



SSC JE Electrical Engineering 2015

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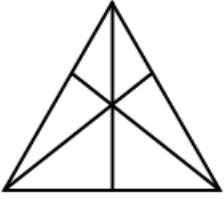
General Intelligence and Reasoning

Instructions

For the following questions answer them individually

Question 1

How many triangles are there in the figure?

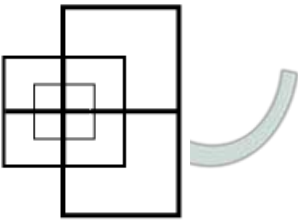


- A 7
- B 10
- C 16
- D 20

Answer: C

Question 2

Find the number of minimum straight lines required to make figure

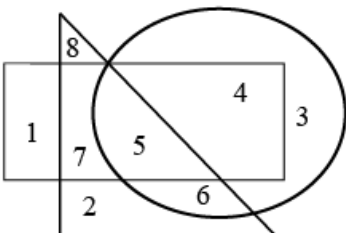


- A 13
- B 17
- C 15
- D 19

Answer: A

Question 3

Write the number of space enclosed by rectangle and circle but not by triangle



- A 3
- B 2

C 1

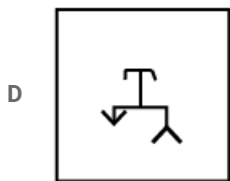
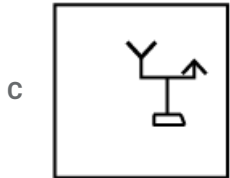
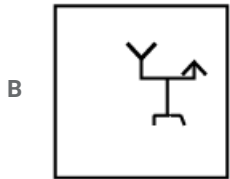
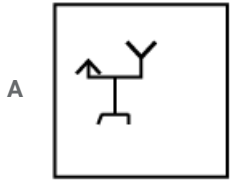
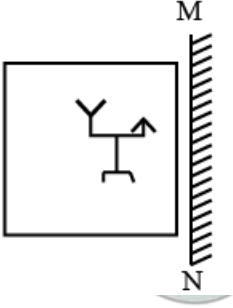
D 4

Answer: D

Question 4

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

Question figure



Answer: A

Question 5

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g. 'M' can be represented by 01, 14 etc., and 'S' can be represented by 58, 77 etc. Similarly, you have to identify the set the word 'ROHAN'.

Matrix I					
	0	1	2	3	4
0	H	M	X	W	K
1	N	R	N	Y	M
2	K	V	H	P	W
3	Y	Z	R	M	N
4	W	V	H	J	P

Matrix II					
	5	6	7	8	9
5	A	D	E	S	B
6	T	U	O	G	Q
7	O	Q	S	D	A
8	S	E	U	E	D
9	Q	B	A	T	O

- A 11, 57, 00, 55, 12
- B 11, 75, 00, 55, 10
- C 32, 75, 21, 55, 10
- D 32, 67, 41, 55, 12

Answer: B

Explanation:

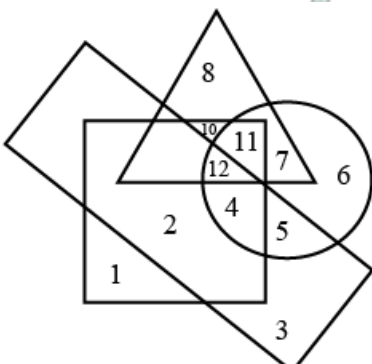
- R = 11, 32,
- O = 75, 67, 99
- H = 00, 22,
- A = 55, 97, 79
- N = 10, 12, 34,

From option B,
ROHAN = 11, 75, 00, 55, 10

∴ The correct answer is option B.

Question 6

In the given figure, the circle stands for intelligent, square for hardworking, triangle for Post graduate and the rectangle for loyal employees. Study the figure and answer the following questions. Employees who are intelligent, hardworking and loyal but not Post graduate are represented by



- A 11
- B 5
- C 4
- D 3

Answer: C

Instructions

In following questions one/two statement(s) are given are followed by two conclusion/assumption, I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusion/assumptions, if any, follows from the given statements.

Question 7

Statements : All students are girls.

Some students are not talented.

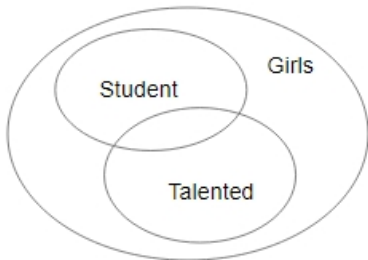
Conclusions : I. No students is talented

II. Some girls are talented

- A Only I follows
- B Only II follows
- C Both I and II follows
- D Neither I nor II follows

Answer: D

Explanation:



Neither I nor II follows.

∴ the correct answer is option D.

Question 8

Statements : 1. Tigers do not fly

2. Hens do not fly.

Conclusions : I. Tigers are birds

II. All birds cannot fly

- A Only I follows
- B Only II follows
- C Both I and II follows
- D Neither I nor II follows

Answer: D

Explanation:

From the both statements,

Neither I nor II follows.

∴ The correct answer is option D.

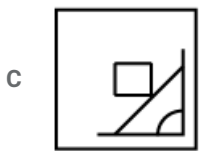
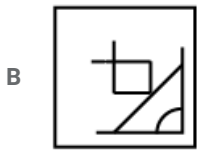
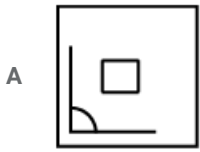
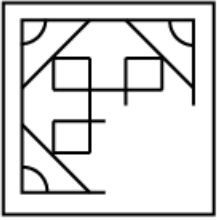
Instructions

For the following questions answer them individually

Question 9

Which answer figure will complete the pattern in the question figure?

Question figure

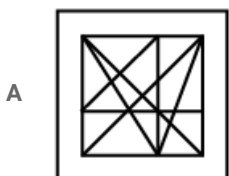
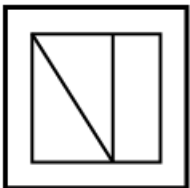


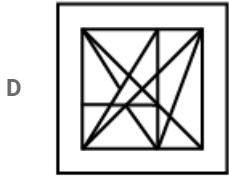
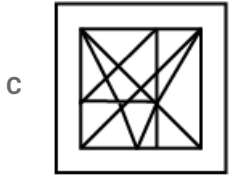
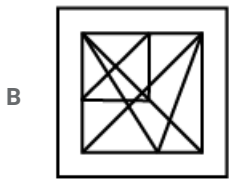
Answer: B

Question 10

From the given answer figures, select the one in which the question figure is hidden/embedded.

Question figure



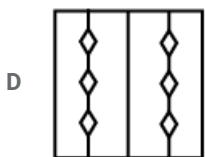
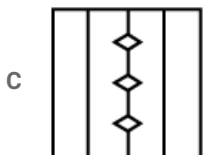
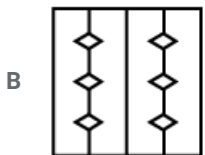
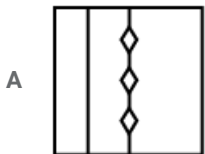
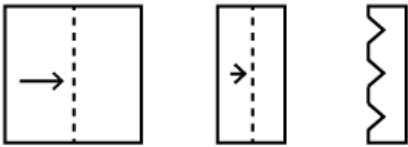


Answer: A

Question 11

A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question figures



Answer: B

Question 12

Ramu's mother has three sons. The eldest one is called onekari, the second one is called twokari. Then the third son's name is

A Teenkari

B Sandu

C Ramu

D Nokari

Answer: C

Explanation:

Third son's name is Ramu.

Question 13

Ashok is heavier than Gopal. Mahesh is lighter than Jayesh. Prashant is heavier than Jayesh but lighter than Gopal. Who among them is heaviest ?

A Gopal

B Ashok

C Prashant

D mahesh

Answer: B

Explanation:

Ashok is heavier than Gopal so,

Ashok > Gopal

Mahesh is lighter than Jayesh so,

Jayesh > Mahesh

Prashant is heavier than Jayesh but lighter than Gopal so,

Gopal > Prashant > Jayesh

by the combination of all statements,

Ashok > Gopal > Prashant > Jayesh > Mahesh

So, Ashok is heaviest.

Question 14

From the given alternative words, select the word which cannot be formed using the letters of the given word :

KILOMETERS

A OIL

B MEET

C TREES

D STREET

Answer: D

Explanation:

'STREET' cannot be formed using the letters of the 'KILOMETERS'.

Question 15

In a certain code language, if the word 'RHOMBUS' is coded as TJQODWU, then how is the word 'RECTANGLE' in that language ?

- A TGEVCPIMG
- B TGEVCPING
- C TGEWDPING
- D TGFWEPIING

Answer: B

Explanation:

'RHOMBUS' is coded as,

- R + 2 = T
- H + 2 = J
- O + 2 = Q
- M + 2 = O
- B + 2 = D
- U + 2 = W
- S + 2 = U

Similarly,

- R + 2 = T
- E + 2 = G
- C + 2 = E
- T + 2 = V
- A + 2 = C
- N + 2 = P
- G + 2 = I
- L + 2 = N
- E + 2 = G

'RECTANGLE' is coded as 'TGEVCPING'.

∴ The correct answer is option B.

Question 16

If in a certain code 'Education' is written as 3 6 5 7 9 8 2 1 4 then how 'Conduct' can be written?

- A 7 1 4 6 5 7 8
- B 6 5 4 7 8 7 1
- C 1 4 5 8 7 7 6
- D 6 4 8 5 7 6 7

Answer: A

Explanation:

- E = 3
- D = 6
- U = 5
- C = 7
- A = 9
- T = 8
- I = 2
- O = 1
- N = 4

'Conduct' can be written as '7146578'.

Question 17

If $7x = 8k$ and $5y = 6k$ then the value of ratio x is to y is

A 20 : 21

B 21 : 20

C 35 : 48

D 48 : 35

Answer: A

Explanation:

$$7x = 8k$$

$$x = 8k/7$$

$$\text{and } 5y = 6k$$

$$y = 6k/5$$

$$x : y = \frac{8k}{7} : \frac{6k}{5} = 20 : 21$$

Question 18

If $44 + 12 = 30$, $77 + 14 = 61$, $84 + 16 = 66$ then what should be for $44 + 22 = ?$

A 28

B 20

C 32

D 24

Answer: B

Explanation:

$$44 - (12 + 2) = 30$$

$$77 - (14 + 2) = 61$$

$$84 - (16 + 2) = 66$$

Similarly,

$$44 - (22 + 2) = 20$$

∴ The correct answer is option B.

Question 19

Select the set of symbols which can be fitted correctly in the equation,

$$8 \underline{\quad} 4 \underline{\quad} 2 \underline{\quad} 6 \underline{\quad} 3 = 32$$

A $\times, -, +, \div$

B $+, \times, \div, -$

C $+, \div, \times, -$

D $-, \times, \div, +$

Answer: A

Explanation:

From option A),

LHS

$$8 \times 4 - 2 + 6 \div 3$$

$$32 - 2 + 2$$

$$= 32$$

RHS

∴ Option A is the correct answer

Instructions

In the following question, which one of the given responses would be a meaningful order of the following?

Question 20

1. Village
2. State
3. Nation
4. District

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

Answer: B

Explanation:

Village are comes under the District, District comes under the State and State comes under the Nation.

Question 21

1. Branches
2. Root
3. Trunk
4. Leaf
5. Flower

- A 4, 1, 3, 2, 5
B 2, 3, 1, 4, 5
C 1, 2, 3, 4, 5
D 4, 3, 1, 2, 5

Answer: B

Explanation:

The order of the parts of a tree - Root, Trunk, Branch, Leaf, Flower

∴ Option B is the correct answer.

Question 22

1. Adulthood
2. Babyhood
3. Childhood
4. Infancy

- A 4, 3, 2, 1
B 4, 2, 3, 1
C 4, 1, 2, 3

D 4, 3, 1, 2

Answer: B

Explanation:

The first stage of every person is infancy then babyhood after then childhood and the next stage adulthood so order, Infancy, babyhood, childhood, adulthood

∴ Option B is the correct answer.

Instructions

In the following questions, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

Question 23

CDDP DEER EFFT FGGV GHX ?

A ZIIH

B HIIZ

C HJJY

D HIJZ

Answer: B

Explanation:

In the series, every letter increased by 1 in each term. So,

Next term = HIIZ

∴ The correct answer is option B.

Question 24

l m n m n o p n o p q r ?

A pqrst

B lmnop

C opqrs

D hpqrs

Answer: C

Explanation:

The series follows pattern as,

lmn/mnop/nopqr/opqrst

∴ The correct answer is option C.

Question 25

R I A T N I E ?

A A

B B

C C

D D

Answer: B

Explanation:

In the alphabet 'R' is the 9 letter from the reverse order.

I is the 9th letter from R

A is the 8th letter from I

T is the 7th letter from A

N is the 6th letter from T

I is the 5th letter from N

E is the 4th letter from I

So,

The 3rd letter from E is B.

∴ The correct answer is option B.

Question 26

$\left(\frac{1}{8}\right), \left(\frac{1}{4}\right), \left(\frac{1}{2}\right), 1, ?, 4$

A $\left(\frac{3}{8}\right)$

B $\left(\frac{2}{8}\right)$

C 2

D 6

Answer: C

Explanation:

The series follows pattern as,

$$\frac{1}{8} \times 2 = \frac{1}{4},$$

$$\frac{1}{4} \times 2 = \frac{1}{2},$$

$$\frac{1}{2} \times 2 = 1,$$

$$1 \times 2 = 2,$$

$$2 \times 2 = 4$$

Missing term = 2

Question 27

11, 12, 16, 25, ?

A 45

B 41

C 43

D 49

Answer: B

Explanation:

$$11 + 1^2 = 12$$

$$12 + 2^2 = 16$$

$$16 + 3^2 = 25$$

$$25 + 4^2 = 41$$

Question 28

3, 9, 21, 45, ?

A 54

B 78

C 87

D 93

Answer: D

Explanation:

the series follows pattern as,

$$0 + 3 = 3$$

$$3 + 6 = 9$$

$$9 + 12 = 21$$

$$21 + 24 = 45$$

$$45 + 48 = 93$$

∴ Option D is the correct answer.

Instructions

In the following questions, select the missing number from the given responses.

Question 29

13	15	12
2	4	5
4	5	8
30	65	?

A 64

B 69

C 65

D 68

Answer: D

Explanation:

$$13 \times 2 + 4 = 30$$

$$15 \times 4 + 5 = 65$$

$$12 \times 5 + 8 = 68$$

Question 30

20	30	12
3	4	8
80	?	116

A 120

B 60

- C 100
D 140

Answer: D

Explanation:

$$20 \times 3 + 20 = 80$$

$$12 \times 8 + 20 = 116$$

$$30 \times 4 + 20 = 140$$

Instructions

For the following questions answer them individually

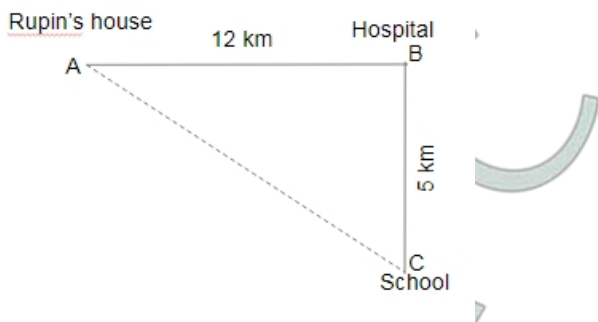
Question 31

Hospital is 12 km towards east of Rupin's house. His school is 5 km towards south of Hospital. What is the shortest distance between Rupin's house and school?

- A 16 km
B 17 km
C 12 km
D 13 km

Answer: D

Explanation:



From the Pythagoras,

$$AC^2 = AB^2 + BC^2$$

$$AC^2 = (12)^2 + (5)^2$$

$$AC^2 = 169$$

$$AC = 13 \text{ km}$$

Shortest distance = 13 km.

Question 32

Two cars started from a particular spot. The car A ran straight at the speed of 30 kmph for 2 hours north and then took a right turn. It ran 40 km and again turned right. It stopped after east at the speed of 20 kmph for 2 hours and turned left. It ran for 100 km and then stopped. How far were there two cars from each other when both of them stopped at last ?

- A 17 km
B 18 km
C 19 km
D 20 km

Answer: D

Instructions

In the following questions, select the related word/ letters/number from the given alternatives.

Question 33

CHAIR : FURNITURE :: FORK : ?

- A SPOON
- B CUTLERY
- C CROCKERY
- D FOOD

Answer: B

Explanation:

Chair comes under the furniture similarly fork comes under the cutlery.

Question 34

Compass : Ship :: Vastu : ?

- A Building
- B Flat
- C Home
- D Land

Answer: C

Explanation:

Compass used to find the correct direction of ships similarly vastu used to to find the correct direction of **home**.

Question 35

BOOK : LIBRARY :: ? : FILE

- A COMPUTER
- B DATA
- C FOLDER
- D BYTES

Answer: B

Explanation:

Books are available in the library similarly **data** is available in file.

Question 36

q : d :: b : ?

- A p
- B d

C q

D b

Answer: A

Explanation:

Water image of 'q' is 'd'.

Similarly,

Water image of 'b' is 'p'.

∴ The correct answer is option A.

Question 37

ABB : EGJ :: FHL : ?

A BDH

B JMT

C FHH

D JJL

Answer: B

Explanation:

In ABB : EGJ,

A + 4 → E

B + 5 → G

B + 6 → H

Similarly,

In FHL : ?,

F + 4 → J

H + 5 → M

L + 6 → T

Missing term - JMT

Question 38

EV : KP :: TG : ?

A ZA

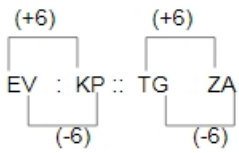
B AZ

C ZZ

D AA

Answer: A

Explanation:



Missing term = ZA

Question 39

21 : 65 :: 31 : ?

- A 78
- B 80
- C 85
- D 95

Answer: D

Explanation:

$$21 \times 3 + 2 = 65$$

$$31 \times 3 + 2 = 95$$

∴ Option D is the correct answer.

Question 40

17 : 102 :: 23 : ?

- A 112
- B 138
- C 216
- D 413

Answer: B

Explanation:

$$17 \times 6 = 102$$

Similarly,

$$23 \times 6 = 138$$

Question 41

25 : 36 :: ?

- A 9 : 25
- B 16 : 25
- C 25 : 49
- D 81 : 121

Answer: B

Explanation:

$$5^2 = 25$$

$$(5 + 1)^2 = 6^2 = 36$$

Similarly,

$$4^2 = 16$$

$$(4 + 1)^2 = 5^2 = 25$$

∴ Option B is the correct answer.

Instructions

In the following questions, find the odd word/number pair from the given alternatives.

Question 42

- A stare
- B glance
- C look
- D hug

Answer: D

Explanation:

Except 'hug' remaining all words mean to look something.

∴ The correct answer is option D.

Question 43

- A Analogy
- B Reasoning
- C Decoding
- D Cycling

Answer: D

Explanation:

Except **cycling** remaining all are subjects.

Question 44

- A Nephrology
- B Astrology
- C Pathology
- D Entomology

Answer: B

Explanation:

Except "astrology" remaining all are related to study of animals.

∴ The correct answer is option B.

Question 45

- A accdff
- B prrsu

C mnnqq

D egg hij

Answer: C

Explanation:

Except option C, all other options have difference of the 1 letter in between first and 2nd letter.

∴ The correct answer is option C.

Question 46

A OQTX

B JMNQ

C EGJN

D XZCG

Answer: B

Explanation:

In OQTX,

$$O + 2 = Q + 3 = T + 4 = X$$

In JMNQ,

$$J + 3 = M + 1 = N + 3 = Q$$

In EGJN,

$$E + 2 = G + 3 = J + 4 = N$$

In XZCG,

$$X + 2 = Z + 3 = C + 4 = G$$

∴ The correct answer is option B.

Question 47

A NMOK

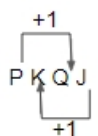
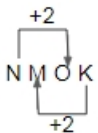
B PKQJ

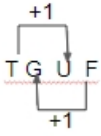
C RLSK

D TGUF

Answer: A

Explanation:





MNOK is odd.

∴ The correct answer is option A.

Question 48

- A 997
- B 976
- C 778
- D 895

Answer: A

Explanation:

$$997 \rightarrow 9 + 9 + 7 = 25$$

$$976 \rightarrow 9 + 7 + 6 = 22$$

$$778 \rightarrow 7 + 7 + 8 = 22$$

$$895 \rightarrow 8 + 9 + 5 = 22$$

∴ The correct answer is option A.

Question 49

- A 8
- B 87
- C 111
- D 96

Answer: A

Explanation:

$$87 \rightarrow 8 + 7 = 15$$

$$111 \rightarrow 1 + 1 + 1 = 3$$

$$96 \rightarrow 9 + 6 = 15$$

The sum of the digits of 87, 111 and 96 is divisible by 3.

∴ The correct answer is option A.

Instructions

For the following questions answer them individually

Question 50

Pick the odd number from the sequence below :

2, 3, 6, 7, 11, 15, 30

- A 7

B 11

C 6

D 30

Answer: B

Explanation:

In first number: The number is first added to same number.

In second number: The answer should added by 1.

$$1 + 1 = 2$$

$$2 + 1 = 3$$

$$3 + 3 = 6$$

$$6 + 1 = 7$$

$$7 + 7 = 14$$

$$14 + 1 = 15$$

$$15 + 15 = 30$$

So, 11 is odd number.

General Awareness

Instructions

For the following questions answer them individually

Question 51

The storage form of glucose is

A Insulin

B Glycogen

C Glucagon

D Fructose

Answer: B

Question 52

Thigmotropism is the response of the plant to

A Gravity

B Water

C Light

D Contact

Answer: D

Question 53

Root hairs are produced from

- A trichotnes
- B trichiblast
- C rhizodermis
- D epidermis

Answer: C

Question 54

Second Ozone hole was detected over

- A Antartica
- B Artica
- C Sweden
- D Northern hemisphere

Answer: A

Question 55

Glycolysis during fermentation results in not gain of

- A 1 ATP
- B 2 ATPs
- C 3 ATPs
- D 4 ATPs

Answer: B

Question 56

The disadvantage of self-pollination is

- A seeds are less in number
- B no dependence of pollinating agents
- C mechanism is too simple
- D no wastage of pollengrains

Answer: A

Question 57

By increasing the intensity of incident light on the surface, the photo electric current

- A increases
- B decreases
- C unchanged

D increases initially and then decreases

Answer: D

Question 58

The Phenomenon of light splitting into seven distinct colours when it passes through prism is

A diffraction

B polarisation

C dispersion

D reflection

Answer: C

Question 59

A block placed on an inclined plane of slope angle θ slides down with a constant speed. The coefficient of kinetic friction is equal to

A $\sin \theta$

B $\cos \theta$

C $\tan \theta$

D $\cot \theta$

Answer: C

Question 60

A plumb bob is hanging from the ceiling of a car. If the car moves with an acceleration a , the angle made by the string with the vertical is

A $\sin^{-1} \left(\frac{a}{g} \right)$

B $\sin^{-1} \left(\frac{g}{a} \right)$

C $\tan^{-1} \left(\frac{a}{g} \right)$

D $\tan^{-1} \left(\frac{g}{a} \right)$

Answer: C

Question 61

Who is called the 'Father of Indian Cinema'?

A Raj Kapoor

B Dilip kumar

C Mehboob Khan

D Dada Saheb Phalke

Answer: D

Question 62

Name the first Indian woman to climb Mount Everest

- A Santosh Yadav
- B Bachhendri Pal
- C Rita Farai
- D Leela Seth

Answer: B

Question 63

Which IPL Team won the eighth edition of the Indian Premier League?

- A Mumbai Indians
- B Chennai Super Kings
- C Delhi Daredevils
- D Kolkata Knight Riders

Answer: A

Question 64

Nehru Trophy is associated with which sport in India?

- A Football
- B Cricket
- C Hockey
- D None of the above

Answer: C

Question 65

Aung San Suu Kyi, a prodemocracy campaigner, is from which of the following countries?

- A Nepal
- B Myanmar
- C Bangladesh
- D China

Answer: B

Question 66

Usain Bolt is famous as

- A an astronaut
- B a boxer

C an athlete

D a cricketer

Answer: C

Question 67

Which of the following is the morning 'Ragg' in music ?

A Sohini

B Bhairavi

C Sarang

D Malhaar

Answer: B

Question 68

When was the first All India Postage Stamp issued?

A 1854

B 1858

C 1850

D 1856

Answer: A

Question 69

In which country was paper currency first used?

A India

B Egypt

C China

D Japan

Answer: C

Question 70

The murder of Archduke Ferdinand and his wife triggered off which of the following events?

A Crimean War

B Balkan War

C First World War

D Second World War

Answer: B

Question 71

.com represents

- A communication domain
- B Educational domain
- C Commercial domain
- D Government domain

Answer: A

Question 72

IKE stands for

- A Internet Key Exchange
- B Information Key Execution
- C Information Key Exchange
- D Infrastructure Key Encryption

Answer: A

Question 73

When salt is added to water, the boiling point of water is

- A Lowered
- B Unaffected
- C Increased
- D Constant

Answer: C

Question 74

The gas dissolved in water that makes it acidic

- A hydrogen
- B nitrogen
- C carbon dioxide
- D ammonia

Answer: C

Question 75

The hydrogen ion concentration of a solution is measured using a

- A thermometer
- B pH meter

C hydrometer

D barometer

Answer: B

Question 76

Non-bonding valence electrons are

A Involved only in covalent bond formation

B Involved only in ionic bond formation

C Involved in both ionic and covalent bond formation

D Not involved in covalent bond formation

Answer: C

Question 77

When is the World Earth Day celebrated?

A 4 April

B 22 April

C 1 May

D 23 March

Answer: B

Question 78

World "No Tobacco Day" was observed globally on

A 31 May

B 2 June

C 15 June

D 20 June

Answer: A

Question 79

The greenhouse gases, otherwise called radioactively active gases include

A Carbon dioxide

B CH_4

C N_2O

D All of these

Answer: D

Question 80

The most serious environmental effect posed by hazardous wastes is

- A air pollution
- B contamination of ground water
- C increased use of land of landfills
- D None of the above

Answer: B

Question 81

Which Delhi Sultan resorted to price control and rationing?

- A Balban
- B Muhammad-bin-Tughluq
- C Bahlul Lodi
- D Alaud-din-Khilji

Answer: D

Question 82

The Maratha ruler Shivaji ruled his kingdom with the help of a Council of Ministers called

- A Ashtapradan
- B Ashtadigajas
- C Navarathnas
- D Mantriparishad

Answer: A

Question 83

Ms. Florence Nightingale was associated with

- A Seven years War
- B Thirty Years War
- C Crimean War
- D Hundred Years War

Answer: C

Question 84

Who among the following Gupta emperor was known as 'Vikramaditya'?

- A Samudra Gupta
- B Kumar Gupta

C Chandra Gupta I

D Chandra Gupta II

Answer: D

Question 85

The finely painted cotton fabric made in Golkanda was called

A Calico

B Muslin

C Kalamkari

D Palampore

Answer: C

Question 86

Which of the best type of cotton grown in the world?

A Long staple

B Medium staple

C Short staple

D Thick staple

Answer: A

Question 87

Which one of the following is first multipurpose project constructed in India?

A Rihand

B Thungabadra

C Farraka Barrage

D Damodar

Answer: D

Question 88

What is the symbol of (WWF) World Wildlife Fund?

A Red Panda

B Rhododendron

C Bear

D White Tiger

Answer: A

Question 89

Market Gardening comes in this category

- A Horticulture
- B Monoculture
- C Subsistence farming
- D Sericulture

Answer: A

Question 90

A deep or french in the ocean floor is called

- A Ridges
- B Crest
- C Trough
- D Continental Shelf

Answer: B

Question 91

Name the co-operative society that provides housing loan facility at reasonable rates

- A Credit co-operatives
- B Housing co-operatives
- C Consumer co-operatives
- D Producer's co-operatives

Answer: B

Question 92

Name the biggest employer in India

- A Steel Authority of India Ltd (SAIL)
- B Post & Telecom Department
- C Food Corporation of India (FCI)
- D Indian Railways

Answer: D

Question 93

Which of the following is an allied activity of agriculture

- A Livestock
- B Small Scale Industry

C Money lending

D Insurance

Answer: A

Question 94

Disguised unemployment means

A Working as Self-Employed

B Not working whole day

C Marginal Productivity is zero

D Production is less

Answer: C

Question 95

Cartel is a part of

A Monopoly

B Oligopoly

C Perfect competition

D Monopolistic competition

Answer: B

Question 96

In the presidential system of government, the President is

A Head of the state

B Head of the state and Head of the Government

C Head of the Government

D Head of the Executive

Answer: B

Question 97

The Chief Election Commissioner of India is appointed by

A Chief Justice of India

B Prime Minister

C President

D Parliament

Answer: C

Question 98

The Election Commission of India is

- A An independent body
- B Quasi-judicial body
- C Quasi-legislative body
- D Executive body

Answer: A

Question 99

Articles 23 and 24 of the Indian Constitution deal with

- A Right against Exploitation
- B Right to Freedom
- C Right to Freedom of Religion
- D Right to Education

Answer: A

Question 100

Which of the following ideologies aims at the spiritualization of politics?

- A Marxism
- B Socialism
- C Sarvodaya
- D Pularism

Answer: C

General Engineering (Electrical)

Instructions

For the following questions answer them individually

Question 101

the reactive power generated by a synchronous alternator can be controlled by

- A changing the prime move input
- B changing the alternator speed
- C changing the field excitation
- D changing the terminal voltage

Answer: C

Question 102

The per phase DC armature resistance of an alternator is 0.5Ω . The effective AC armature resistance would be about

- A 0.25Ω
- B 0.5Ω
- C 0.75Ω
- D 1Ω

Answer: C

Question 103

Base load of a power station stands for

- A 2 - 4 hours/day
- B 4 - 8 hours/day
- C 8 - 12 hours/day
- D 12 - 24 hours/day

Answer: D

Question 104

If the power factor is high, then the consumer maximum KVA demand

- A increases
- B decreases
- C remains constant
- D becomes zero

Answer: C

Question 105

A circuit breaker is rated as follows: 1500 A, 33 KV, 3 sec, 3-phase oil circuit breaker. Determine the making current

- A 1.5 KA
- B 35 KA
- C 89 KA
- D 110 KA

Answer: D

Question 106

Which of the following fault is coming under symmetrical fault?

- A LG fault
- B LL fault

- C LLG fault
- D LLLG fault

Answer: D

Question 107

.If span length is doubled with no change in other factors,the sag of the line will become

- A 0.5 time
- B 2 times
- C 4 times
- D 8 times

Answer: C

Question 108

An alternator is supplying a load of 300 kW at a power factor of 0.6 lagging. If the power factor is raised to unity,how many more kW can alternator supply ?

- A 100 kW
- B 150 kW
- C 200 kW
- D 300 kW

Answer: C

Question 109

What is the maximum number of point of light, fan and socket-outlets that can be connected in one sub-circuit ?

- A Four
- B Six
- C Ten
- D Twelve

Answer: C

Question 110

In dc operation of fluorescent tube, the life of the tube (a) increases by about 80% as that with ac operation (b) decreases by about 80% as that with ac operation

- A increases by about 80% as that with ac operation
- B decreases by about 80% as that with ac operation
- C remain same
- D may increase or decrease

Answer: B

Question 111

For painful shock, what is the range of electric shock current at 50 Hz?

- A 0 - 1 mA
- B 0 - 3 mA
- C 3 - 5 mA
- D 5 - 10 mA

Answer: C

Question 112

The permissible voltage drop from supply terminal to any point on the wiring system should not exceed

- A 4% + 1 volt
- B 3% + 1 volt
- C 2% + 1 volt
- D 1% + 1 volt

Answer: B

Question 113

In batton wiring the cables are carried on seasoned teak wood perfectly straight and well varnished teak wood battom of thickness not less than

- A 1 cm
- B 2 cm
- C 3 cm
- D 4 cm

Answer: A

Question 114

For cleat wiring and 250 volts supply, the cables will be placed _____ apart centre to centre for single core cables

- A 2.5 cm
- B 3 cm
- C 4 cm
- D 4.5 cm

Answer: C

Question 115

The aluminium conductor of size _____ is used for a subcircuit in domestic wiring

- A $\frac{1}{1.2}$ mm

- B $\frac{1}{1.4}$ mm
- C $\frac{1}{1.8}$ mm
- D $\frac{1}{2.24}$ mm

Answer: B

Question 116

If in an RLC series circuit, the frequency is below the resonant frequency, then

- A $X_c = X_L$
- B $X_c < X_L$
- C $X_c > X_L$
- D None of these

Answer: C

Question 117

An RLC series circuit has $R = 10\Omega$, $L = 2$ H. What value of capacitance will make the circuit critically damped ?

- A 0.02 F
- B 0.08 F
- C 0.2 F
- D 0.4 F

Answer: B

Question 118

When a series RL circuit is connected to a voltage source V at $t = 0$, the current passing through the inductor L at $t = 0$ is

- A $\frac{V}{R}$
- B infinite
- C Zero
- D $\frac{V}{L}$

Answer: C

Question 119

Three wattmeter method of power measurement can be used to measure power in

- A Balanced circuits
- B Unbalanced circuits
- C Both balanced and unbalanced circuits
- D None of the above

Answer: C

Question 120

In a three phase system, the volt ampere rating is given by

- A $3V_L I_L$
- B $\sqrt{3}V_L I_L$
- C $V_L I_L$
- D $V_{ph} I_{ph}$

Answer: B

Question 121

In a parallel RLC circuit if the lower cut-off frequency is 2400 Hz and the upper cut-off frequency is 2800 Hz what is the bandwidth ?

- A 400 Hz
- B 2400 Hz
- C 2800 Hz
- D 5200 Hz

Answer: A

Question 122

The errors in current transformers can be reduced by designing them with

- A high permeability and low loss core materials, avoiding any joints in the core and also keeping the flux density to a low value
- B using primary and secondary windings as close to each other as possible
- C using large cross-section for both primary and secondary winding conductors
- D All of these

Answer: D

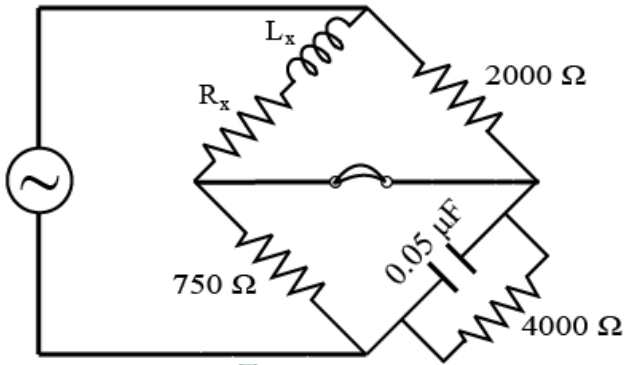
Question 123

A CRO screen has ten divisions on the horizontal scale. If a voltage signal $5 \sin(314t + 45^\circ)$ is examined with a line base setting of 1 m sec/div, the number of cycle of signal displayed on the screen will be

- A 0.5 cycle
- B 2.5 cycles
- C 5 cycles
- D 10 cycles

Answer: B

Question 124



In the Maxwell bridge as shown in the figure the values of resistance R_X and inductance L_X of a coil are to be calculated values are shown in the figure at balance. The values of R_X L_X will respectively be

- A 375 ohm, 75 mH
- B 75 ohm, 150 mH
- C 37.5 ohm, 75 mH
- D 75 ohm, 75 mH

Answer: A

Question 125

Creeping in a single phase induction type energy meter may be due to

- A over compensation for friction
- B over voltage
- C vibrations
- D All of these

Answer: A

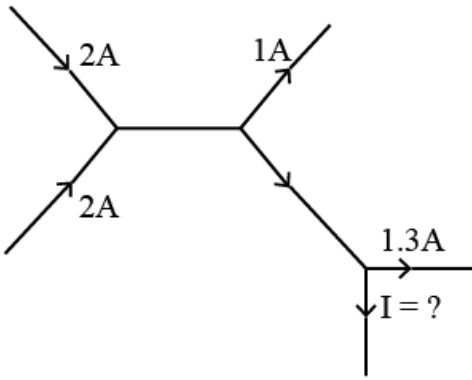
Question 126

Which instrument is used to measure the high resistance?

- A Kelvin's Double bridge
- B Wheatstone bridge
- C Carey-Foster bridge
- D Megger

Answer: D

Question 127



The current I in the electric circuit shown is

- A 1.7 A
- B 1 A
- C 2.7 A
- D 3.7 A

Answer: A

Question 128

The superposition theorem is used when the circuit contains

- A a single voltage source
- B a number of voltage sources
- C passive elements only
- D active elements only

Answer: B

Question 129

Thevenin's theorem cannot be applied to

- A active circuit
- B linear circuit
- C nonlinear circuit
- D passive circuit

Answer: C

Question 130

A node in a circuit is defined as a

- A closed path
- B junction of two or more elements
- C group of interconnected elements

D open terminal of an element

Answer: B

Question 131

When a source is delivering maximum power to the load, the efficiency will be

A maximum

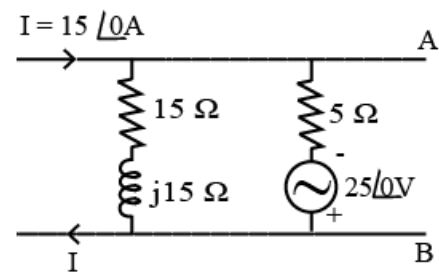
B below 50%

C above 50%

D 50%

Answer: D

Question 132



For the circuit shown, the Norton's equivalent current source as terminals A & B is given

A $10 \angle 0$ A

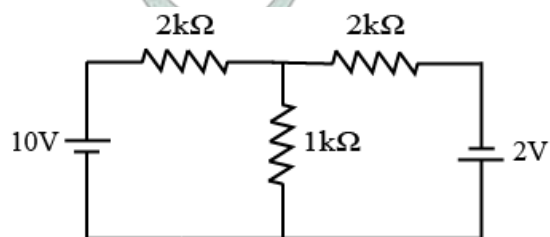
B $20 \angle 0$ A

C $16 \angle 36.86$ A

D $14 \angle 36.86$ A

Answer: A

Question 133



The voltage across the 1 kΩ resistor of the network shown in the given figure is

A 6V

B 4V

C 2V

D 1V

Answer: C

Question 134

The internal resistance of a voltage source is $10\ \Omega$ and has 10 volts at its terminals. Find the maximum power that can be transferred to the load.

- A 0.25 W
- B 25 W
- C 2.5 W
- D 5 W

Answer: C

Question 135

Mutual inductance between two coils is 4 H. If current in one coil changes at the rate of 2 A/sec, then emf induced in the other coil is

- A 8 V
- B 2 V
- C 0.5 V
- D 5.0 V

Answer: A

Question 136

If the number of turns of a coil is increased, its inductance

- A remains the same
- B is increased
- C is decreased
- D None of the above

Answer: B

Question 137

The e.m.f. induced in a coil of N turns is given by

- A $\frac{d\phi}{dt}$
- B $N \frac{d\phi}{dt}$
- C $-N \frac{d\phi}{dt}$
- D $N \frac{dt}{d\phi}$

Answer: C

Question 138

When the current through the coil of an electromagnet reverses, the

- A direction of the magnetic field reverses
- B direction of the magnetic field remains unchanged
- C magnetic field expands
- D magnetic field collapses

Answer: D

Question 139

A short shunt compound generator supplies a load current of 100 A at 250 V. The generator has the following winding resistances : shunt field = 130 Ω , armature = 0.1 Ω and the brush drop is 1 V per brush

- A increases proportionately
- B remain constant
- C increases slightly
- D reduces slightly

Answer: D

Question 140

As the load is increased, the speed of a dc shunt motor

- A increases proportionately
- B remain constant
- C increases slightly
- D reduces slightly

Answer: D

Question 141

The $T_a V_s I_a$ graph of a dc series motor is a

- A parabola from no load to ver load
- B straight line throughout
- C parabola throughout
- D parabola up to full load and a straight line at over load

Answer: D

Question 142

The purpose of starting winding in a single-phase induction motor is to

- A Reduce losses
- B Limit temperature rise of the machine
- C Produce rotating flux in conjunction with main winding

D Increase losses

Answer: C

Question 143

Which of the following motors is used in mixies ?

- A Repulsion motor
- B Reluctance motor
- C Hysteresis motor
- D Universal motor

Answer: D

Question 144

The motor used on small lathes is usually

- A universal motor
- B D.C. shunt motor
- C single phase capacitor run motor
- D 3-phase synchronous motor

Answer: C

Question 145

Which of the following motors is preferred for tape recorders?

- A Shaded pole motor
- B Hysteresis motor
- C Two valve capacitor motor
- D Universal motor

Answer: B

Question 146

Locked rotor current of a shaded pole motor is

- A equal to full load current
- B less than full load current
- C slightly more than full load current
- D several times the full load current

Answer: C

Question 147

.Each of the following statements regarding a shaded pole motor is true except

- A its direction of rotation is from unshaded to shaded portion of poles
- B it has very poor efficiency
- C it has very poor power factor
- D it has high starting torque

Answer: D

Question 148

Synchronous impedance method of finding voltage regulation of an alternator is called pessimistic method because

- A it is simplest to perform and compute
- B it gives regulation value higher than is actually found by direct loading
- C armature reaction is wholly magnetising
- D it gives regulation value lower than is actually found by direct loading

Answer: B

Question 149

Which of the following motor is non-self starting?

- A Squirrel cage induction motor
- B Slip ring induction motor
- C Synchronous motor
- D DC series motor

Answer: C

Question 150

A silent-pole synchronous motor is operating at $\frac{1}{4}$ full load. If its field current is suddenly switched off, it would

- A stop running
- B continue to run at synchronous speed
- C run at sub-synchronous speed
- D run at super-synchronous speed

Answer: B

Question 151

A 10 pole 25 Hz alternator is directly coupled to and is driven by 60 Hz synchronous motor then the number of poles in a synchronous motor are

- A 48 poles (b) 12 poles
- B 12 poles

C 24 poles

D None of the above

Answer: C

Question 152

2.If two capacitances C_1 and C_2 are connected in parallel then the equivalent capacitance is given by

A $C_1 C_2$

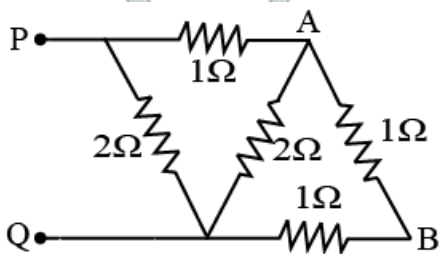
B $\frac{C_1}{C_2}$

C $\frac{C_1 C_2}{C_1 + C_2}$

D $C_1 + C_2$

Answer: D

Question 153



For the circuit shown find the resistance between points P & Q

A 1Ω

B 2Ω

C 3Ω

D 4Ω

Answer: A

Question 154

A resistor is connected across a 50 V source. The current in the resistor if the colour code is red, orange, silver is

A 2 mA

B 2.2 mA

C 214 mA

D 21.4 mA

Answer: B

Question 155

A primary cell has an e.m.f. of 1.5 V. When short circuited, it gives a current of 3 A. The internal resistance of cell is

A 4.5Ω

- B 2Ω
- C 0.2Ω
- D 0.5Ω

Answer: D

Question 156

Electrical resistivity ρ is

- A Low for copper and high for alloy
- B High for copper and low for alloy
- C Low for copper as well as for alloy
- D High for copper as well as for alloy

Answer: A

Question 157

The rate of change of current in a 4 H inductor is 2 Amps/ sec. Find the voltage across inductor.

- A 8 V
- B 0.8 V
- C 2 V
- D 16 V

Answer: A

Question 158

How much energy is stored by a 100 mH inductance when a current of 1 A is flowing through it ?

- A 0.5 J
- B 0.05 J
- C 0.005 J
- D 5.0 J

Answer: B

Question 159

What is the Power consumed by the resistor of 20Ω connected across 100 V source ?

- A 500 W
- B 50 W
- C 100 W
- D 300 W

Answer: A

Question 160

A linear circuit is one whose parameters

- A change with change in current
- B change with change in voltage
- C do not change with voltage and current
- D None of the above

Answer: C

Question 161

An active element in a circuit is one which

- A supplies energy
- B receives energy
- C dissipates energy
- D both receives and supplies energy

Answer: A

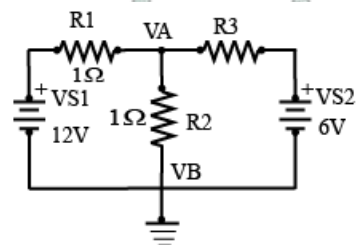
Question 162

If $750 \mu A$ is flowing through $11 k\Omega$ of resistance, what is the voltage drop across the resistor ?

- A 8.25 V
- B 82.5 V
- C 14.6 V
- D 146 V

Answer: A

Question 163



Find the node voltage V_A

- A 6 V
- B 5 V
- C 5.66 V
- D 6.66 V

Answer: A

Question 164

The minimum area of cross-section of a three and half core cable should be

- A 30 cm^2
- B 40 cm^2
- C 50 cm^2
- D 60 cm^2

Answer: A

Question 165

The acceptable value of grounding resistance for domestic applications is

- A 0.5Ω
- B 1Ω
- C 1.5Ω
- D 2Ω

Answer: A

Question 166

Humans are more vulnerable to electric shock current at

- A 40 Hz
- B 45 Hz
- C 48 Hz
- D 50 Hz

Answer: A

Question 167

A 200 V lamp takes a current of 1 A, it produces a total flux of 2,860 lumens. The efficiency of the lamp is

- A $9.9 \frac{\text{Lumens}}{\text{W}}$
- B $8.9 \frac{\text{Lumens}}{\text{W}}$
- C $10.9 \frac{\text{Lumens}}{\text{W}}$
- D $14.3 \frac{\text{Lumens}}{\text{W}}$

Answer: D

Question 168

The unit of luminous flux is

- A steradian

- B candela
- C lumen
- D lux

Answer: C

Question 169

An electric heater draws 3.5 A from a 110 V source. The resistance of the heating element is approximately

- A 385 Ω
- B 38.5 Ω
- C 3.1 Ω
- D 31 Ω

Answer: D

Question 170

During the resistance welding, the heat produced at the joint is proportional to

- A $I^2 R$
- B Voltage
- C Current
- D Volt-Ampere

Answer: A

Question 171

An arc blow is a welding defect that is countered with the help of carrying

- A the arc welding using AC supply
- B the thermit welding
- C the arc welding using DC supply
- D the resistance welding

Answer: A

Question 172

The electric drives posses the following drawback

- A not available with various rating
- B requires a continuous power supply
- C requires hazardous fuel requirement
- D not adoptabler to various environments

Answer: C

Question 173

An amplifier has a gain of 10,000 expressed in decibels the gain is

- A 10
- B 40
- C 80
- D 100

Answer: C

Question 174

Silicon has a preference in IC technology because

- A it is an indirect semiconductor
- B it is a covalent semiconductor
- C it is an elemental semiconductor
- D of the availability of nature oxide SiO₂

Answer: D

Question 175

To operate properly, a transistor's base-emitter junction must be forward biased with reverse bias applied to which junction?

- A Collector-emitter
- B Base-collector
- C Base-emitter
- D Collector-base

Answer: B

Question 176

With the positive probe on an NPN base, an ohmmeter reading between the other transistor terminals should be

- A Open
- B Infinite
- C Low resistance
- D High resistance

Answer: C

Question 177

In Bipolar Junction transistors, the type of configuration which will give both voltage gain and current gain is

- A CC
- B CB

- C CE
- D None

Answer: C

Question 178

To prepare a P type semiconducting materials the impurities to be added to silicon are

- A Boron, Gallium
- B Arsenic, Antimony
- C Gallium, Phosphorous
- D Gallium, Arsenic

Answer: A

Question 179

The unit for permeability is:

- A $\frac{wb}{At} \times m$
- B $\frac{At}{m}$
- C $\frac{At}{wb}$
- D wb

Answer: A

Question 180

. If the coefficient of coupling between two coils is increased, mutual inductance between the coils:

- A is decrease
- B is increase
- C remains unchanged
- D changes depends on current only

Answer: B

Question 181

The magnitude of AT required to establish a given value of flux in the air gap will be much greater than that required for iron part of a magnetic circuit, because:

- A air is a gas
- B air is a conductor of magnetic flux
- C air has the lowest relative permeability
- D iron has the lowest permeability

Answer: C

Question 182

The area of the hysteresis loop will be least for one of the following materials. It is:

- A wrought iron
- B hard
- C silicon steel
- D soft iron

Answer: C

Question 183

A current of 2A passes through a coil of 350 turns wound on a ring of mean diameter 12cm. The flux density established in the ring is $1.4 \frac{wb}{m^2}$. Find the value of relative permeability of iron:

- A 191
- B 600
- C 1200
- D 210×10^3

Answer: B

Question 184

A bar of iron 1 cm^2 in cross-section has 10^{-4} Wb of magnetic flux in it. If $\mu_r = 2000$ what is the magnetic field intensity in the bar?

- A $398 \times 10^{-4} \frac{AT}{m}$
- B $398 \frac{AT}{m}$
- C $796 \times 10^{-3} \frac{AT}{m}$
- D $398 \times 10^4 \frac{AT}{m}$

Answer: B

Question 185

One sine wave has a period of 2 ms, another has a period of 5 ms, and another has a period of 10 ms. Which sine wave is changing at a faster rate?

- A sine wave with period of 2 ms
- B sine wave with period of 5 ms
- C All are at the same rate
- D sine wave with period of 10 ms

Answer: A

Question 186

In a pure inductive circuit if the supply frequency is reduced to $\frac{1}{2}$, the current will:

- A be reduced by half
- B be doubled
- C be four times as high
- D be reduced to one fourth

Answer: B

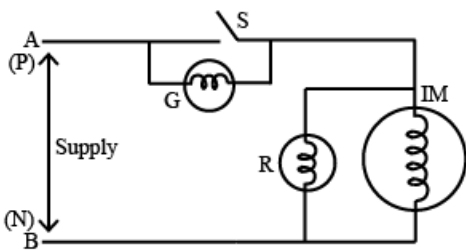
Question 187

There are 3 lamps 40W, 100W and 60W. To realise the full rated power of the lamps they are to be connected in:

- A series only
- B parallel only
- C series-parallel
- D series or parallel

Answer: D

Question 188



Two lamps, Green (G) and Red (R) are connected in a motor circuit as shown in the figure. The conditions under which the lamps will burn are, (supply is available at terminals A & B):

- A Green lamp burns always, red lamp burns only when switch S is closed
- B Green and red lamp burns when switch S is closed
- C Green lamp will not burn always, red lamp burns only when switch S is closed
- D Green lamp burns only when S is open and red lamp burns only when S is closed

Answer: D

Question 189

Modern electronic multimeters measure resistance by

- A using a bridge circuit
- B using an electronic bridge compensator for nulling
- C forcing a constant current and measuring the voltage across the unknown resistance
- D using an electrical bridge circuit

Answer: C

Question 190

If a dynamometer type wattmeter is connected in an ac circuit, the power indicated by the wattmeter will be

- A Volt ampere product
- B Average power
- C Peak power
- D Instantaneous power

Answer: C

Question 191

A 150 V moving iron voltmeter of accuracy class 1.0 reads 75 V when used in a circuit under standard conditions. The maximum possible percentage error in the reading is

- A 0.5
- B 1.0
- C 2.0
- D 4.0

Answer: C

Question 192

A dc voltmeter has a sensitivity of $1000 \frac{\Omega}{\text{volts}}$. When it measures half full scale in 100 V range, the current through the voltmeter will be

- A 100 mA
- B 50 mA
- C 1 mA
- D 0.5 mA

Answer: B

Question 193

A Lissajous pattern on an oscilloscope has 5 horizontal tangencies and 2 vertical tangencies. The frequency of the horizontal input is 100 Hz. The frequency of the vertical input will be

- A 400 Hz
- B 2500 Hz
- C 4000 Hz
- D 5000 Hz

Answer: B

Question 194

The no load input power to a transformer is practically equal to _____ loss in the transformer

- A Iron
- B Copper
- C Eddy current
- D Windage

Answer: A

Question 195

The primary and secondary windings of a transformer are wound on the top of each other in order to reduce.

- A iron losses
- B copper losses
- C leakage reactance
- D winding resistance

Answer: C

Question 196

Leakage flux in a transformer occurs because

- A iron core has high permeability
- B air is not a good magnetic insulator
- C applied voltage is sinusoidal
- D transformer is not an efficient device

Answer: C

Question 197

The no load primary current I_0 , is about _____ of full load primary current of a transformer.

- A 3 - 5%
- B 15 - 30%
- C 30 - 40%
- D Above 40%

Answer: A

Question 198

Which of the following Braking is not suitable for motors?

- A Dynamic braking
- B Plugging
- C Regenerative braking
- D Friction braking

Answer: D

Question 199

An eight pole wound rotor induction motor operating on 60 Hz supply is driven at 1800 rpm by a prime mover in the opposite direction of revolving magnetic field. The frequency of rotor current is

- A 60 Hz
- B 120 Hz
- C 180 Hz
- D 200 Hz

Answer: C

Question 200

.If stator voltage of a squirrel cage induction motor is reduced to 50 percent of its rated value, torque developed is reduced by how many percentage of its full load value?

- A 50%
- B 25%
- C 75%
- D 57.7%

Answer: C