## ELECTRICAL

1.

Magnetic flux has the unit of

(A)

Newton

(B)

Ampere-turn

(C)

Weber

(D)
Tesla

**Ans:: Weber**

2.

If 1 A current flows in a circuit, the number of electrons flowing through this circuit is

(A)
0.625 × 10^19

(B)
1.6 × 10^19

(C)
1.6 × 10^-19

(D)
0.625 × 10^-19

**Ans:: 0.625 × 10^19**

3.

A Schering bridge can be used for the _____

(A)
protecting the circuit from temperature rises

(B)
testing capacitors

(C)
measuring voltages

(D)
measuring currents

**Ans:: testing capacitors**

4.

A multiplier is _____

(A)
non-capacitive

(B)
capacitive

(C)
non-inductive

(D)
resistive

**Ans:: non-capacitive**

5.

Increasing secondary burden _____

(A)
decreases Is

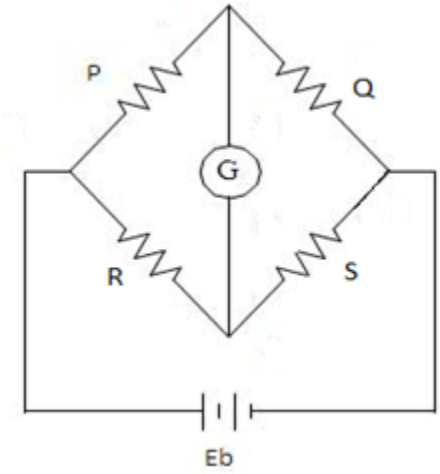
(B)
keeps Is constant

(C)
decreases Ip

(D)
increases Is

**Ans:: increases Is**

6.
The relation between the resistances in the given Wheatstone bridge circuit is




(A)
P/S = R/Q

(B)
PR = QS

(C)
P/Q = R/S

(D)
PQ = RS

**Ans:: P/Q = R/S**

7.

Which of the following is secondary cell?

(A)
Dry cell

(B)
Leclanche cell

(C)
Voltaic cell

(D)
Lead acid cell

**Ans:: Lead acid cell**

8.

How many cycles will an AC signal make in 2 seconds if its frequency is 100 Hz?

(A)
50

(B)
100

(C)
150

(D)
200

**Ans:: 200**

9.

In DC generators, current is fed up to the external circuit from armature through _____

(A)
Commutator

(B)
Direct wire

(C)
Slip rings

(D)
Cannot be determined

**Ans:: Commutator**

10.

For a constant emf, if field current is reduced then the speed of the DC motor will_____

(A)
Remains same

(B)
Increases

(C)
Decreases

(D)

Can’t say

**Ans:: Increases**

11.
For the parallel operation of two single phase transformers it is necessary that they should have

(A)
same efficiency

(B)
same polarity

(C)
same kVA rating

(D)
same number of turns on the secondary side

**Ans:: same polarity**

12.

During open circuit test (OC) of a transformer _____

(A)
primary is supplied rated kVA

(B)
primary is supplied full-load current

(C)
primary is supplied current at reduced voltage

(D)
primary is supplied rated voltage

**Ans:: primary is supplied rated voltage**

13.

In Sumpner's test _____

(A)
Two secondaries are connected in phase opposition

(B)
Two secondaries are connected in phase addition

(C)
Can be connected in either way

(D)
Never connected with each other

**Ans:: Two secondaries are connected in phase opposition**

14.

Buchholz's relay will give warning and protection against _____

(A)
Electrical fault inside the transformer itself

(B)
Electrical fault outside the transformer in outgoing feeder

(C)
For both outside and inside faults

(D)
Cannot be determined

**Ans:: Electrical fault inside the transformer itself**

15.

What should be ideal volatility and ideal viscosity of the transformer oil?

(A)
Low, low

(B)
High, high

(C)
Low, high

(D)
High, low

**Ans:: Low, low**

16.

Insertion of external resistance in the squirrel cage induction motor _____

(A)
increases torque

(B)
decreases torque

(C)
increases torque for some seconds and then decreases

(D)
does not affect

**Ans:: increases torque**

17.
Which of these resources does not produce CO2 during electricity generation?

(A)

Coal

(B)
Methane

(C)
Uranium

(D)

Biogas

**Ans:: Uranium**

18.

What is the source of tidal energy?

(A)
Movement of seawater

(B)
Movement of tide

(C)
Sunlight

(D)
Wind

**Ans:: Movement of tide**

19.

What is the amount of water and acid present in the electrolyte after the full discharge of the battery?

(A)

90% of water and 10% of acid

(B)
85% of water and 15% of acid

(C)
70% of water and 30% of acid

(D)
75% of water and 25% of acid

**Ans:: 85% of water and 15% of acid**

20.

Which of the following device is used in the specific gravity test?

(A)
Cadmium rod

(B)
Voltmeter

(C)
Cell voltage tester

(D)
Hydrometer

**Ans:: Hydrometer**

21.
The load factor is _____

(A)
always less than unity

(B)
less than or greater than 1

(C)
always greater than 1

(D)
less than zero

**Ans:: always less than unity**

22.
The volume of copper required for an ac transmission line is inversely proportional to-

(A)
Current

(B)
Voltage

(C)
Power factor

(D)
resistance

**Ans:: Current**

23.
Improving power factor-

(A)
Reduces current for a given output

(B)
Increases losses in line

(C)

Increases the cost of station equipment

(D)
Increasing voltage from the output

**Ans:: Reduces current for a given output**

24.
The rated voltage of a 3 phase power system is given as-

(A)
rms phase voltage

(B)
peak phase voltage

(C)
peak line to line voltage

(D)
rms line to line voltage

**Ans:: rms line to line voltage**

25.

Which of the following is used as fuel for transportation

(A)

ethanol

(B)
aldehyde

(C)
ketone

(D)
Phenol

**Ans:: ethanol**

26.
Biodiesel is produced from oils or fats using

(A)
fermentation

(B)
transesterification

(C)
distillation

(D)
filteration

**Ans:: transesterification**

27.
Photovoltaic cell converts solar energy into

(A)
heat energy

(B)
electric energy

(C)
mechanical energy

(D)
chemical energy

**Ans:: electric energy**

28.
What happens to the resistance of semiconductors on heating?

(A)
Increases

(B)
Decreases

(C)
Remains the same

(D)
First increases later decrease

**Ans:: Decreases**

29.
A transistor may be used as a switching device or as a …….

(A)
fixed resistor

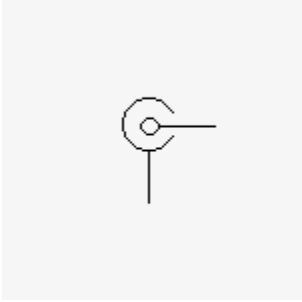
(B)
tuning device

(C)
rectifier

(D)
variable resistor

**Ans:: variable resistor**

30.
The image to the right is of a



(A)
Coaxial connector

(B)
Ground/Earth

(C)
Chassis connection

(D)
Terminal

**Ans:: Coaxial connector**

31.
The symbol represent gate is


(A)
AND

(B)
OR

(C)
NOT

(D)
NAND

**Ans:: AND**

32.
The image to the right is of a

(A)
Fixed capacitor

(B)
Electrolytic capacitor

(C)
Preset capacitor

(D)
Variable capacitor

**Ans:: Variable capacitor**

33.
How is the resistance of semiconductor classified?

(A)
High resistance

(B)
Positive temperature co-efficient

(C)
Negative temperature co-efficient

(D)
Low resistance

**Ans:: Negative temperature co-efficient**

34.

The concentration of doping is kept below _____

(A)
1 %

(B)
5 %

(C)
10 %

(D)
50 %

**Ans:: 1 %**

35.
Which of the following materials cannot be used as solar cells materials?

(A)
Si

(B)
GaAs

(C)
CdS

(D)
PbS

**Ans:: PbS**

36.
A solar cell is a _____

(A)
P-type semiconductor

(B)
N-type semiconductor

(C)
Intrinsic semiconductor

(D)
P-N Junction

**Ans:: P-N Junction**

37.
Zener Diode is mostly used as _____

(A)
Half-wave rectifier

(B)
Full-wave rectifier

(C)
Voltage Regulator

(D)
LED

**Ans:: Voltage Regulator**

38.
Which of the following materials can be used to produce infrared LED?

(A)
Si

(B)
GaAs

(C)
CdS

(D)
PbS

**Ans:: GaAs**

39.
The minimum value of anode current below which it must fall to completely turn-off the device is called as the

(A)

holding current value

(B)
latching current value

(C)
switching current value

(D)
peak anode current value

**Ans:: holding current value**

40.
The most common semiconductor used for manufacturing of FET is

(A)
Gallium Arsenide

(B)
Indium Arsenide

(C)
Indium Gallium Arsenide

(D)
Silicon

**Ans:: Silicon**

## GENERAL AWARENESS

41.

Where did Lord Buddha breathe his last?

(A)
Rajgir

(B)
Bodh Gaya

(C)
Sarnath

(D)
Kushinagar

**Ans:: Kushinagar**

42.
During which prime minister was the strategy of “Rolling Plan” was adopted?

(A)
Jawahar Lal Nehru

(B)
Indira Gandhi

(C)
Morarji Desai

(D)
Lal Bahadur Shastri

**Ans:: Morarji Desai**

43.
Famous “Kalinga War” took place in which year?

(A)
258 BC

(B)
262 BC

(C)
232 BC

(D)
261 BC

**Ans:: 261 BC**

44.
Who was the author of book “Ghulam Giri”?

(A)
Jay Prakash Narayan

(B)
Jyotirao Phule

(C)
Dinbandhu Mitra

(D)
Bhim Rao Ambedkar

**Ans:: Jyotirao Phule**

45.
The letter of resignation of the President should be addressed to the following person?

(A)

Speaker of Lok Sabha

(B)
Prime Minister

(C)
Chief Justice of India

(D)
Vice President

**Ans:: Vice President**

46.
Prime Minister Narendra Modi has inaugurated country's first "National Museum of Indian Cinema" at which place?

(A)
Chennai

(B)
Mumbai

(C)
Hyderabad

(D)
Pune

**Ans:: Mumbai**

47.
Which organ of the body produces the fluid known as bile?

(A)
Liver

(B)
Pancreas

(C)
Gall bladder

(D)
Kidney

**Ans:: Liver**

48.
Which enzyme catalyses the hydrolysis of starch into sugars?

(A)
Invertase

(B)
Amylase

(C)
Dehydrogenase

(D)
Anhydrase

**Ans:: Amylase**

49.
In fog, we are not able to see objects at a distance, although fog contains fine drops of water suspended in air and water is transparent. Why this happens?

(A)
The light rays suffer total internal reflection

(B)
Most of the light is absorbed by the fog

(C)
Most of the light is scattered

(D)
Fog affects our vision adversely

**Ans:: Most of the light is scattered**

50.
Which battle laid the foundation of Mughal rule in India?

(A)
Battle of Plassey

(B)
Battle of Talikota

(C)
First Battle of Panipat

(D)
Battle of Haldighati

**Ans:: First Battle of Panipat**

## GENERAL INTELLIGENCE AND REASONING

51.
Rahul moves 5 km towards south and then takes a left turn to move 5 km more. Again, he takes a left turn and moves 10 km and finally, he moves 5 km towards west. In which direction is he now from his initial position?

(A)
West

(B)
East

(C)
South

(D)
North

**Ans:: North**

52.
If ‘+’ denotes ‘ –‘ and ‘ – ‘ denotes ‘×’ and ‘×’ denotes ‘÷’ and ‘÷’ denotes ‘+’ then what will be the numeric value of 60 × 10 ÷ 40 + 6 – 5

(A)
200

(B)
16

(C)
144

(D)
3

**Ans:: 200**

53.
WAS, YCU, AEW, ?

(A)
CGY

(B)
HLD

(C)
FJB

(D)
GKC

**Ans:: CGY**

54.
Some equations have been solved on the basis of a particular system. On the same basis, find the correct answer.
5 x 8 x 6 = 6854 ,
2 x 3 x 9 = 9321 ,
8 x 5 x 6 = ?

(A)
6587

(B)
2400

(C)
5421

(D)
6956

**Ans:: 6587**

55.
Lethargic : Vital :: Trite : ?

(A)
Unique

(B)
Slug

(C)
Lazy

(D)
Skinny

**Ans:: Lazy**

56.
Ornithologist: Bird:: Archaeologist:?

(A)
Islands

(B)
Mediators

(C)
Archaeology

(D)
Aquatic

**Ans:: Archaeology**

57.
Mahesh facing north and moves 20 km , then he turned to his right and moves 20 km and then he moves 10 km in north – east then he turned to his right and moves 20 km and again he turned to his left and moves 20 km . in Which direction mahesh is facing ?

(A)
South-East

(B)
North-East

(C)
South-West

(D)
North-West

**Ans:B**

58.
2, 3, 5,7,11,?, 17

(A)

12

(B)
13

(C)
14

(D)
15

**Ans:: 13**

59.
A man pointing to a photograph says, “The lady in the photograph is my nephew’s maternal grandmother.” How is the lady in the photograph related to the man’s sister who has no other sister?

(A)
Mother

(B)
Cousin

(C)
Mother–in–law

(D)
Sister–in–law

**Ans:: Mother**

60.
Among seven friends A, B, C, D, E, F and G, B is taller than only four other friends. C is taller than D,A is taller than F. E is taller than one person only that is G, who is the shortest in height among all friends. B is taller than A Who is the tallest among all the friends?

(A)
C

(B)
E

(C)
A

(D)
B

**Ans:: C**

## MECHANICAL

61.
Specific speed of reaction turbine is between?

a)
5 and 50

b)
10 and 100

c)
100 and 150

d)
150 and 300

**Ans:: 10 and 100**

62.
What is the shell diameter of a Cochran boiler?

a)
2.00 m

b)
1.50 m

c)
1.00 m

d)
2.75 m

**Ans:: 2.75 m**

63.
Which of the following is NOT a forced circulation boiler?

a)
Velox boiler

b)
Lancashire boiler

c)
Lamont boiler

d)
Benson boiler

**Ans:: Lancashire boiler**

64.
Which of the following is the lightest and most volatile liquid fuel?

a)
diesel

b)
petrol

c)
gasoline

d)
fuel oil

**Ans:: gasoline**

65.
DNC stands for_____

a)
digital numerical control

b)
direct numerical control

c)
double numerical control

d)
digital number control

**Ans:: direct numerical control**

66.
The cutting edges are spaced _____ on the circumference of the cutter.

a)
equally
b)
unequally
c)
can’t say anything
d)
moderate

**Ans:: equally**

67.
What is a shaping process?

a)

A type of casting process
b)
A type of grinding process
c)
A metal removal process in which reciprocating workpiece is fed against a stationary tool

d)
A process in which metal is removed by a reciprocating tool fed against a stationary workpiece

**Ans:: A process in which metal is removed by a reciprocating tool fed against a stationary workpiece**

68.
_____ formula is used for determining short as well as long columns.

a)
Gilbert's
b)
Rankine's
c)
Johnson's
d)
Euler's

**Ans:: Rankine's**

69.
Which of the following methods of disinfection is usually adopted in swimming pools?

a)

Excess lime treatment
b)
Iodine – Bromine method
c)
Pottasium permanganate method
d)

Ultraviolet rays method

**Ans:: Ultraviolet rays method**

70.
How many elastic constants of a linear, elastic, isotropic material will be?

a)
2
b)
3
c)
1
d)
4

**Ans::2**

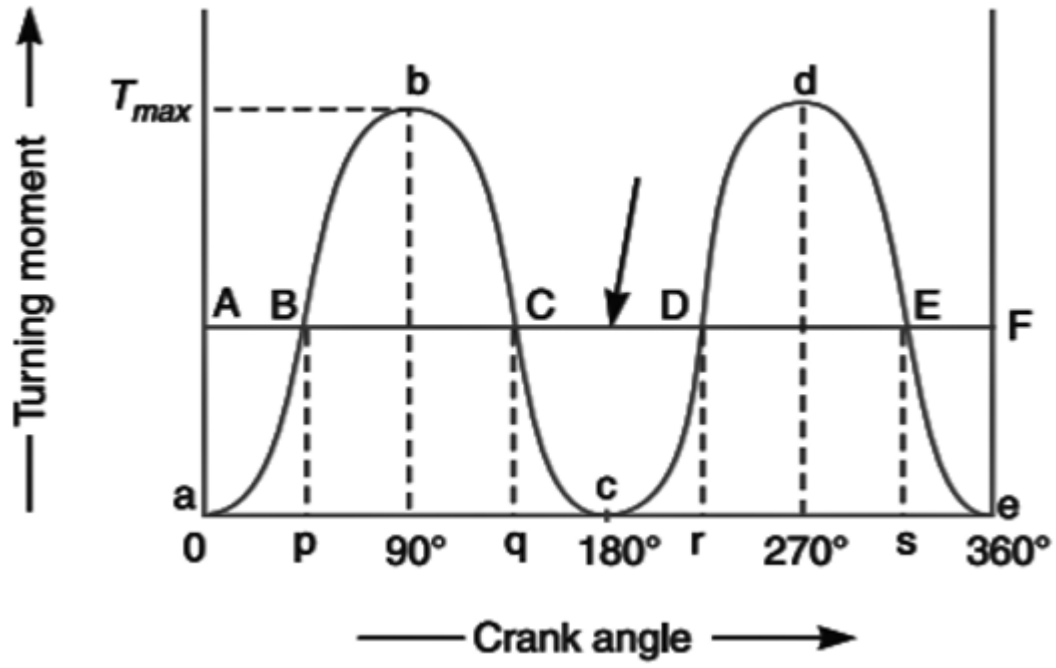
71.
In a multi plate clutch, the formula for T is given by _____

a)
$n.\mu.W.r_1$
b)
$n.\mu.W.(r_1+r_2)$
c)
n.μ.W.R
d)
$n.\mu.W.r_2$

**Ans:: n.μ.W.R**

72.

In the figure given below, the areas BbC, CcD represent _____




a)
Power generated
b)
Power lost
c)
Fluctuation of energy
d)
Change in momentum

**Ans:: Fluctuation of energy**

73.
Determine the couple moment acting on the triangular plane shown.

a)
1600Nm
b)
100Nm
c)
2600Nm
d)
600Nm

**Ans:: 2600Nm**

74.
What is the physical principle behind momentum equation?

a)
Newton’s second law of motion
b)
Newton’s first law of motion
c)
Zeroth law of thermodynamics
d)
First law of thermodynamics

**Ans**:: **Newton’s second law of motion**

75.
Load per axle for a vehicle can be reduced by which of the following methods.

a)
By increasing distance between the axles
b)
By increasing the number of tyres
c)
By increasing the number of axles
d)
By decreasing the length of an axle

**Ans:: By increasing the number of axles**

76.
What does the curl of velocity field give us?

a)
Moment of Inertial
b)
Angular velocity
c)
Angular acceleration
d)
Moment

**Ans**:: **Angular velocity**

77.
In an electronic fuel injection, the servicing is very _____

a)
difficult
b)
easy
c)
nil
d)
medium

**Ans:: difficult**

78.
The knock limit is dependent upon _____

a)
Machine fuel tank
b)
machine shaft
c)
spark ratio
d)
design feature of the engine.

**Ans:: design feature of the engine.**

79.
How can we calculate the calorific value of a fuel at constant pressure?

a)
$Q_{C.V.} = Q_{C.P.} – (\Delta n)\times R\times T$
b)
$Q_{C.V.} = Q_{C.P.} + (\Delta n)\times R\times T$
c)
$Q_{C.P.} = Q_{C.V.} – (\Delta n)\times R\times T$
d)
$Q_{C.V.} = Q_{C.P.} – (\Delta n)\times R\times T\times S$

**Ans:: $Q_{C.P.} = Q_{C.V.} – (\Delta n)\times R\times T$**

80.
How can we obtain liquid coal synthetically?

a)
Carbonisation of coal
b)
Hydrogenation of coal
c)
By heating of coal
d)
By cooling of coal

**Ans:: Hydrogenation of coal**

81.
Which is the gasifier that can be operated in small scale/amounts?

a)
Counter current gasifier
b)
Cross draught gasifier
c)
Co-current gasifier
d)

Fluidized bed gasifier

**Ans:: Cross draught gasifier**

82.
A petrol engine has compression ratio from _____

a)
6 to 10
b)
10 to 15
c)
15 to 25
d)
25 to 40

**Ans:: 6 to 10**

83.
The stearate ion has a _____ carbons long hydrocarbon chain.

a)
17
b)
19
c)
21
d)
23

**Ans:: 17**

84.
Water is used to extinguish

(A)
Class-A fires
(B)
Class-B fires
(C)

Class-C fires
(D)
Class-F fires

**Ans:: Class-A fires**

85.
The available capacity can be increased by _____

A.
Limiting subcontracting
B.
Using fewer workers
C.
Rerouting away from other work centers
D.
Scheduling overtime

**Ans:: Scheduling overtime**

86.
Which one of the following techniques is used for determining allowances in time study?

A.
Acceptance sampling
B.
Linear regression
C.
Performance rating
D.
Work sampling

**Ans:: Work sampling**

87.
At what temperature does pure iron turn into FCC structure?

a)

800 °C
b)
900 °C
c)
910 °C
d)
810 °C

**Ans:: 910 °C**

88.
Transformation of hypoeutectic cast iron is applicable for the composition of cast iron of _____ carbon.

a)
2.0-4.3%
b)
4.3%
c)
4.3-5.0%
d)
Over 5%

**Ans:: 2.0-4.3%**

89.
What indenter is used for Brinell test?

a)
Hardened steel ball
b)
Diamond ball
c)
Diamond prism
d)
Steel prism

**Ans:: Diamond ball**

90.
Which of the following filler metals is used in the electrical industry?

a)
BAG-1
b)
BAG-3
c)
BAG-5
d)
BAG-6

**Ans:: BAG-5**

91.
Which of the following inert gas is used with DC power supply only?

a)
Argon
b)
Helium
c)
$CO_2$
d)
Nitrogen

**Ans:: $CO_2$**

92.
Which of the following is not a factor for explosive welding?

a)
High relative velocity
b)
Less amount of plastics
c)
Proper orientation
d)
High pressure

**Ans:: Less amount of plastics**

93.
The percentage of thorium present in thoriated tungsten electrode used in TIG welding is

(A)
0.5 to 1%
(B)
1 to 2.0%
(C)
2.5 to 3%
(D)
3 to 3.5%

**Ans:: 1 to 2.0%**

94.
Which of the following metal transfer method(s) is often limited to flat and horizontal welding positions

(A)
Globular
(B)
Short-circuiting
(C)
Spray
(D)
Cold metal transfer

**Ans:: Spray**

95.
The motion of a shaft in a circular hole is an example of

a)
completely constrained motion
b)

incompletely constrained motion
c)
successfully constrained motion
d)
half completely constrained motion

**Ans:: incompletely constrained motion**

96.
Which of the following is the common application of Air standard refrigeration system?

a)
Cold storage
b)
Car air conditioning system
c)
Domestic refrigerators
d)
Aircraft air conditioning

**Ans:: Aircraft air conditioning**

97.
Which of the following is carried out to obtain saturation state at the thermodynamic WBT?

a)
Condensation
b)
Evaporation
c)
Compression
d)
Expansion

**Ans:: Evaporation**

98.
What is the value of addendum?

a)
1 module
b)
2 modules
c)
3 modules
d)
4 modules

**Ans:: 4 modules**

99.
Usually how many types of errors are present in scientific measurements?

a)
2
b)
3
c)
4
d)
5

**Ans:: 3**

100.
Which of the following represents India in ISO?

a)
PFRDA
b)
FSSAI
c)
BIS
d)
BCCI

**Ans:: BIS**