Q1.One statement is given followed by two assumptions 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 are to decide which of the given assumptions, if any, follow from the given statements. Indicate your answer.

Statement:

"You are hereby appointed as a programmer with a probation period of one year and your performance will be reviewed at the end of the period for confirmation." A line in an appointment letter.

Assumptions:

I. The performance of an individual generally is not known at the time of appointment offer.

II. Generally an individual tries to prove his worth in probation period.

A. Only assumptions I is implicit

B. Only assumption II is implicit.

C. Both I and II are implicit

D. Neither I nor II is implicit

Ans

(C)

Solution:

Clearly, both the assumptions are implicit in the statement. The capability of a person can be judged by his/her performance. It is natural that a person tries to prove his capability during probation period.

Q2.Insert the arithmetic operations in the following numerical figures:

70* 7*113*13 = 390.

A. + - ×

B. + × -

C. × ÷ –

D. × - +

Ans

(D)

Solution:

$70 \times 7 - 113 + 13 = 390$

$\Rightarrow 490 - 113 + 13 = 390$

$\Rightarrow 503 - 113 = 390$

Q3.Going 40 m to the south of his house, Ramdev turns left and goes another 10 m. Then turning to the North, he goes 20 m and then starts walking to his house. In which direction is he walking now?

A. North -West

B. North-East

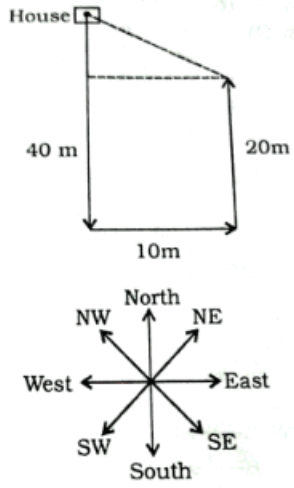
C. South-East

D. South-West

Ans

(A)

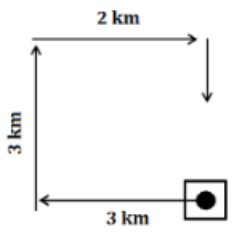
Solution:



It is clear from the diagram that Ramdev is now walking towards North-West.

Q4.Ramesh walks 3 km to west and turns to his right and walks 3 km and turns right and walks 2 km and finally turns to his right.

Which direction is he facing?
A. East
B. West
C. North
D. South
Ans
(D)
Solution:



Now, Ramesh is facing South.

Q5.Which one number is wrong in the series?

A	B	C	D	E
225	256	121	289	324

A. 225
B. 256
C. 121
D. 324
Ans
(C)
Solution:
all the numbers are perfect squares. But the number 121 is less than its previous term.

$225 = 15 \times 15$
$256 = 16 \times 16$
$121 = 11 \times 11$
$289 = 17 \times 17$
$324 = 18 \times 18$

Q6.Find out the false date of birth given in the series.
1. 15- 02-1969
2. 16-03-1969
3. 18-04-1969
4. 30-01-1969
5. 31-02-1970
6. 31-12-1969

A. 4
B. 6
C. 3
D. 5
Ans
(D)
Solution:
31. 02. 1970 is a false date of birth. There are only 28 days in the month of February in a normal year.

Q7.If the cost of 16 kg of wheat is Rs. 384, what is the cost of 90 kg of wheat?
A. Rs. 2, 016
B. Rs. 2, 024
C. Rs. 2, 610
D. Rs. 2,160
Ans
(D)
Solution:
Cost of 16 kg of wheat
= Rs. 384
∴ Cost of 1 kg of wheat
$= \text{Rs. } \frac{384}{16}$

∴ cost of 90 kg of wheat
$= \frac{384}{16} \times 90 = \text{Rs. } 2160$

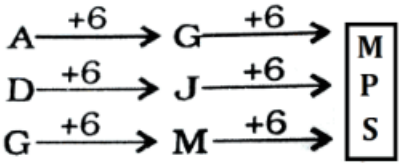
Q8.If 5 and 8, 3 and 9, 2 and 6 and 1 and 4 exchange their values, what is the value of
3 6 5 4 1 9 ?
A. 9 2 8 1 4 3
B. 9 2 8 4 1 3
C. 9 2 8 4 3 1
D. 9 8 2 1 4 3
Ans
(A)
Solution:

5	3	2	1
↓	↓	↓	↓
8	9	6	4

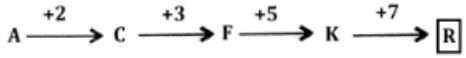
Now,

3	6	5	4	1	9
↓	↓	↓	↓	↓	↓
9	2	8	1	4	3

Q9.**In each of the following questions, choose the correct alternative from the given ones that will complete the series.**
ADG, GJM, ?
A. MOQ
B. MPS
C. NOT
D. WTO
Ans
(B)
Solution:



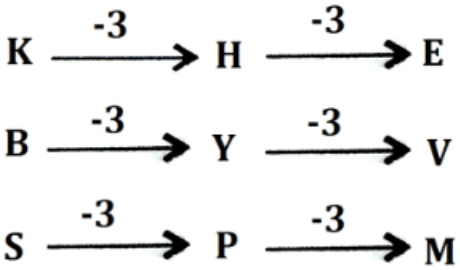
Q10.**In each of the following questions, choose the correct alternative from the given ones that will complete the series.**
A ,C, F, K, ?
A. D
B. O
C. R
D. I
Ans
(C)
Solution:



Q11.**In each of the following questions, choose the correct alternative from the given ones that will complete the series.**

K	H	E
B	Y	V
S	?	M

A. R
B. P
C. O
D. L
Ans
(B)
Solution:

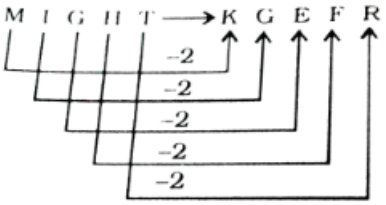


Q12.**In each of the following questions, choose the correct alternative from the given ones that will complete the series.**
25, 35, 55, ?, 125
A. 65
B. 75
C. 85
D. 95
Ans
(C)
Solution:
25 + 10 = 35
35 + 20 = 55
55 + 30 = 85
85 + 40 = 125

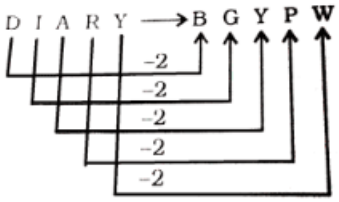
Q13.From the given alternatives select the word which cannot be formed using the letters of the given word.
SHIPMENT
A. SENT
B. STENT
C. SPENT
D. HIPS
Ans
(B)
Solution:
There is only one 'T' in the given word. Therefore, the word S T E N T cannot be formed.
SH I P M **E N T** ⇒ S E N T
SH I **P** M **E N T** ⇒ S P E N T
S H I P M E N T ⇒ H I P S

Q14.In a certain code, ' **329'** means ' **GOD IS LOVE'**, **'927'** means **'LOVE IS BEAUTIFUL'**. What is the code for **'GOD'**
A. 2
B. 3
C. 7
D. 9
Ans
(B)
Solution:
3 2 9 → GOD **IS LOVE**
9 2 7 → **LOVE IS**
BEAUTIFUL
The code for 'GOD' is '3'.

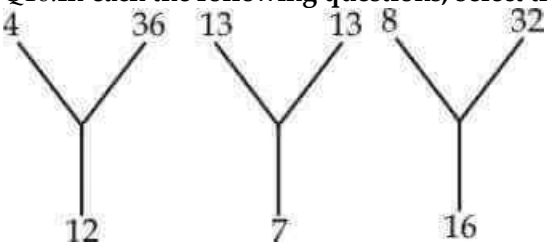
Q15.If **MIGHT** is written as **KGEFR**, how can **DIARY** be written in that code?
A. AGZPV
B. BGYPW
C. BGWOV
D. AGYNW
Ans
(B)
Solution:



Therefore,



Q16.**In each the following questions, select the missing number from the given responses.**



A. 8
B. 13
C. 4
D. 12
Ans
(B)
Solution:
First Figure
$4 \times 3 = 12$
$12 \times 3 = 36$
Second Figure
$13 \times 1 = 13$
$13 \times 1 = 13$
Third Figure
$8 \times 2 = 16$
$16 \times 2 = 32$

Q17.**In each the following questions, select the missing number from the given responses.**

5	7	9
4	8	2
8	6	?
160	336	108

A. 4
B. 7
C. 6
D. 8
Ans
(C)
Solution:
First column
$5 \times 4 \times 8 = 160$
Second column
$7 \times 8 \times 6 = 336$
Third column
$9 \times 2 \times ? = 108$
$\Rightarrow ? = \frac{108}{18} = 6$

Q18.**In each the following questions, select the missing number from the given responses.**

6 7 4
5 3 5
7 ? 6
3 3 6

A. 7
B. 3
C. 8
D. 5

Ans

(C)

Solution:

The sum of all the four numbers in each column is equal to 21.

First Column

$6 + 5 + 7 + 3 = 21$

Second Column

$7 + 3 + ? + 3 = 21$

$\Rightarrow ? = 21 - 13 = 8$

Third Column

$4 + 5 + 6 + 6 = 21$

Q19.Select the correct combination of mathematical signs to replace * signs and to balance the given equation.

5 * 3 * 3 * 5 * 0

A. × ÷ – =

B. + – ÷ =

C. - - + =

D. - ÷ =

Ans

(A)

Solution:

$5 * 3 * 3 * 5 * 0$

$\Rightarrow 5 \times 3 \div 3 - 5 = 0$

$\Rightarrow 5 - 5 = 0$

Q20.**In each of the following questions, select the related word/letters/ number from the given alternatives.**

Cataract: Eye : : Pneumonia : ?

A. Brain
B. Ear
C. Lungs
D. Nerves and limbs

Ans

(C)

Solution:

Cataract affects eye. Similarly, Pneumonia affects lungs.

Q21.**In each of the following questions, select the related word/letters/ number from the given alternatives.**

Whale : Mammal : : Turtle : ?

A. Amphiblan
B. Reptile
C. Fish
D. Mollusc

Ans

(B)

Solution:

Whale is a mammal. Similarly, Turtle is a reptile.

Q22.**In each of the following questions, select the related word/letters/ number from the given alternatives.**

Dominance : Hegemony : : Independence : ?

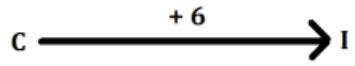
A. Sympathy
B. Melancholy
C. Autonomy
D. Recompense

Ans

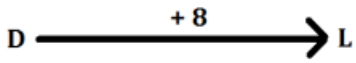
(C)
Solution:
Dominance bears the same meaning as that of **Hegemony.**
Similarly, **Independence** bears the same meaning as that of **Autonomy.**

Q23.**In each of the following questions, select the related word/letters/ number from the given alternatives.**
TTT : 777 : : RRR : ?
A. 555
B. 666
C. 888
D. 999
Ans
(C)
Solution:
$T \Rightarrow 27 - 20 = 7$
$R \Rightarrow 27 - 18 = 9$
Therefore, ? = 999

Q24.**In each of the following questions, select the related word/letters/ number from the given alternatives.**
C : I : D : ?
A. L
B. M
C. N
D. O
Ans
(A)
Solution:



Similarly,



Q25.**In each of the following questions, select the related word/letters/ number from the given alternatives.**
YAD : NUS : : ? : NOOM
A. NTHIG
B. HIGIN
C. GHTIN
D. THGIN
Ans
(D)
Solution:
$YAD \Rightarrow DAY$
$NUS \Rightarrow SUN$
Similarly,
$THGIN \Rightarrow NIGHT$
$NOOM \Rightarrow MOON$

Q26.**In each of the following questions, select the related word/letters/ number from the given alternatives.**
27 : 3 : : 873 : ?
A. 23
B. 97
C. 9
D. 87
Ans
(B)
Solution:
$\frac{27}{9} = 3$
Similarly, $\frac{873}{9} = 97$

Q27.**In each of the following questions, select the related word/letters/ number from the given alternatives.**

6 : 34 : : 9 : ?
A. 36
B. 45
C. 81
D. 79
Ans
(D)
Solution:
$6 \times 6 - 2 = 36 - 2 = 34$
Similarly,
$9 \times 9 - 2 = 81 - 2 = 79$

Q28.**In each of the following questions, select the related word/letters/ number from the given alternatives.**
352 : 30
296 : 108
628 : ?
A. 306
B. 96
C. 314
D. 36
Ans
(B)
Solution:
$352 : 30$
$\Rightarrow 3 \times 5 \times 2 = 30$
$296 : 108$
$\Rightarrow 2 \times 9 \times 6 = 108$
$628 : ?$
$\Rightarrow 6 \times 2 \times 8 = 96$

Q29.**Find the Odd one.**
A. jostle
B. Nudge
C. Push
D. Trash
Ans
(D)
Solution:
Trash means 'household or other waste.'
Jostle means 'to push roughly.'
Nudge means 'to touch or push.'

Q30.**Find the Odd one.**
A. content
B. Bibliography
C. Press
D. Preface
Ans
(C)
Solution:
Press is different from the other three words. Content, Preface and Bibliography are parts of a book.

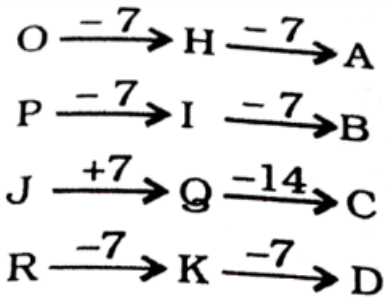
Q31.**Find the Odd one.**
A. Tetanus
B. Pneumonia
C. Tuberculosis
D. Hepatitis
Ans
(D)
Solution:
Except hepatitis, all other diseases are caused by bacteria. Hepatitis is caused by virus.

Q32.**Find the Odd one.**

A. 9
B. 27
C. 64
D. 8
Ans
(A)
Solution:
Except 9, all others are perfect cubes. The number 9 is a perfect square.
$27 = 3 \times 3 \times 3$
$64 = 4 \times 4 \times 4$
$8 = 2 \times 2 \times 2$
But, $9 = 3 \times 3$

Q33.**Find the Odd one.**
A. 1876
B. 1984
C. 2024
D. 2014
Ans
(D)
Solution:
Except 2014, all others are Leap Years (or completely divisible by 4).
$\frac{1876}{4} = 469;$
$\frac{1984}{4} = 496;$
$\frac{2024}{4} = 506;$
But, $\frac{2014}{4} = 503.5$

Q34.**Find the Odd one.**
A. 3 -9
B. 5 -25
C. 7 -49
D. 8 -63
Ans
(D)
Solution:
Except in the number pair 864, in all others both the numbers are odd numbers. In all the number-pairs, the second number is perfect square of the first number.

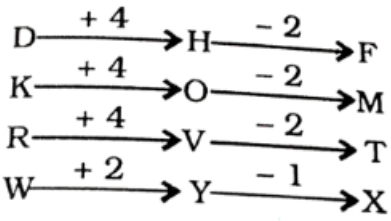
Q35.**Find the Odd one.**
A. OHA
B. PIB
C. JQC
D. RKD
Ans
(C)
Solution:


Q36.**Find the Odd one.**
A. DHF
B. KOM
C. RVT
D. WYX

Ans

(D)

Solution:



Q37.**Find the Odd one.**

A. BDFH

B. JLNP

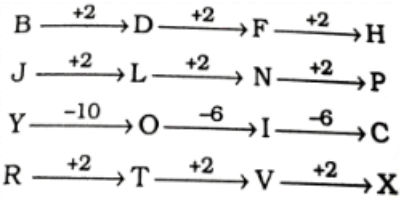
C. YOIC

D. RTVX

Ans

(C)

Solution:



Q38.Which of the given responses would be a meaningful order of the following words?

1. Window
2. Foundation
3. Floor
4. Ventilator
5. Roof

A. 3 2 1 4 5

B. 2 3 1 4 5

C. 1 2 3 4 5

D. 3 1 2 4 5

Ans

(B)

Solution:

Meaning order of words:

2. Foundation
↓
3. Floor
↓
1. Window
↓
4. Ventilator
↓
5. Roof

Q39.**In each of the following questions, arrange the following words as per order in the dictionary.**

1. LEAF
2. LEANRED
3. LEAVED
4. LEAK
5. LEADEN

A. 5 1 4 2 3

B. 5 1 4 3 2

C. 3 5 1 4 2

D. 1 4 2 3 5

Ans

(A)

Solution:

Arrangement of words as per dictionary:

5. LEADEN
↓
1. LEAF
↓
4. LEAK
↓
2. LEARNED
↓
3. LEAVED

Q40.**In each of the following questions, arrange the following words as per order in the dictionary.**

1. Fish
2. Fan
3. Flesh
4. Feast
5. Fraud

A. 2 4 1 3 5
B. 3 5 4 2 1
C. 2 4 3 1 5
D. 4 2 1 5 3

Ans

(A)

Solution:

Arrangement of words as per dictionary:

2. Fan
↓
4. Feast
↓
1. Fish
↓
3. Flesh
↓
5. Fraud

Q41.**Statement:**

Hard work is poor man's wealth.

Conclusion:

A. A poor man is always a hard worker
B. A poor man earns wealth through his hard work
C. A wealthy man is always a hard worker
D. A poor man can earn wealth if he is a hard worker

Ans

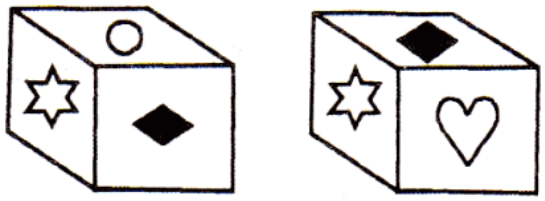
(B)

Solution:

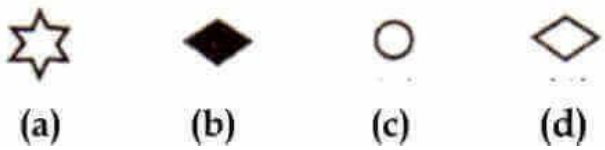
A poor man is unable to invest money to start a business. A poor man earns wealth through his hard work.

Q42.Two positions of a dice are shown below. When the heart shape is at the top what will be at the bottom?

Question Figures:



Answer Figures:

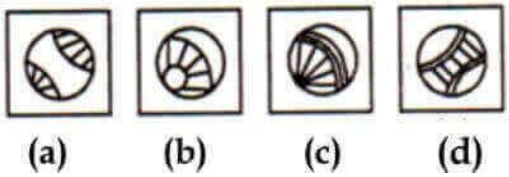


A. A
B. B
C. C

D. D
Ans
(C)
Solution:
From the given positions of a dice. It is clear that circle would be at the bottom, when the heart shape is at the top.

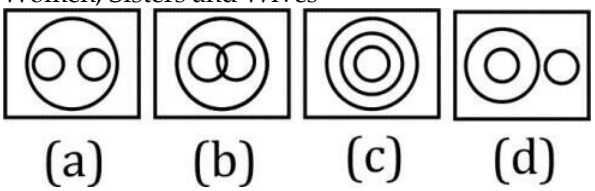
Q43.Among the four answer figures, which figure can be formed from the cut-pieces given below in the question figure?
Question Figures:

Answer Figures:

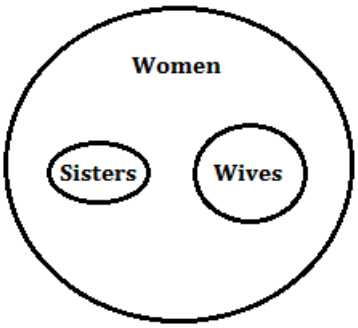


A. A
B. B
C. C
D. D
Ans
(B)
Solution:
Answer figure (B) can be formed from the cut-pieces given in the question figure.

Q44.**In each of the following questions, identify the diagram that represents the best relationship among classes given below:**
Women, Sisters and Wives

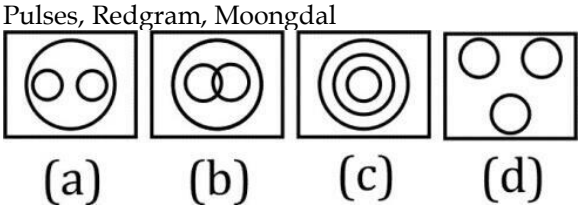


A. A
B. B
C. C
D. D
Ans
(A)
Solution:
Some sisters may be wives and vice-versa. Both sisters and wives come under the class women.



Q45.**In each of the following questions, identify the diagram that represents the best relationship among classes given below:**

Pulses, Redgram, Moongdal



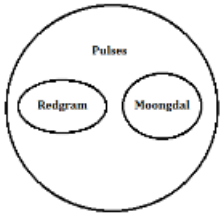
A. A
B. B
C. C
D. D

Ans

(A)

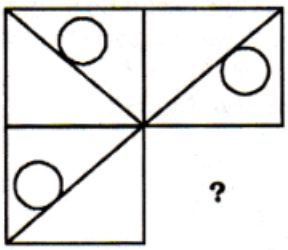
Solution:

Red gram is different from moong dal but both are pulses.

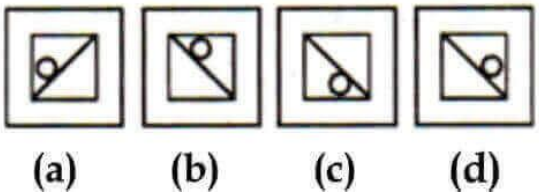


Q46.Identify the answer figure that completes the pattern in the question figure.

Question Figures:



Answer Figures:

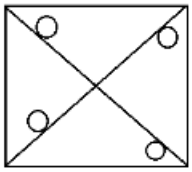


A. A
B. B
C. C
D. D

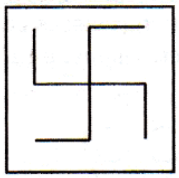
Ans

(C)

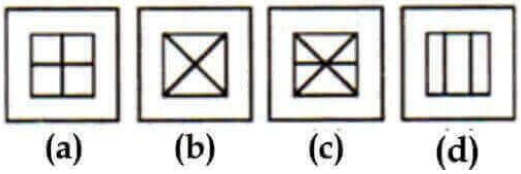
Solution:



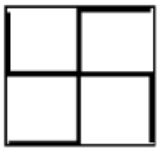
Q47.From the given answer figures, select the one in which the question figure is hidden/embedded.
Question Figures:



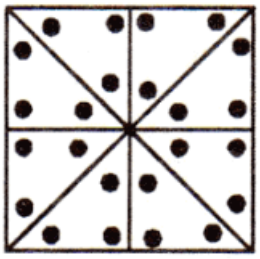
Answer Figures:



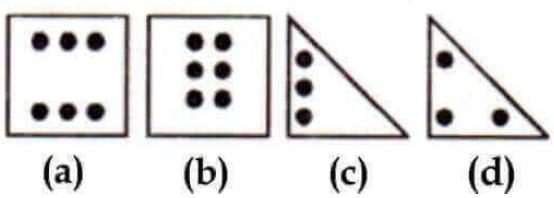
A. A
B. B
C. C
D. D
Ans
(A)
Solution:



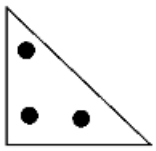
Q48.A square sheet of paper has been punched after folding. Its appearance, when opened, is shown in the question figure. You have to figure out in which folded position it was punched and how.
Question Figures:



Answer Figures:



A. A
B. B
C. C
D. D
Ans
(D)
Solution:
Folded position given in option (D) is the required pattern.



Q49.Identify the alternative which resembles the mirror-image of the given word.
ENDURANCE
A. ENDURANCE
B. ENDURANCE
C. ENDURANCE
D. ENDURANCE
Ans
(D)

Q50.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 the matrix given below. The columns and rows of matrix I are numbered from 0 to 4 and that of Matrix II from 0, 5 to 8. A letter from the matrix can be represented first by its row and next by its column, e. g. 'D' can be represented by 03, 10 etc. and 'J' can be represented by 56, 65, etc. Similarly, you have to identify the set for the word **'BLACK'**.

Matrix I

	0	1	2	3	4
0	A	B	C	D	E
1	D	B	A	E	C
2	C	A	D	B	E
3	B	D	E	C	A
4	E	B	C	A	D

Matrix II

	0	5	6	7	8
0	J	K	L	M	N
5	L	M	J	K	N
6	N	J	L	K	M
7	M	L	N	K	J
8	K	N	M	J	L

A. 11, 66, 57, 20, 76
B. 20, 76, 12, 57, 66
C. 66, 12, 20, 11, 57
D. 11, 66, 12, 20, 57
Ans
(D)
Solution:
B ⇒ 01, 11, 23, 30, 41
L ⇒ 06, 50, 66, 75, 88
A ⇒ 00, 12, 21, 34, 43
C ⇒ 01, 14, 20, 33, 42
K ⇒ 05, 57, 67, 77, 80

Q51.When had Muslim league passed the resolution "Divide and Quit" movement?
A. 1945
B. 1943
C. 1944
D. None of these
Ans
(B)

Q52.Which of the following is found in the seventh schedule of the Constitution?
A. List of languages
B. State of Central List
C. Duties of President and vice president
D. None of these
Ans
(B)

Q53.What was discovered by Funk?
A. Hormones
B. Enzymes
C. Proteins
D. Vitamins

Ans
(D)

Q54.Who among the following is the author of 'Kadambari' the Sanskrit grammer?
A. Patanjali
B. Banabhatta
C. Panini
D. Kalidas
Ans
(B)

Q55.A common plant found in Tropical deciduous forest is –
A. Eucalyptus
B. Orchid
C. Pine
D. Teak
Ans
(D)

Q56.Kaieteur Falls is situated in which country?
A. Argentina
B. Guyana
C. Uruguay
D. India
Ans
(B)

Q57.What is the ratio of money held by the public in currency to that they held in deposit?
A. The currency deposit ratio
B. The reserve deposit ratio
C. Cash reserve ratio
D. None of these
Ans
(A)

Q58.The chemical behavior of an atom depends upon–
A. the number of Neutrons in the nucleus
B. the number of Nucleons in the nucleus
C. the number of Protons in its nucleus
D. the number of Electrons orbiting around the nucleus
Ans
(D)

Q59.The States Reorganisation Act was passed in the year
A. 1947
B. 1950
C. 1952
D. 1956
Ans
(D)

Q60.Who said that conflict is a permanent feature of society not a temporary type?
A. Karl max
B. Herbert Spencer
C. George Simmel
D. C. Wright Mill
Ans
(C)

Q61.Which amidst the following taxes collected by the Union is NOT mandated to be assigned to the States?
A. Terminal taxes on goods or passengers carried by railway, sea or air
B. Taxes on railway fares and freights

C. Taxes on consignment of goods
D. Service Tax
Ans
(D)

Q62.Under the zabte system, the most fertile land was classified as –
A. Polaj
B. Parauti
C. Chachar
D. Banjar
Ans
(A)

Q63.Which writ to compel inferior courts to keep themselves within the limits of their jurisdiction?
A. Mandamus
B. Prohibition
C. Certiorari
D. Quo warranto
Ans
(B)

Q64.Which one of the following represents the inner planets?
A. Planets between the sun and the belt of asteroids
B. Plants between the sun and the earth
C. Plants without satellite
D. Planets in gaseous state
Ans
(A)

Q65.88th amendment of the Indian Constitution is related to –
A. The demarcation of new boundaries between states
B. The Constitution of the National Judicial Commission
C. Empowering the Centre to levy and appropriate Service tax
D. Readjustment of electoral constituencies on the basis of the population census 2001
Ans
(C)

Q66.Colour of which planet is Azure?
A. Neptune
B. Saturn
C. Uranus
D. Jupiter
Ans
(A)

Q67.Who was the author of "India of My Dreams"?
A. J.B. Kripalani
B. M.K. Gandhi
C. G.K. Gokhale
D. Jawaharlal Nehru
Ans
(B)

Q68.Brundtland Commission was related with which problem of the world?
A. Educational problem
B. Economical problem
C. Political problem
D. Environmental problem
Ans
(D)

Q69.One of the main reasons for the defeat of the Sirajuddaulah in the battle of Plassey?

A. To establish company's fortification to control over the Calcutta.
B. Robert Clive led the company's army against Nawab at Plassey
C. Sirajuddaulah was not an expert Nawab of the Bengal
D. The forces led by Mirjafar, one of the Nawab's commanders, never faught the battle
Ans
(D)

Q70.The reddish-brown orangutan is found only in the completely isolated rain forest of ……
A. Borneo and Northern Sumatra
B. Madagascar and Borneo
C. Madagascar and Northern Sumatra
D. South Africa and Borneo
Ans
(A)

Q71.All the receipts of government which creates the liabilities or decreases the financial assets are called –
A. Revenue receipts
B. Capital receipts
C. Revenue deficit
D. Capital expenditure
Ans
(B)

Q72.Which was the capital of Chhatrapati Shivaji?
A. Poona
B. Raigarh
C. Satara
D. jinji
Ans
(B)

Q73.The joint sitting of both Houses of Indian Parliament is held in connection with –
A. Constitutional amendment bill
B. Ordinary bill
C. Money bill
D. Election of the Vice – President of India
Ans
(B)

Q74.The Constitution of India borrowed the provision relating to suspension of fundamental rights from –
A. The U.S. Constitution
B. The Weimar Constitution of Germany
C. The Canadian Constitution
D. The Irish Constitution
Ans
(B)

Q75.Many Fungi belonging to the genera Microporum Trichophyton and Epidermophyton are responsible for –
A. Filarial
B. Cancer
C. Ringworms
D. AIDS
Ans
(C)

Q76.What is Hawala ?
A. Illegal trading of shares
B. Full details of a subject
C. Illegal transactions of foreign exchange
D. Tax evasion
Ans
(C)

Q77.Television was invented by–
A. Louis Braille
B. Lawrence
C. R.A. Millikan
D. J.L. Baird
Ans
(D)

Q78.When did India become a fully Sovereign Democratic Republic?
A. 26th November, 1949
B. 26th November, 1951
C. 26th January, 1949
D. 26th November, 1930
Ans
(A)

Q79.A defect of vision in which the points in one plane of an object appear in focus while those in another plane are out of focus is called–
A. Astigmatism
B. Hypermetropia
C. Distortion
D. Myopia
Ans
(A)

Q80.Mass number is the sum of–
A. Protons and neutrons
B. Electrons and protons
C. Only protons
D. Electrons and neutrons
Ans
(A)

Q81.Who was the first Delhi Sultan to break power of the Turkish nobles known as Chahalgani or the Forty?
A. Iltutmish
B. Qutb-ud-din-Aibak
C. Balban
D. Raziya
Ans
(C)

Q82.There are only two metals that non-silver in colour, they are–
A. Sodium and Magnesium
B. Palladium and Platinum
C. Copper and Gold
D. Nickel and Zinc
Ans
(C)

Q83.According to which Article, Legislative Council can be created abolished ?
A. Article 170
B. Article 167
C. Article 169
D. Article 168
Ans
(C)

Q84.An electronic path, that sends signals from one part of computer to another is -
A. Serial Port
B. Modem
C. Logic Gate

D. Bus
Ans
(D)

Q85.Of the following Rapeseed belongs to–
A. Linseed
B. Mustard
C. Pepper
D. Coffee
Ans
(B)

Q86.Mercury thermometer was invented by–
A. Fahrenheit
B. Newton
C. Priestley
D. Galileo
Ans
(A)

Q87.The resistance of an ideal voltmeter is–
A. low
B. zero
C. infinite
D. high
Ans
(C)

Q88.Which scientist wrote a book called "A Brief History of Time" ?
A. Pasteur
B. Edward Jenner
C. J.L. Baird
D. Stephen Hawking
Ans
(D)

Q89.Vitamin which provides immunity–
A. K
B. C
C. E
D. A
Ans
(D)

Q90.To whom did Allauddin Khilji entrust the mission to conquer South?
A. Malik Kafur
B. Khizra Khan
C. Ulugha Khan
D. Shaji Malik
Ans
(A)

Q91.When is Human Rights Day celebrated?
A. 9th December
B. 10th October
C. 10th December
D. 12th December
Ans
(C)

Q92.Centre for Ecological Sciences is situated at –
A. Karnal

B. Bengaluru
C. New Delhi
D. Allahabad
Ans
(B)

Q93.The system in which the few govern many is known as –
A. Plutocracy
B. Monarchy
C. Oligarchy
D. Autocracy
Ans
(C)

Q94.Which of the following works on the basis of conservation of linear momentum?
A. Rocket
B. Helicopter
C. Jet
D. Aeroplane
Ans
(C)

Q95.Which is the final Appellate Court of Justice?
A. District Court
B. Supreme Court
C. Civil Court
D. High Court
Ans
(B)

Q96.Breath analysers used by police to test drunken drivers works on the chemical basis of –
A. Redox reactions
B. Precipitation reactions
C. Complexation reactions
D. Acid-base reactions
Ans
(A)

Q97.Respiration is controlled by _____ part of brain.
A. Medulla Oblongata
B. Cerebellum
C. Olfactory Lobes
D. Hypothalamus
Ans
(A)

Q98.The lowest temperature is recorded by–
A. Minimum reading thermometer
B. Maximum reading thermometer
C. Mercurial thermometer,
D. Alcohol thermometer
Ans
(D)

Q99.The hard enamel layer of teeth is–
A. Calcium phosphate
B. Calcium oxide
C. Calcium hydroxyl apatite
D. Calcium hydroxide
Ans
(A)

Q100.In marine whales, the limbs are modified as –
A. Slippers
B. Flappers
C. Grippers
D. Flippers
Ans
(D)

Q101.As per Law of fluid friction for steady streamline flow, the frictional resistance
A. Varies proportionally to pressure
B. Varies in inverse proportion to pressure
C. Does not depend on pressure
D. First increase then decreases
Ans
(A)

Q102.Which one of the following assumptions of Bernoulli's theorem is not correct?
A. Flow should not be unsteady
B. Flow should be continuous
C. The fluid should be compressible
D. Flow should be frictionless
Ans
(C)

Q103.What will be the maximum hydraulic efficiency in case of direct impact of a jet on a series of flat vanes mounted on the periphery of a large wheel?
A. 33%
B. 50%
C. 66%
D. Cannot be a fixed value
Ans
(B)

Q104.For diesel engine, the method of governing employed is
A. Quality governing
B. Quantity governing
C. Hit and miss governing
D. None of the above
Ans
(A)

Q105.Francis Turbine is a
A. Axial flow turbine
B. Radial flow turbine
C. Impulse turbine
D. Outward flow turbine
Ans
(B)

Q106.In laminar, incompressible flow in a circular pipe, the ratio between average velocity and maximum velocity would be
A. -1/2
B. 1/3
C. 2/3
D. $1/\sqrt{2}$
Ans
(A)

Q107.The product of module and diametrical pitch is equal to
A. 1.0
B. $\pi/2$
C. π

D. 2π
Ans
(A)

Q108.The path of contact in cycloidal gear is
A. Straight line
B. curved line
C. Circle
D. none of the above
Ans
(A)

Q109.Which one of the following is a gravity controlled type governor?
A. Hartnell governor
B. Hartung governor
C. Watt governor
D. Pickering governor
Ans
(C)

Q110.The friction torque, transmitted in case of flat pivot bearing for uniform ratio of wear is equal to
A. μWR
B. 2/3 μWR
C. 1/3 μWR
D. 1/2 μWR
Ans
(A)

Q111.At the point of contraflexure
A. Shear force changes its behaviour
B. Bending moment changes its behaviour
C. Shear force is maximum
D. Shear force is minimum
Ans
(B)

Q112.Proof resilience in a member is stored strain energy
A. per unit volume
B. in whole volume
C. per unit area
D. per unit length
Ans
(B)

Q113.In double slider crank chain, the number of revolute pairs is/are
A. 1
B. 2
C. 3
D. 4
Ans
(B)

Q114.Oldham's coupling is inversion of
A. 4-bar chain
B. 6-bar chain
C. single slider crank chain
D. double slider crank chain
Ans
(D)

Q115.Motor used for elevators is generally
A. synchronous motor

B. universal motor
C. induction motor
D. reluctance motor
Ans
(C)

Q116.Which of the following is not a welding accessory?
A. Cable
B. Electrode holder
C. Hand screen
D. Gloves
Ans
(A)

Q117.The transformer used for AC welding sets is
A. Booster type
B. step up type
C. Step down type
D. equal turn ratio type
Ans
(C)

Q118.A relay performs the function of
A. Fault isolation
B. fault detection
C. Fault prevention
D. All the above
Ans
(B)

Q119.HRC fuse provides best protection against
A. Open circuit
B. overload
C. Reverse current
D. short circuit
Ans
(D)

Q120.The scale of moving iron (M.I.) instrument is
A. Uniform
B. cramped
C. Linear
D. All the above
Ans
(B)

Q121.The power factor of industrial loads is generally
A. Unity
B. lagging
C. Leading
D. zero
Ans
(B)

Q122.The value of demand factor is
A. Less than one
B. greater than one
C. Equal to one
D. zero
Ans
(A)

Q123.The slip of an induction motor under full load condition is about
A. 0.1
B. 0.03
C. 0.2
D. 0.8
Ans
(B)
Solution:
The slip of an induction motor under full load varies between 1% and 3% i.e. 0.01 to 0.03.

Q124.The motor used in ceiling fans is
A. Resistance split phase motor
B. Capacitor start motor
C. Capacitor start capacitor run motor
D. Slip ring motor
Ans
(C)

Q125.A dynamometer type wattmeter responds to the
A. Average value of active power
B. Average value of reactive power
C. Peak value of active power
D. Peak value of reactive power
Ans
(A)

Q126.Which of the following meters is an integrating type instrument?
A. Ammeter
B. Voltmeter
C. Wattmeter
D. Energy meter
Ans
(D)

Q127.For battery charging, which of the following DC generators is used?
A. DC series generator
B. DC shunt generator
C. Short shunt compound generator
D. Long shunt compound generator
Ans
(B)

Q128.The no load speed of DC series motor is
A. Very small
B. medium
C. Very high
D. small
Ans
(C)

Q129.A circuit component that opposes the change in circuit voltage is
A. Resistance
B. Capacitance
C. Inductance
D. All the above
Ans
(B)

Q130.A series resonant circuit implies
A. Zero power factor and maximum current
B. Unity power factor and maximum current
C. Unity power factor and minimum current

D. Zero power factor and minimum current
Ans
(B)
Solution:
At resonance, we know that
$\omega = \omega_0 = \frac{1}{\sqrt{LC}}$ & $X_L = X_c$ then
Impedance $Z = \sqrt{R^2 + (X_L - X_c)^2}$
Here L = Inductance
C = Capacitance
⇒ Z = R so there is unity power factor and Current is maximum.

Q131.Earth fault relays are
A. Directional relays
B. Non-directional relays
C. Short operate time relays
D. Long operate time relays
Ans
(B)

Q132.The rating of fuse is expressed in terms of
A. Amperes
B. volts
C. VAR
D. KVA
Ans
(A)

Q133.By burden of the relay we mean
A. Volt-ampere rating of relay
B. Current rating of relay
C. Voltage rating of relay
D. Watt rating of relay
Ans
(A)

Q134.Reactance relays are employed for phase fault in
A. Long time
B. Medium line
C. Short line
D. Any of these
Ans
(C)

Q135.The ratio of line-to-line capacitance and line-to- neutral capacitance is
A. 1/2
B. 1/4
C. 2
D. 4
Ans
(A)
Solution:
Here, C_{L-L} = *Capacitance between line to*
Line $= \frac{\pi\epsilon_0}{\ln d/r} f/m$
C_{L-N} = Capacitance between line to
Neutral $= \frac{2\pi\epsilon_0}{\ln d/r}\ f/m$
$\frac{C_{L-L}}{C_{L-N}} = \frac{1}{2}$
The ratio of line to line Capacitance and line to next capacitance is 1: 2.

Q136.The material commonly used for sheaths of underground cable is
A. Lead
B. steel
C. Rubber

D. copper
Ans
(A)

Q137.The recovery voltage will be maximum for power factor of
A. Zero
B. 0.5
C. 0.707
D. unity
Ans
(A)

Q138.An air blast circuit breaker is usually employed for
A. Instantaneous voltage
B. Intermittent duty
C. Repeated duty
D. Short duty
Ans
(C)

Q139.Equation of continuity of flow is based on the principle of conservation of
A. Mass
B. force
C. Momentum
D. energy
Ans
(A)

Q140.Pitot tube is used for the measurement of
A. Pressure
B. flow
C. Velocity
D. discharge
Ans
(C)

Q141.In a centrifugal pump, the liquid enters the pump
A. At the top
B. at the bottom
C. At the centre
D. None of the above
Ans
(C)

Q142.In reaction turbine
A. Kinetic energy is appreciable as the fluid leaves the runner and enters the draft tube
B. The vanes are partly filled
C. Total energy of fluid is converted to kinetic energy in the runner
D. It is exposed to the atmosphere
Ans
(A)

Q143.For the same compression ratio
A. Otto cycle is more efficient than the Diesel cycle
B. Diesel cycle is more efficient than the Otto cycle
C. both Otto and Diesel cycles are equally efficient
D. compression ratio has nothing to do with efficiency
Ans
(A)

Q144.Water tube boilers are those in which
A. Flue gases pass through tubes and water around it

B. Water passes through the tubes
C. Work is done during adiabatic expansion
D. There is change in enthalpy
Ans
(B)

Q145.An ideal flow of any fluid must satisfy
A. Pascal's law
B. Newton's law of viscosity
C. Boundary layer theory
D. Continuity equation
Ans
(D)

Q146.The flow which neglects changes in a transverse direction is known as
A. One-dimensional flow
B. Uniform flow
C. Steady flow
D. Turbulent flow
Ans
(A)

Q147.Cam size depends upon
A. Base circle
B. pitch circle
C. Prime circle
D. outer circle
Ans
(A)

Q148.Hartnell governor could be classified under the head of
A. inertia type governors
B. pendulum type governors
C. centrifugal type governors
D. dead weight type-governors
Ans
(C)

Q149.Which of the following clutches is positive type?
A. Cone
B. Disc
C. Jaw
D. Centrifugal
Ans
(C)

Q150.Creep in belt is due to
A. material of the pulley
B. material of the belt
C. larger size of driver pulley
D. uneven extensions and contractions due to varying tension
Ans
(D)

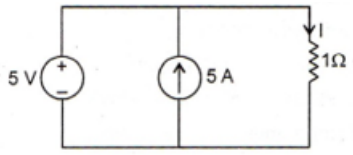
Q151.For simple supported beam having load at the centre the bending moment will be
A. minimum at the support
B. minimum at the centre
C. maximum at the support
D. None of the above
Ans
(A)

Q152.The effective length of the column with one end fixed and the other end free is
A. its own length
B. twice its length
C. half of its length
D. None of the above
Ans
(B)

Q153.Kinetic pairs are those which have two elements that
A. have line contact
B. have surface contact
C. permit relative motion
D. are held together
Ans
(C)

Q154.Governor is used in automobile to
A. decrease the variation of speed
B. control δN/δt
C. control δN
D. All the above
Ans
(C)

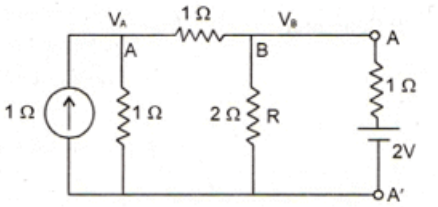
Q155.The value of current I flowing in the 1 resistor in the circuit shown in the figure below will be



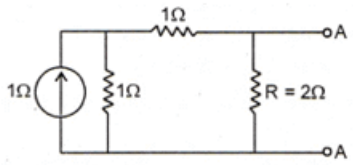
A. 10A
B. 6A
C. 5A
D. Zero
Ans
(C)
Solution:
The value of current I flowing in the circuit show in the figure is

So, 5 volt will appear across current source & 1 ohm resistor both.
∴ Current $I = \frac{V}{R} = (5/1) = 5A$

Q156.In the figure shown below, if we connect a source of 2-V, with internal resistance of 1 at AA′ with positive terminal at A, then current through R is



A. 2A
B. 1.66A
C. 1A
D. 0.625A
Ans
(D)
Solution:



Applying Nodal analysis at A & B

At A $\frac{V_A}{1} + \frac{V_A - V_B}{1} = 1$

$V_A + V_A - V_B = 1$

$2V_A - V_B = 1$ ..... (i)

At B $\frac{V_A - V_B}{1} = \frac{V_B}{2} + \frac{V_B - 2}{1}$

$2V_A - 2V_B = V_B + 2V_B - 4$

$2V_A - 5V_B = -4$ ..... (ii)

Solving equation (i) & (ii)

$V_A = 1.125\ Volt, V_B$

= 1.25 Volt

Current through R = $\frac{V_B}{2}$ $(Here\ V_B = 1.25V)$

$= \frac{1.25}{2} = 0.625\ A$

Q157.The curve representing Ohm's law is

A. Linear

B. Hyperbolic

C. Parabolic

D. Triangular

Ans

(A)

Solution:

From Ohm's law

$\frac{V}{I} = K = R$

V = IR

= Linear

(Area, length, temp should be constant so there is no changes in these conditions)

Q158.Specific resistance of a conductor depends upon

A. Dimension of the conductor

B. Composition of conductor material

C. Resistance of the conductor

D. Both (a) and (b)

Ans

(D)

Q159.Superposition theorem is essentially based on the concept of

A. Reciprocity

B. Linearity

C. Duality

D. Non-linearity

Ans

(B)

Q160.If a 500 KVA, 200 Hz transformer is operated at 50 Hz, its KVA rating will be

A. 2000 KVA

B. 125 KVA

C. 250 KVA

D. 1000 KVA

Ans

(B)

Solution:

For the same load (constant load)

$S \propto E_{ind}$ (E_{ind} = Induced emf)

$S \propto f\ as\ E_{ind} = 4.44\ fN\phi$

$\frac{S_1}{S_2} = \frac{f_1}{f_2}$

$S_2 = S_1 \frac{f_2}{f_1} = 500 \times \frac{50}{200} = 125$ KVA

So, the rating current will be 125 KVA.

Q161.The value of electric field intensity with in the field due to a point charge can be determined by
A. Gauss's law
B. Ampere's law
C. Coulomb's law
D. Maxwell's law
Ans
(C)
Solution:
Electric field intensity with in the field due to a point charged can be determined by coulomb's law.

Q162.Parallel R-C circuit behaves as purely capacitive circuit at
A. Very low frequency
B. Low frequency
C. High frequency
D. Very high frequency
Ans
(D)
Solution:
Parallel R-C circuit behaves as purely capacitive circuit at very high frequency.

Q163.In a R-L-C parallel circuit, the admittance is defined as the reciprocal of
A. Resistance
B. Reactance
C. Impedance
D. Susceptance
Ans
(C)
Solution:
Admittance is reciprocal of impedance.

Q164.A high of coil has
A. Large band width
B. High losses
C. Low losses
D. Flat response
Ans
(C)
Solution:
A high coil has low losses.

Q165.Change in circuit voltage will affect
A. Resonant frequency
B. Q-factor
C. Current
D. Bandwidth
Ans
(C)
Solution:
Change in circuit voltage will affect current ($I \alpha V$)

Q166.Higher the Q of a series circuit narrower its
A. Pass band
B. Resonance curve
C. Band width
D. All of these
Ans
(D)
Solution:
If Q-factor of series circuit is high then pass band, resonance curve, and band width are narrower.

Q167.Maxwell's inductance-capacitance bridge is used for measurement of inductance of

A. Low Q coil only
B. Medium Q coil only
C. High Q coil only
D. Low and medium Q coils
Ans
(B)
Solution:
Maxwell's inductance-capacitance bridge is used for measurement of inductance of medium coils only.

Q168.What is the series resistance required to extend the 0 - 100 V range of a 20,000 meter to 0-1000V?
A. 10 M
B. 16 M
C. 18 M
D. 20 M
Ans
(C)
Solution:
Initial resistance $= 20{,}000 \times 100 = 2M\Omega$
Final resistance $= 20{,}000 \times 100 = 20M\Omega$
$\therefore$ Series resistance $= 20 - 2 = 18\ M\Omega$

Q169.The voltage coil of a 1-ϕ house service energy meter
A. Is highly resistive
B. is highly inductive
C. Is highly capacitive
D. has a phase angle to load power factor angle
Ans
(B)
Solution:
The voltage coil of 1 – ϕ house service energy meter is highly inductive.

Q170.Piezo-electric crystal is generally employed for the measurement of which one of the following?
A. Flow
B. Velocity
C. Acceleration
D. Temperature
Ans
(C)
Solution:
Piezo-electric type accelerometer.

Q171.In micro wave telemetry repeater stations are required at every.
A. 2 km
B. 5 km
C. 40 km
D. 100 km
Ans
(C)
Solution:
The micro wave telemetry repeater station are required at every 40 km.

Q172.Data acquisition system are usually of
A. Analog type
B. Digital type
C. Integrating type
D. Hybrid type
Ans
(B)
Solution:
Data acquisition system are usually of digital type.

Q173.A successive approximation A/D converter has a resolution of 20 mV. What is its digital output for an analog input of 2.17 V?
A. 01101100
B. 01101101
C. 01101011
D. 01110100
Ans
(D)
Solution:
Full scale voltage comes out to be
$= 20 \times 10^{-3} \times (2^8) = 5V$
So accordingly digital output can be predicted to get 2.17 V

Q174.One cycle of a square wave signal observed on an oscilloscope is found to occupy 6 cm at a scale setting of 30 ms/cm. What is the signal frequency.
A. 1.8 KHz
B. 5.55 KHz
C. 18 KHz
D. 55.5 KHz
Ans
(B)
Solution:
$T = 6 \times 30 \times 10^{-6} = 36\ MS$
$f = \frac{1}{36 \times 10^{-6}} = 5.55\ KHz$

Q175.Which one of the following is the main cause of creeping in the induction type energy meters?
A. Friction compensation
B. Lag-lead compensation
C. Over load compensation
D. Breaking torque producing system
Ans
(A)
Solution:
Over compensation for friction is the main reason of creeping.

Q176.Which one of the following pressure transducers is suitable for measurement of high pressure?
A. Alphatron
B. McLeod Gauge
C. Pirani Gauge
D. None
Ans
(B)
Solution:
Pirani Gauge is used for low pressure and Bourdon for medium range.

Q177.What is the approximate input impedance of a CRO?
A. Zero
B. 1 MΩ
C. 10 Ω
D. 10 MΩ
Ans
(B)
Solution:
CRO has high input impedance

Q178.Which one of the following bridges is used for measurement of dielectric loss and power factor of a capacitor?
A. Maxwell's bridge
B. Anderson bridge
C. De sauty bridge
D. Schering bridge
Ans
(D)

Solution:
Schering bridge is used for measurement of dielectric loss and power factor of a capacitor.

Q179.The resolution of digital to analog converter is governed by which one of the following (where is the number of digital inputs)?
A.
B. 2/n
C. $(2)^n$
D. $\sqrt{2^n}$
Ans
(C)
Solution:
Resolution $= \frac{V_{max}}{2^n - 1}$

Q180.The successive approximation A/D output for a 4-bit converter to a 8.217 V input (if the reference is 5V) will be
A. 1101
B. 0110
C. 1010
D. 1001
Ans
(A)
Solution:
Input is more than (5 + 2.5), so first two MSB will be set]
8.217 volt $= 5 + 2.5 + 0 + \left(\frac{1.25}{2}\right)$
$=$ 1 1 0 1
↑ MSB ↑ LSB

Q181.The rotor input when rotor copper loss in at induction motor is 600 W and slip is 3% is
A. 18kW
B. 200kW
C. 20kW
D. 25kW
Ans
(C)
Solution:
Copper loss,
$P_{cu} = S\,P_g$
$\Rightarrow \quad 600 = 0.03\,P_g$
$\Rightarrow \quad P_g = 20000 = 20\ \text{KW}$

Q182.The slip of an induction motor under full load condition is about
A. 0.1
B. 0.03
C. 0.2
D. 0.8
Ans
(B)
Solution:
0.03

Q183.The motor used in ceiling fan is
A. Resistance split phase motor
B. Capacitor start motor
C. Capacitor start capacitor run motor
D. Slip ring motor
Ans
(B)

Q184.The scale of moving iron (M.I.) instrument is
A. Uniform

B. cramped
C. Linear
D. all the above
Ans
(B)
Solution:
Cramped

Q185.The power factor of industrial loads is generally
A. Unity
B. lagging
C. Leading
D. zero
Ans
(B)

Q186.The value of demand factor is
A. Less than one
B. greater than one
C. Equal to one
D. zero
Ans
(A)
Solution:
$\text{Demand factor} = \frac{Max^{m}\ demand}{Total\ connected\ load}$
As total connected load always greater than maximum demand, demand factor $< = 1$.

Q187.Motor used for elevators is generally
A. Synchronous motor
B. Universal motor
C. Induction motor
D. Reluctance motor
Ans
(C)

Q188.Which of the following is not a welding accessory?
A. Cable
B. Electrode holder
C. Hand screen
D. Gloves
Ans
(D)

Q189.The transformer used for AC welding sets is
A. Booster type
B. step up type
C. Step down type
D. equal turn ratio type
Ans
(C)

Q190.A relay performs the function of
A. Fault isolation
B. Fault detection
C. Fault prevention
D. all of the above
Ans
(B)

Q191.HRC fuse provides best protection against
A. Open circuit
B. overload

C. Reverse current
D. short circuit
Ans
(D)

Q192.The most common type of three phase in unsymmetrical fault is
A. Single line to ground
B. Line to line
C. Double line to ground
D. Three phase
Ans
(A)

Q193.If supply frequency increases, the skin effect is
A. Decreased
B. increased
C. Remains same
D. none of these
Ans
(B)

Q194.A PN junction is
A. An rectifier
B. An amplifier
C. An insulator
D. An oscillator
Ans
(A)

Q195.Megger is an instrument to measure
A. a very low resistance
B. insulation resistance
C. Q of coil
D. inductance of coil
Ans
(B)

Q196.Arc lamp operates at
A. low lagging power factor
B. high leading power factor
C. unity power factor
D. zero power factor
Ans
(A)

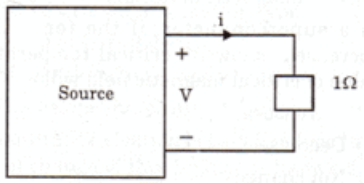
Q197.Mho relay is used to protect
A. Long transmission line
B. Medium length line
C. Short length line
D. All the above
Ans
(A)

Q198.For arc heating, the electrodes are made of
A. Copper
B. aluminum
C. Graphite
D. ACSR conductor
Ans
(C)
Solution:

The material of electrodes have been chosen for their electrical conductivity, insolubility, infusibility, chemical inertness, mechanical strength and resistance to thermal shock. Though carbon and graphite are same in above properties, they differ very much with respect to the physical and electrical properties. The specific resistance of graphite electrodes is lower than that of carbon and therefore, for same resistance the size of the graphite electrode will be almost half that of carbon. Hence graphite are used make electrode in arch furnace.

Q199.There are no transient in pure resistance circuit because they
A. Offer high resistance
B. Obey Ohm's law
C. Have no stored energy
D. Are linear circuits
Ans
(C)

Q200.As shown in the figure, 1 resistance is connected across a source that has a load line
The current through the resistance is



A. 25 A
B. 50 A
C. 100 A
D. 200 A
Ans
(B)
Solution:
From the figure, $i = \frac{V}{1\Omega}$
$i = \frac{(100-i)}{1\Omega}$
$(\because V + i = 100)$
$\therefore \quad 2i = 100$
$\therefore \quad i = 50A$