445918647**
Status : **Answered**
Chosen Option : **2**