



SSC JE Electrical Engineering 25th Jan 2018 Shift-2

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General Intelligence and Reasoning

Instructions

For the following questions answer them individually

Question 1

In the following question, select the related word pair from the given alternatives.

Table : Wood :: ? : ?

- A Rubber : Latex
- B Wheat : Crop
- C Paper : Write
- D Rubber : Erase

Answer: A

Question 2

In the following question, select the related word pair from the given alternatives.

Mustard : Crop :: ? : ?

- A Table : Wood
- B Pen : Stationery
- C Bottle : Water
- D Tyre : Tube

Answer: B

Question 3

In the following question, select the related word from the given alternatives.

Cycle : Wheels :: Notebook : ?

- A Write
- B Writer
- C Pages
- D Bind

Answer: C

Question 4

In the following question, select the related letters from the given alternatives.

MORN : HKMJ :: LOAD : ?

- A XHAK
- B GKVZ
- C HICY
- D CIVZ

Answer: B

Question 5

In the following question, select the related letters from the given alternatives.

TIN : PKV :: MNT : ?

- A FSB
- B VPO
- C HOA
- D CTS

Answer: B

Question 6

In the following question, select the related letters from the given alternatives.

OS : RV :: AK : ?

- A PD
- B DN
- C ON
- D AD

Answer: B

Question 7

In the following question, select the related number from the given alternatives.

34 : 119 :: 46 : ?

- A 169
- B 158
- C 161
- D 222

Answer: C

Question 8

In the following question, select the related number from the given alternatives.

13 : 167 :: 15 : ?

- A 297
- B 223
- C 242
- D 344

Answer: B

Question 9

In the following question, select the related number from the given alternatives.

23 : 47 :: 43 : ?

A 93

B 67

C 84

D 54

Answer: B

Question 10

In the following question, select the odd word from the given alternatives.

A Chair

B Sofa

C Bench

D Pen

Answer: D

Question 11

In the following question, select the odd word from the given alternatives.

A Red

B Pink

C Pencil

D Yellow

Answer: C

Question 12

In the following question, select the odd word from the given alternatives.

A Pen

B Pencil

C Rubber

D Sketch pen

Answer: C

Question 13

In the following question, select the odd letters from the given alternatives.

A DZVR

B GCYU

C QMIF

D RNJF

Answer: C

Question 14

In the following question, select the odd letters from the given alternatives.

A VCJQ

B RYFM

C CJQX

D SZGM

Answer: D

Question 15

In the following question, select the odd letters from the given alternatives.

A ROL

B WTQ

C XUR

D GCZ

Answer: D

Question 16

In the following question, select the odd number from the given alternatives.

A 9 - 27

B 15 - 43

C 12 - 36

D 6 - 18

Answer: B

Question 17

In the following question, select the odd number from the given alternatives.

A 268 - 16

B 246 - 12

C 357 - 15

D 579 - 23

Answer: D

Question 18

In the following question, select the odd number pair from the given alternatives.

- A 11 - 66
- B 13 - 78
- C 18 - 118
- D 29 - 174

Answer: C

Question 19

Arrange the given words in the sequence in which they occur in the dictionary.

1. Muted
2. Mystic
3. Mutual
4. Mutiny
5. Myth

- A 41325
- B 14325
- C 43152
- D 34152

Answer: B

Question 20

Arrange the given words in the sequence in which they occur in the dictionary.

1. Lucid
2. Lunge
3. Lucrative
4. Lurch
5. Loyalty

- A 51324
- B 15243
- C 15234
- D 51234

Answer: A

Question 21

Arrange the given words in the sequence in which they occur in the dictionary.

1. Heinous
2. Heavy
3. Herted
4. Heaven
5. Hefty

- A 15243

B 54321

C 42513

D 43251

Answer: C

Question 22

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

CR, FT, IV, LX, ?

A RV

B LN

C OZ

D QA

Answer: C

Question 23

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

PULD, SWOF, VYRH, YAUJ, ?

A BCXL

B XALM

C XLKC

D DEXL

Answer: A

Question 24

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

FAT, MHA, TOH, ?

A ZCX

B ANP

C AVO

D AKP

Answer: C

Question 25

In the following question, select the missing number from the given alternatives

51, 11, 62, 73, 135, ?

A 208

B 216

C 323

D 223

Answer: A

Question 26

In the following question, select the missing number from the given alternatives
46, 46, 69, 138, 345, ?

A 1035

B 895

C 763

D 640

Answer: A

Question 27

In the following question, select the missing number from the given alternatives
132, 475, 987, 1716, 2716, ?

A 3987

B 4047

C 3723

D 4345

Answer: B

Question 28

A is taller than B, C is taller than E, D is taller than A and C is shorter than D.
Who is the tallest?

A A

B D

C B

D E

Answer: B

Question 29

W introduced herself to U by saying that you are the daughter-in-law of my
husband's father's wife. How are U and W related to each other?

A U is W's husband's brother's wife

B U is W's husband's sister

C W is U's husband's sister

D W is U's brother's wife

Answer: A

Question 30

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

COSMONAUT

A coast

B scant

C tacos

D sauce

Answer: D

Question 31

If CAPITOL is coded as XZKRGLO, then how will VET be coded as?

A XGV

B UDS

C WFU

D EVG

Answer: D

Question 32

In a certain code language, 8135 means 'bark of the tree', 4368 means 'the tall xmas tree' and 9128 means 'the dog bark loud'. Find the code for 'bark'.

A 5

B 8

C 3

D 1

Answer: D

Question 33

In a certain code language, '+' represents '-', '-' represents 'x', 'x' represents '÷' and '÷' represents '+'. Find out the answer to the following question.

$$128 - 125 \times 100 + 144 \div 12 = ?$$

A -12

B 72

C 28

D -73

Answer: C

Question 34

If $10 \times 1 = 18$, $50 \times 40 = 20$ and $3 \times 2 = 2$, then find the value of $10 \times 5 = ?$

- A 10
- B 5
- C 15
- D 50

Answer: A

Question 35

If A \$ B means A is son of B, A # B means A is brother of B and If A * B means A is father of B, then what does X \$ Y # Z * W mean?

- A X is son of son of W
- B X is father of W
- C X is son of W
- D X is son of W's father's brother

Answer: D

Question 36

Select the missing number from the given responses

2	6	6
8	3	1
?	3	5

- A 10
- B 8
- C -6
- D 6

Answer: C

Question 37

Which of the following terms follows the trend of the given list?
XXXXX00, OXXXXX0, XOXXXX0, XXOXXXX0, XXXOXXXX0, _____.

- A XXXXX00
- B XXXOXOX
- C XXOXOXO
- D XXXOXOX

Answer: D

Question 38

A trekker walks 3 km East, then he turns South and walks for 2 km, then he turns West and walks for 8 km, then he turns to his right and walks for 2 km. Where is he now with respect to his starting position?

- A 5 km East
- B 5 km West
- C 11 km West
- D 11 km East

Answer: B

Question 39

Two village women start from the same well. The first woman walks 5 km East, then turns to her right and walks 8 km to reach her house. In the meanwhile the second woman walks 7 km South, then she turns West and walks 3 km, then she turns to her left and walks 1 km to reach her house. Where is the second woman's house with respect to the first woman's house?

- A 8 km East
- B 2 km West
- C 2 km East
- D 8 km West

Answer: D

Question 40

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: All flowers are paper

Statement II: Some flowers are organic

Conclusion I: Some paper is organic

Conclusion II: All organic is paper

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

Answer: A

Question 41

In the question three statements are given, followed by three conclusions, I, II and III. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: All Highways are lanes

Statement II: Some streets are highways

Statement III: All streets are expressways

Conclusion I: Some expressways are lanes

Conclusion II: Some lanes are streets

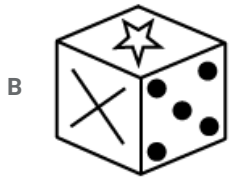
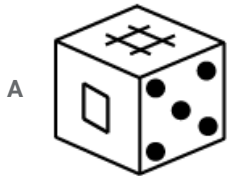
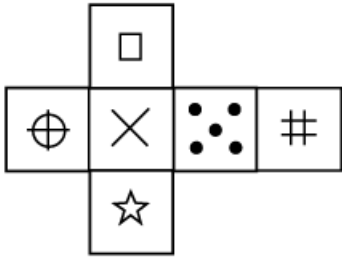
Conclusion III: Some expressways are highways

- A Only conclusions I and II follow
- B Only conclusions II and III follow
- C Only conclusions I and III follow
- D All conclusions I, II and III follow

Answer: D

Question 42

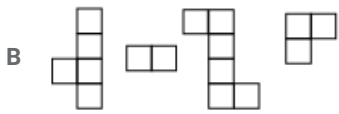
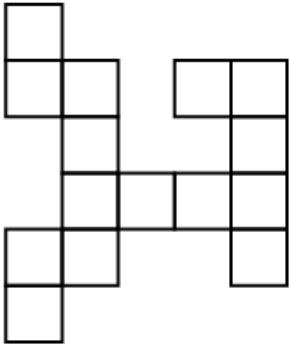
Which of the following cube is the answer figure cannot be made based on the unfolded cube in the question figure ?



Answer: B

Question 43

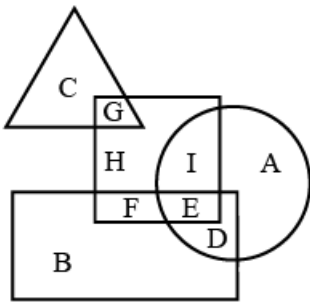
Which of the following answer figure patterns can be combined to make the question figure ?



Answer: C

Question 44

In the following figure, square represents Teachers, triangle represents swimmers, circle represents Nurses and rectangle represents Women. Which set of letters represents Teachers who are either swimmers or nurses ?

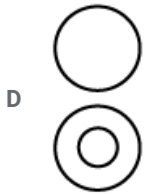
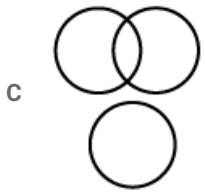
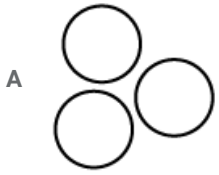


- A HF
- B BFED
- C GIE
- D CBA

Answer: C

Question 45

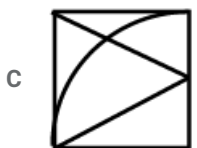
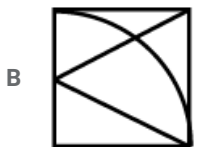
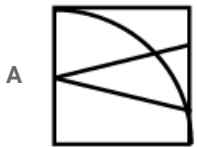
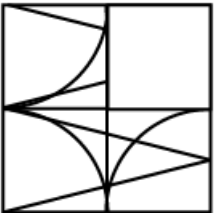
Which of the following venn diagrams represents the relationship between Lions, Deers and Carnivores ?



Answer: D

Question 46

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



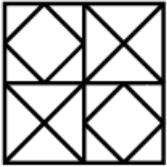
Answer: D

Question 47

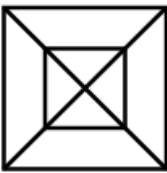
From the given answer figure, select the one in which the question figure is hidden/embedded.



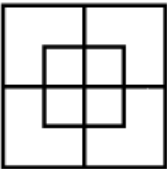
A



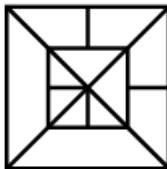
B



C



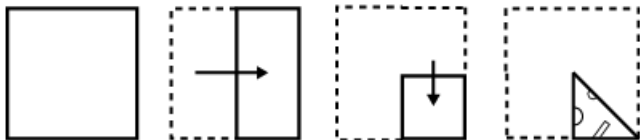
D



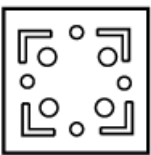
Answer: D

Question 48

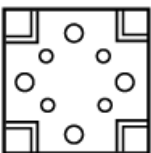
A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

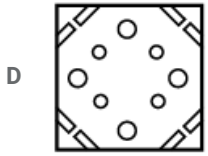
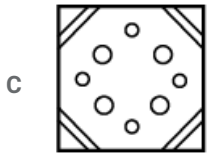


A



B

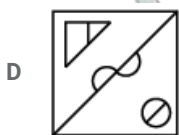
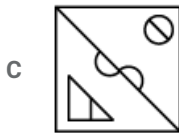
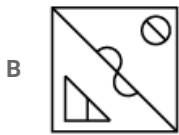
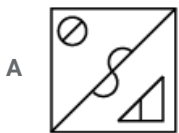
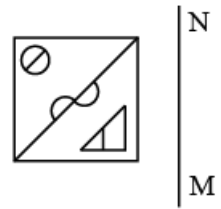




Answer: D

Question 49

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



Answer: C

Question 50

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 shown in the given two matrices. 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, for example 'B' can be represented by 43, 31 etc and 'X' can be represented by 76, 96 etc. Similarly, you have to identify the set for the word 'KEPT'.

Matrix I					
	0	1	2	3	4
0	J	D	A	L	E
1	E	H	A	C	K
2	G	M	C	I	H
3	C	B	D	E	J
4	J	C	K	B	M

Matrix II					
	5	6	7	8	9
5	X	P	X	X	W
6	R	U	R	X	U
7	T	X	X	S	V
8	W	R	R	Z	W
9	Q	X	P	P	T

- A 01,56,89,43
- B 41,01,78,88
- C 42,58,02,56
- D 14,10,56,99

Answer: D

General Awareness

Instructions

For the following questions answer them individually

Question 51

Bull' and 'Bear' are associated with which of the following commercial activities?

- A Banking
- B Share Market
- C Corporate Tax
- D Agro-market

Answer: B

Question 52

What is the meaning of 'Take off stage' in an economy?

- A Stage of growth
- B Stage of stagnant
- C Stage of collapse
- D Stage of diminish

Answer: A

Question 53

Who has been appointed as the Chairman of 15th Finance Commission?

- A Vijay Kelkar
- B Arbind Pangarhia
- C N K Singh
- D C Rangrajan

Answer: C

Question 54

Which of the following forms the largest share of deficit in budget of India?

- A Current deficit

- B Revenue deficit
- C Fiscal deficit
- D No option is correct.

Answer: C

Question 55

Which one among the following is not a component of fiscal policy?

- A Public expenditure
- B Public debts
- C Taxation
- D Trade

Answer: D

Question 56

When was the name of Madras State changed in Tamil Nadu?

- A 1956
- B 1968
- C 1969
- D 1967

Answer: C

Question 57

Who among the following had the shortest tenure as Indian President?

- A Shankar Dayal Sharma
- B Pranab Mukherjee
- C Pratibha Patil
- D Dr Zakir Hussain

Answer: D

Question 58

Which of the following was elected unopposed as the President of India?

- A Dr Rajendra Prasad
- B Neelam Sanjiva Reddy
- C Gyani Jail Singh
- D Pratibha Patil

Answer: B

Question 59

Which Schedule of the Indian Constitution is related to the languages of India?

- A 7th schedule
- B 8th schedule
- C 9th schedule
- D 10th schedule

Answer: B

Question 60

In the Constitution of India, promotion of international peace and security is mentioned in which of the following parts?

- A Fundamental Rights
- B Preamble
- C Directive Principles of State
- D None of these

Answer: C

Question 61

Buddhism was divided into Mahayana and Hinayana during the reign of which of the following rulers?

- A Kanishka
- B Chandragupta II
- C Ashoka
- D None of these

Answer: A

Question 62

Which of the following Harappan sites is thought to have direct sea trade links with Mesopotamia?

- A Dholavira
- B Lothal
- C Kot Diji
- D Ropar

Answer: B

Question 63

Which of the following Sultans of the Sultanate of Delhi transferred his capital from Delhi to Agra?

- A Sikandar Lodi
- B Qutbuddin Aibak
- C Alauddin Khilji
- D Muhammad Bin Tughlaq

Answer: A

Question 64

Who was elected the Congress president after the end of the Tripuri crisis?

- A Pattabhi Sitaramayya
- B Sardar Vallabhbhai Patel
- C Dr. Rajendra Prasad
- D Abul Kalam Azad

Answer: C

Question 65

Which of the following chaired first Round Table Conference?

- A Clement Attlee
- B Winston Churchill
- C Stanley Baldwin
- D Ramsay Macdonald

Answer: D

Question 66

The Buxa Tiger Reserve is located in which of the following states?

- A Assam
- B Odisha
- C West Bengal
- D Jharkhand

Answer: C

Question 67

Which of the following is the largest mangrove forest not only in India but in the world?

- A Sundarbans
- B Coringa East
- C Muthupet

D Malvan

Answer: A

Question 68

Which of the following terms is used in India for a tract of land lying between two confluent rivers?

A Valley

B Plateau

C Doab

D None of these

Answer: C

Question 69

The Nagarjuna Sagar project is constructed on the which of the following rivers?

A Sutlej

B Jhelam

C Narmada

D Krishna

Answer: D

Question 70

Which of the following is the largest producer of cardamom in India?

A Karnataka

B Kerala

C Sikkim

D Tamil Nadu

Answer: B

Question 71

Which of the following schemes was launched by Bihar Government for checking crimes against women?

A Women Safety Surveillance Scheme

B Women Safe City Scheme

C City Surveillance Scheme for Women

D Safe City Surveillance Scheme

Answer: D

Question 72

Which of the following state government launched 'Prakash hai to Vikas hai' Scheme, a free household power connection scheme for the poor in the state?

- A Jharkhand
- B Assam
- C Uttar Pradesh
- D Madhya Pradesh

Answer: C

Question 73

When will the International Chinese New Year start in year 2018?

- A 16 January 2018
- B 16 February 2018
- C 16 March 2018
- D None of these

Answer: B

Question 74

Which of the following cities will be host Commonwealth Games 2022?

- A Glasgow
- B Delhi
- C Birmingham
- D Durban

Answer: C

Question 75

Australia beat which of the following countries 2-1 in the final of the Hockey World League on December 10, 2017?

- A India
- B Argentina
- C England
- D Pakistan

Answer: B

Question 76

"I Witness : Partial Observation" is written by _____.

- A Mark Tully
- B Rajmohan Gandhi
- C Poonam Suri
- D Kapil Sibal

Answer: D

Question 77

Which former Prime Minister of India has been selected for Indira Gandhi Prize for Peace, Disarmament and Development in 2017?

- A I. K. Gujral
- B H. D. Deve Gowda
- C Atal Bihari Vajpayee
- D Manmohan Singh

Answer: D

Question 78

In which city the first ever Asia-Pacific Broadcasting Union Dance festival was concluded in January, 2017?

- A Madurai
- B Thiruvananthapuram
- C Kochi
- D Hyderabad

Answer: D

Question 79

Which country has allowed India to ferry Haj pilgrims via sea route?

- A Saudi Arabia
- B Iran
- C Iraq
- D Israel

Answer: A

Question 80

In January 2017, India signed a Memorandum of Understanding to construct 3000 rain water harvesting system with which country?

- A Bangladesh
- B Nepal

- C Bhutan
- D Sri Lanka

Answer: D

Question 81

Which among the following is/are storage device/devices used in computers?

- A Floppy disk
- B Hard disk
- C Punched tape
- D All options are correct.

Answer: D

Question 82

The computers and computers networks exchange information using _____ to communicate with each other.

- A Server
- B Transmission Control Protocol
- C Digital Network
- D World Wide Web

Answer: B

Question 83

Which method is used to protect iron from rusting?

- A Oxidation
- B Galvanisation
- C Vulcanisation
- D Reduction

Answer: B

Question 84

Brass is an alloy of which of the following metals?

- A Copper and mercury
- B Copper and zinc
- C Copper and nickel
- D Copper and silver

Answer: B

Question 85

Which among the following is true about Rayon?

- A It is obtained from silk worm
- B It is obtained from wood pulp
- C It is obtained from both silk worm and wood pulp
- D No option is correct.

Answer: B

Question 86

Which of the following are requirements for producing fire?

- I. Fuel
- II. Air
- III. Heat

- A Only I and II
- B Only I and III
- C Only II and III
- D All I, II and III

Answer: D

Question 87

Which of the following lens always forms a virtual, erect and diminished image?

- A Convex
- B Concave
- C Both convex and concave
- D None of these

Answer: B

Question 88

What is the direction of magnetic field lines in a magnet?

- A East pole to West pole
- B West pole to East pole
- C North pole to South pole
- D South pole to North pole

Answer: C

Question 89

Which of following property of a proton cannot change while it moves freely in magnetic field?

- A Speed
- B Velocity
- C Momentum
- D Both speed and velocity

Answer: A

Question 90

Stethoscope works on which principle?

- A Conversion of current into sound
- B Conversion of sound into current
- C Reflection of sound
- D Reflection of light

Answer: C

Question 91

Which vitamin is made at a higher rate in our body?

- A Vitamin A
- B Vitamin B
- C Vitamin C
- D Vitamin D

Answer: D

Question 92

Match the items given in column (A) with those in column (B).

Column - A	Column - B
I. Diaphragm	1. Lungs and skin
II. Fish	2. Chest cavity
III. Frog	3. Spiracles
IV. Cockroach	4. Gills

- A I-2, II-4, III-1, IV-3
- B I-1, II-3, III-4, IV-2
- C I-3, II-4, III-2, IV-1
- D I-1, II-2, III-3, IV-4

Answer: A

Question 93

Which is the usual reproductive part of a plant?

- A Leaf
- B Stem
- C Root
- D Flower

Answer: D

Question 94

Which of the following statement is INCORRECT?

- A Hydra have only a sexual reproduction.
- B Most frogs are an oviparous animals.
- C Budding is not possible in hydra.
- D Internal fertilisation takes place in hens.

Answer: A

Question 95

A person having hypermetropia has to keep a reading material at what distance (in cm) for comfortable reading?

- A 22
- B 25
- C 35
- D 45

Answer: B

Question 96

Which of the following disease does NOT spread through the air?

- A Cough-cold
- B Pneumonia
- C tuberculosis
- D Cholera

Answer: D

Question 97

Micro-organisms act upon the dead plants to produce _____.

- A sand
- B mushrooms
- C humus

D wood

Answer: C

Question 98

A species restricted to a given area is _____.

A Endangered species

B Vulnerable species

C Endemic species

D Extinct species

Answer: C

Question 99

In which year, Special Climate Change Fund was established?

A 1999

B 2000

C 2001

D 2003

Answer: C

Question 100

Identify the possible link "X" in the following food chain? Grass → Insect → Frog → X → Eagle

A Dog

B Rabbit

C Bird

D Snake

Answer: D

General Engineering (Electrical)

Instructions

For the following questions answer them individually

Question 101

Which property of an electrical conductor opposes the flow of current through it?

A Conductance

B Resistance

C Reluctance

D Permeance

Answer: B

Question 102

Ohm is the S.I unit of

- A Capacitance
- B Inductance
- C Resistance
- D Conductance

Answer: C

Question 103

What will be the resistance (in Ohms)of a resistor, when the dissipated power and the current flowing through the resistor is 12 W and 2 A respectively?

- A 6
- B 24
- C 2
- D 3

Answer: D

Question 104

What will be the resistance (in Ohms)of a cylindrical wire, if the length, diameter and the resistivity of the wire is 4 m, 0.2 m and 0.4 Ohms-m respectively?

- A 49
- B 54
- C 56
- D 51

Answer: D

Question 105

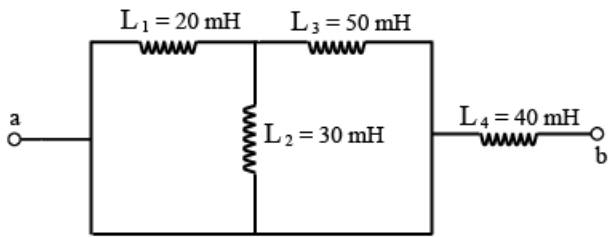
Which of the following material has the highest resistivity?

- A Insulators
- B Conductors
- C Semiconductors
- D Superconductor

Answer: A

Question 106

What will be the equivalent inductance (in mH) for the circuit given below?



- A 40
- B 50
- C 30
- D 60

Answer: B

Question 107

Determine the power (in W) of a lamp of 220 V, when the resistance of the lamp is 100 Ohms.

- A 448
- B 486
- C 484
- D 488

Answer: C

Question 108

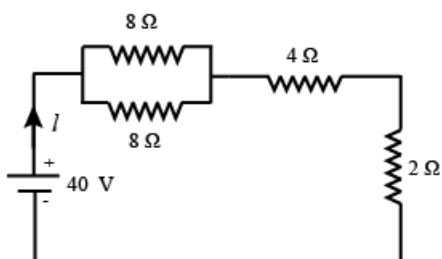
What will be the voltage (in V) of a battery connected to a parallel plate capacitor with air as dielectric, having plate area of 6 sq. cm and separation between the plates is 2 mm, which stores a charge of 8.0 pC on the plates?

- A 3
- B 9
- C 6
- D 5

Answer: A

Question 109

What will be the value of current 'I' (in A) for the given circuit diagram?

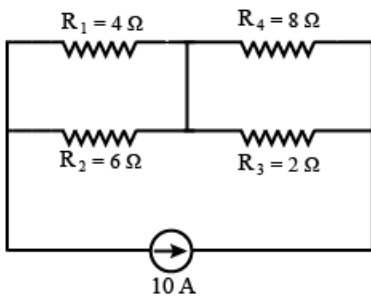


- A 8
- B 4
- C 2
- D 6

Answer: B

Question 110

Find the power delivered (in W) by the current source in the circuit diagram given below.



- A 300
- B 400
- C 500
- D 600

Answer: B

Question 111

Which of the following statement is CORRECT?

- A Superposition theorem is applicable to only those circuits that only have active elements.
- B Superposition theorem is applicable to only those circuits that only have passive elements.
- C Superposition theorem is applicable to only those circuits that only have linear bilateral elements.
- D Superposition theorem is applicable to only those circuits that only have non-linear bilateral elements.

Answer: C

Question 112

The algebraic sum of all the voltages around any closed path is

- A Negative
- B Zero
- C One
- D Infinity

Answer: B

Question 113

Which one of the following law is based on the principle of conservation of electric charge?

- A Kirchhoff's Current Law
- B Kirchhoff's Voltage Law
- C Ohm's Law
- D Coulomb's Law

Answer: A

Question 114

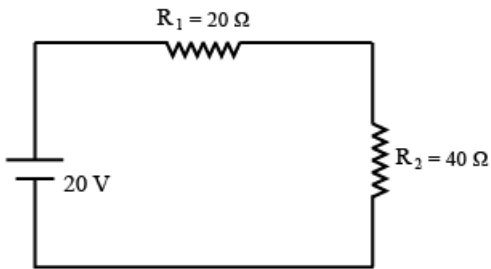
The source resistance of an ideal voltage source should be

- A Infinite
- B One
- C Zero
- D Greater than one

Answer: C

Question 115

What will be the voltage (in V) across resistor R_2 , in the circuit given below?

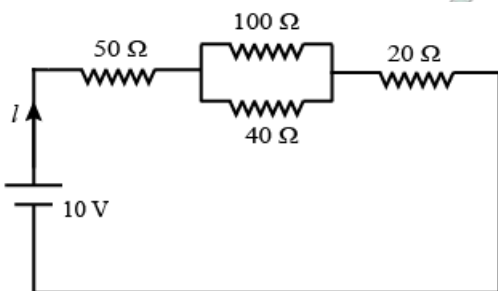


- A 14.35
- B 13.33
- C 15.45
- D 12.33

Answer: B

Question 116

What will be the value of current (in mA) for the given electrical circuit?

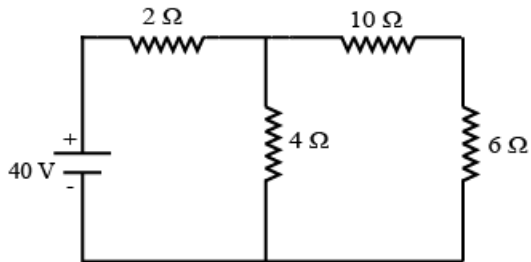


- A 0.11
- B 110
- C 0.101
- D 101

Answer: D

Question 117

What will be the value of current (in A) through the $6\ \Omega$ resistor for the given circuit diagram?

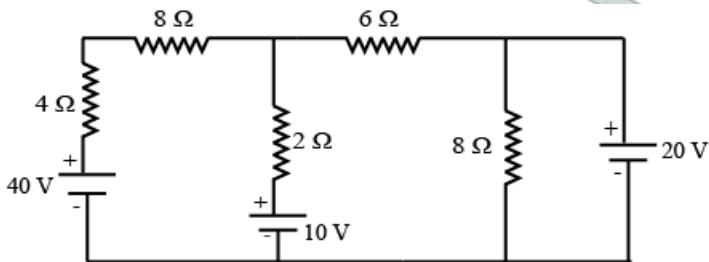


- A 5.45
- B 5.89
- C 1.54
- D 7.69

Answer: C

Question 118

Determine the Thevenin's Voltage (in V) and Thevenin's resistance (in Ω) across the $6\ \Omega$ resistor for the given electrical circuit respectively.

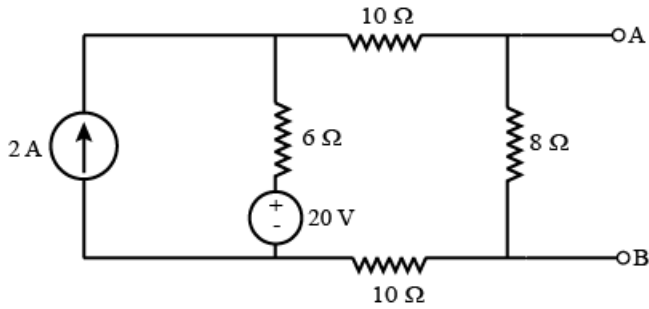


- A 5.72, 1.71
- B 4.67, 2.24
- C 3.54, 1.01
- D 4.87, 2.09

Answer: A

Question 119

What will be the value of Norton's resistance (in Ω) between the terminals A and B for the circuit given below?

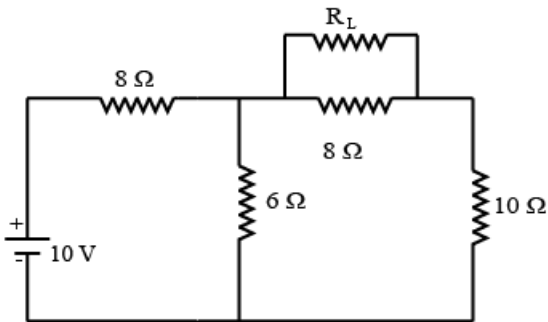


- A 5.65
- B 6.11
- C 4.32
- D 7.45

Answer: B

Question 120

Find the maximum power (in W) transfer from the source to the load for the circuit diagram given below.



- A 0.25
- B 0.32
- C 0.13
- D 0.42

Answer: C

Question 121

Which one of the following statement is NOT true about the magnetic lines of force?

- A They attract each other while travelling in the same direction.
- B They behave like a stretched elastic string.
- C They do not cross each other.
- D They can pass through all media.

Answer: A

Question 122

The relative permeability of paramagnetic material is

- A slightly greater than zero
- B equal to zero
- C equal to one
- D greater than one

Answer: D

Question 123

The SI unit of magnetic flux density is

- A Henry
- B Tesla
- C Coulomb
- D Weber

Answer: B

Question 124

Which one of the following is the formula of Intensity of magnetization?

- A $\frac{\phi}{F_m}$
- B $\frac{Ni}{l}$
- C $\frac{m}{A}$
- D $\frac{B}{H}$

Answer: C

Question 125

What will be the coefficient of self-induction (in H) of the coil, if the current changes from +4 A to -4 A in 0.10-seconds and the induced EMF is 16 V?

- A 1.2
- B 2
- C 0.2
- D 0.8

Answer: C

Question 126

Calculate the intensity of magnetization (in $A - m^{-1}$) in a material, if the magnetic field strength of the material is 1800 $Amp - m^{-1}$ and the magnetic susceptibility is 0.4×10^{-5} .

- A 0.0058
- B 0.0072
- C 0.0061
- D 0.0035

Answer: B

Question 127

What will be the produced mmf (in Amp-turns) in a magnetic circuit, if it has 100 number of turns and carrying a current of 0.2 A?

- A 20
- B 40
- C 500
- D 200

Answer: A

Question 128

Determine the critical current (in A) for a wire of a material that has a diameter of 2 mm at 8 K. If the critical temperature for the material is 12 K and the magnetic field is

$$6 \times 10^4 \text{ Am}^{-1}$$

- A 221.3
- B 214.4
- C 232.5
- D 207.6

Answer: D

Question 129

What will be the flux density (in T) of a material in free space, if the field strength of the material is $2 \times 10^5 \text{ A} \cdot \text{m}^{-1}$ and the magnetic susceptibility of the material is 0.44×10^{-3} ?

- A 0.25
- B 0.5
- C 0.75
- D 1

Answer: A

Question 130

Determine the value of time (in sec) when an average EMF of 100 V is induced in a coil of area 200 cm^2 with 100 turns, when it is completely removed from a magnetic field of 30 T acting at right angles to the coil.

- A 0.4

- B 0.2
- C 0.6
- D 0.9

Answer: C

Question 131

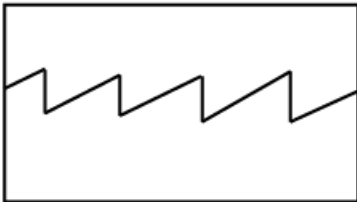
What is the average value of a DC voltage having a peak value of 25 V?

- A 0
- B 17.73
- C 22.5
- D 25

Answer: D

Question 132

The waveform given in the figure below is an example of waveform.



- A sinusoidal
- B rectangular
- C square
- D sawtooth

Answer: D

Question 133

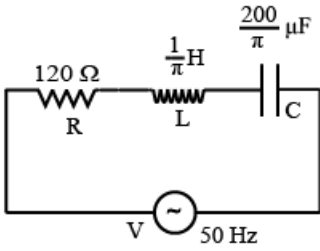
The inductive reactance of a circuit is 60 Ohms when it is supplied with a 50 Hz supply. What will be the value of inductive reactance (in Ohms) of the circuit, if it is supplied with 60 Hz supply?

- A 72
- B 86
- C 94
- D 105

Answer: A

Question 134

Calculate the impedance (in Ω) of the series RLC circuit given in the figure below?



- A 130
- B 120
- C 13
- D 12

Answer: A

Question 135

Calculate the value of the quality factor of a series RLC circuit having resistance, inductance and capacitance of 30 Ohms, 27 mH and 0.03 mF respectively.

- A 0.86
- B 1
- C 2.6
- D 3

Answer: B

Question 136

What is the bandwidth (in kHz) of a series RLC circuit having resistance, inductance and capacitance of 80 Ohms, 2 mH and 0.01 mF respectively?

- A 10
- B 20
- C 40
- D 80

Answer: C

Question 137

Calculate the time taken (in seconds) by the capacitor to get fully charged in a series RC circuit having resistance and capacitance of 40 kilo-Ohms and 0.01 mF respectively.

- A 1
- B 2
- C 3

D 4

Answer: B

Question 138

What is the value of line voltage (in kV) of a 3-phase star connected system having a phase voltage of 3.3 kV?

A 2.1

B 3.3

C 5.7

D 6.8

Answer: C

Question 139

A 3-phase star connected system is supplied by a line voltage of 440 V. The value of phase current is 50 A. What is the power (in kW) consumed by the system, if the current lags the voltage by 45 degrees?

A 8.95

B 24

C 26.94

D 47

Answer: C

Question 140

What is the magnitude of reactive power (in KVAR) of a balanced 3-phase delta connected system having a line voltage of 400 V and line current of 50 A and the phase difference between the voltage and current is 53.13 degrees?

A 0.2771

B 2.771

C 27.71

D 277.1

Answer: C

Question 141

Which of the following is the dimension of inductance?

A $\frac{ML^2}{Q^2}$

B $\frac{Q^2T^3}{ML^2}$

C $\frac{ML^2}{QT^2}$

D $\frac{ML^2}{QT^3}$

Answer: A

Question 142

Which of the following is a type of recording instrument?

- A Ammeter
- B Megger
- C Voltmeter
- D X-Y plotter

Answer: D

Question 143

In 'two-wattmeter method' of power calculation of a 3-phase balanced star connected system, what is the power factor of the system if both the wattmeters show a positive reading?

- A 0
- B Greater than 0 but less than 0.5
- C 0.5
- D Greater than 0.5 but less than 1

Answer: D

Question 144

A resistance of 75 Ohms is connected in shunt of a galvanometer, having an internal resistance of 25 Ohms, to convert it into an ammeter. What is the value of current (in A) flowing through the galvanometer, if the total current in the circuit is 5 A?

- A 2
- B 2.5
- C 3.65
- D 3.75

Answer: D

Question 145

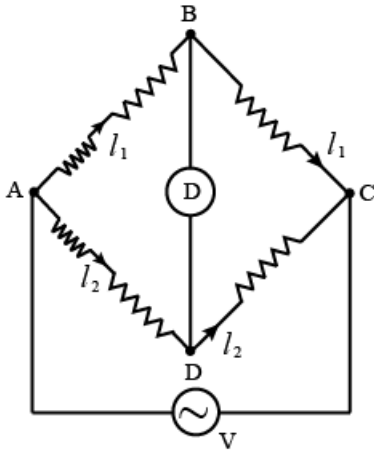
Which of the following is TRUE about analog multimeter?

- A It is a type of absolute instrument.
- B It is a type of indicating instrument.
- C It is a type of recording instrument.
- D It is a type of integrating instrument.

Answer: B

Question 146

The circuit given below is a circuit of bridge.



- A Anderson's
- B Kelvin's Double
- C Maxwell's inductance
- D Wheatstone

Answer: C

Question 147

Which of the following materials when used as the viewing surface of a CRO gives a reddish glow?

- A Zinc Sulfide with copper as impurity
- B Zinc Sulfide with silver as impurity
- C Yttrium Oxide
- D Pure Zinc Sulfide

Answer: C

Question 148

Which of the following is TRUE about current transformers?

- A It decreases the range of AC ammeter.
- B It decreases the range of DC ammeter.
- C It increases the range of AC ammeter.
- D It increases the range of DC ammeter.

Answer: C

Question 149

Which of the following produces braking torque in induction type energy meter?

- A Air Dampers

- B Eddy current
- C Spring
- D Gravity

Answer: B

Question 150

Which of the following can be used to measure frequency?

- A Anderson's Bridge
- B De-Sauty's Bridge
- C Owen's Bridge
- D Wien's Bridge

Answer: D

Question 151

The loss associated with the mechanical friction of a machine are called

- A eddy current loss
- B mechanical loss
- C stray load loss
- D hysteresis loss

Answer: B

Question 152

For a 3-phase load balanced condition, each phase has the same value of

- A impedance.
- B resistance.
- C power factor.
- D all options are correct

Answer: D

Question 153

A short circuit test on a transformer gives

- A copper loss at full load
- B copper loss at any load
- C copper loss at half load
- D copper loss at over load

Answer: B

Question 154

Armature reaction effect causes flux to reduce with

- A decreasing torque
- B increasing torque
- C increase current
- D both increasing torque & increase current

Answer: C

Question 155

The armature of a DC machine is made of.

- A mild steel
- B silicon steel
- C stainless steel
- D cast iron

Answer: B

Question 156

DC generators are designed to develop armature voltages not exceeding 650 V because of the limitations of.

- A field winding
- B armature winding
- C commutator
- D starters

Answer: C

Question 157

A step up transformer increases

- A power
- B voltage
- C frequency
- D current

Answer: B

Question 158

It is economical to transmit electricity at a

- A very high voltage

- B very low voltage
- C very high current
- D None of these

Answer: A

Question 159

Rotating magnetic fields are also used in 3phase induction motors rotor developing

- A eddy current
- B voltage lag
- C load current
- D phase current

Answer: A

Question 160

One of the speed control methods of a 3 phase induction motors is

- A V/F control
- B stator current control
- C core loss control
- D eddy current control

Answer: A

Question 161

A centrifugal switch is provided for disconnecting the auxiliary winding in a

- A Capacitor - start motor
- B Capacitor run motor
- C Reluctance motor
- D Hysteresis motor

Answer: A

Question 162

In a split phase motor, the running winding should have

- A high resistance and low inductance
- B low resistance and high inductance
- C high resistance as well as high inductance
- D low resistance as well as low inductance

Answer: B

Question 163

A reluctance motor

- A is self-starting
- B is constant speed motor
- C needs no D.C. excitation
- D all options are correct

Answer: D

Question 164

The speed control of a universal motor used for sewing machines is done by

- A friction
- B varying the resistance
- C tapping the field
- D centrifugal mechanism

Answer: B

Question 165

The power factor of a single-phase induction motor is usually

- A lagging
- B always leading
- C unity
- D unity to 0.8 leading

Answer: A

Question 166

Hysteresis motors are suitable for.

- A fans
- B blowers
- C sound equipment
- D mixer grinders

Answer: C

Question 167

A relay used on short transmission lines is

- A reactance relay

- B mho's relay
- C impedance relay
- D None of these

Answer: A

Question 168

The highest voltage transmission line starting from generating point is called

- A secondary transmission
- B secondary distribution
- C primary transmission
- D primary distribution

Answer: C

Question 169

A 30 km transmission line carrying power at 33 kV is known as

- A short transmission line
- B long transmission line
- C high power line
- D ultra high voltage line

Answer: A

Question 170

The insulating material for cables should be

- A non-hygroscopic
- B non-inflammable
- C acid proof
- D all options are correct

Answer: D

Question 171

Name the equipment which runs an alternator.

- A Motor
- B Generator
- C Prime mover
- D Fan

Answer: C

Question 172

Electric strength in a cable is more on

- A layer on the conductor
- B outside conductor
- C outer side of armouring
- D None of these

Answer: A

Question 173

In places where acids and alkalies are present, the type of wiring used is.

- A PVC
- B TRS
- C VIR
- D Weather proof

Answer: B

Question 174

Replacement of wiring is not easy in which type of wiring

- A conduit system
- B Lead sheathed
- C concealed wiring
- D cleat system

Answer: C

Question 175

ACSR conductor means

- A All conductor Steel Reinforced
- B Aluminium conductor steel reinforced
- C Aluminium conduit steel reinforced
- D All conduit steel reinforced

Answer: B

Question 176

The value of supply voltage for 500 W, 5 ohm load is,

- A 100 V

- B 500 V
- C 50 V
- D 10 V

Answer: C

Question 177

The most important factor with respect to lighting quality is

- A colour
- B glare
- C illumination
- D uniform lighting

Answer: B

Question 178

In ACSR conductors, the insulation between aluminium and steel conductors is

- A varnish
- B bitumen
- C ceramic
- D No insulation is required

Answer: D

Question 179

Which one of the given fuses is bigger.?

- A DC
- B AC
- C DC or AC
- D AC and DC are same

Answer: A

Question 180

What is the function of choke in a fluorescent lamp ?

- A starting purpose
- B produce high voltage at starting
- C improve power factor
- D minimize the power consumption

Answer: B

Question 181

In an electric heater, the metal case is connected to

- A Phase wire
- B earth wire
- C neutral wire
- D none of these

Answer: B

Question 182

Which of the following is not an indoor lighting ?

- A Residence light
- B Office light
- C Industry light
- D flood light

Answer: D

Question 183

Carbon arc lamps are commonly used in

- A Domestic lighting
- B Street lighting
- C Cinema projectors
- D Photography

Answer: C

Question 184

Lumen/watt is the unit of

- A Light flux
- B Luminous intensity
- C Brightness
- D Luminous efficiency

Answer: D

Question 185

Arc can be produced by ?

- A AC current only

- B DC current only
- C Either AC or DC current
- D all options are correct

Answer: C

Question 186

A rectifier for welding has voltage/current characteristics as

- A Drooping
- B Rising
- C Static
- D Variable

Answer: A

Question 187

The insulating material suitable for low temperature applications is

- A Cork
- B Diatomaceous earth
- C Asbestos paper
- D 75 per cent magnesia

Answer: B

Question 188

The method suitable for heating of conducting medium is

- A Induction heating
- B Indirect arc heating
- C Eddy current heating
- D Radiant heating

Answer: A

Question 189

The number of valence electron in boron is

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

Answer: C

Question 190

The potential barrier acts as a barrier against the flow of

- A electrons only
- B holes only
- C electrons and holes
- D None of these

Answer: C

Question 191

The type of circuit that does not need a coupling capacitor is

- A resistance loaded
- B transformer coupled
- C impedance coupled
- D single-tuned

Answer: B

Question 192

The plate current in a triode can be controlled by controlling,

- A plate voltage
- B grid voltage
- C plate voltage and grid voltage
- D grid current

Answer: B

Question 193

A transistor consists of.

- A one p-n junction
- B two p-n junction
- C three p-n junction
- D four p-n junction

Answer: B

Question 194

The CE amplifier is most commonly used because of

- A less power gain

- B less output voltage
- C more power gain
- D low cost

Answer: C

Question 195

Synchronous motor shaft is made of

- A Alnico
- B Chrome steel
- C Mild steel
- D Stainless steel

Answer: C

Question 196

When the voltage applied to a synchronous motor is increased, which of the following will reduce ?

- A Stator flux
- B Pull in torque
- C Pull out torque
- D None of these

Answer: D

Question 197

A synchronous motor has better powerfactor than an induction motor. This is due to

- A Stator supply is not required to produce magnetic field
- B Synchronous motor has no slip
- C Mechanical load on the rotor remains constant
- D Synchronous motor has large airgap

Answer: A

Question 198

When the field circuit of an unloaded salient pole synchronous motor gets suddenly open circuited, then

- A the motor stops
- B it runs at a slower speed
- C it continues to run at the same speed
- D it runs at a very high speed

Answer: A

Question 199

The resultant armature voltage of a synchronous motor is equal to the

- A vector sum of E_b and V
- B vector difference of E_b and V
- C arithmetic sum of E_b and V
- D arithmetic difference of E_b and V

Answer: B

Question 200

The armature current of a synchronous motor is minimum when operating at

- A unity power factor
- B 0.707 power factor lagging
- C 0.707 power factor leading
- D zero power factor leading

Answer: A