Railway Recruitment Cell

Post Name : 06-Mechanical and allied Engineering **Exam Code** : MASSFM

Exam Date : 10-06-2024 **Exam Time** : 9:30AM

Question No. 1

Which of the following welding comes under the type of non-fusion welding?

A) Oxy-acetylene welding

B) Resistance welding

C) MIG welding

D) Thermit welding

Answer Key: B

Question No. 2

The ratio of dynamic viscosity to mass density is known as-

A) Specific viscosity

B) Viscosity index

C) Kinematic viscosity

D) Coefficient of viscosity

Answer Key: C

Question No. 3

What is the value of normal stress in an oblique plane, when θ = 90°? (Here, θ is the angle that the cutting plane forms with the normal plane)

A) $\sigma = 10\ N/m^2$

B) $\sigma = 90\ N/m^2$

C) $\sigma = 0\ N/m^2$

D) $\sigma = \infty\ N/m^2$

Answer Key: C

Question No. 4

Which of the following devices is used to generate and supply steam at high pressure and temperature?

A) Steam turbine

B) Steam boiler

C) Steam engine

D) Steam pump

Answer Key: B

Question No. 5

Which of the following indicate Freon-21?

A) Difluoro dibromo-methane

B) Dichloro difluoro-methane

C) Dichloro fluoro-methane

D) Chloro trifluoro-methane

Answer Key: C

Question No. 6

The angle between the face and the flank of the single point cutting tool is known as-

A) Rake angle

B) Clearance angle

C) Lip angle

D) Face angle

Answer Key: C

Question No. 7

Dye penetrant method is generally used to locate-

A) Core defects
B) Surface defects
C) Central defects
D) Inner defects

Answer Key: B

Question No. 8

The co-efficient of friction (μ) in terms of angle of friction (ϕ) is given by-

A) $\phi = \tan \mu$
B) $\mu = \sin \phi$
C) $\mu = \tan \phi$
D) $\phi = \sin \mu$

Answer Key: C

Question No. 9

A negative difference between diameter of the hole and the shaft is called-

A) Clearance
B) Basic size
C) Interference
D) Allowance

Answer Key: C

Question No. 10

What is/are the objectives of motion study?

A) To improve the procedure for doing a work
B) To minimize fatigue of operators by minimizing the human motion
C) To improve the workplace layout
D) All of the options

Answer Key: D

Question No. 11

The coating factor for a heavy coated electrode is between-

A) 1.24 and 1.30
B) 1.44 and 1.50
C) 1.7 and 2.2
D) 2.8 and 3.3

Answer Key: C

Question No. 12

Backhand technique in the oxy-acetylene welding process is also known as-

A) Rightward technique
B) Leftward technique
C) Forward technique
D) Middle-hand technique

Answer Key: A

Question No. 13

The strain energy stored in a body, when the load is gradually applied, is-
(where σ = Stress in the material of the body, V = Volume of the body, and E = Modulus of elasticity of the material)

A) $\sigma E/V$

B) $\sigma^2 E/2V$

C) $\sigma^2 V/2E$

D) $\sigma V/E$

Answer Key: C

Question No. 14

When a shaft is subjected to a twisting moment, every cross-section of the shaft will be under-

A) Tensile stress

B) Compressive stress

C) Shear stress

D) Bending stress

Answer Key: C

Question No. 15

Cementite is a combination of-

A) 6.67% carbon and 93.33% iron

B) 13% iron and 87% carbon

C) 50% carbon and 50% iron

D) 21.26% carbon and 78.74% iron

Answer Key: A

Question No. 16

In queuing theory, the ratio of the mean arrival rate and the mean service rate is called the-

A) Work factor

B) Utilization factor

C) Slack constant

D) Productivity rate

Answer Key: B

Question No. 17

A beam with one end fixed and the other end free is called a-

A) Fixed beam

B) Simply supported beam

C) Cantilever beam

D) Continuous beam

Answer Key: C

Question No. 18

The G-ratio varies from _____ in very rough grinding.

A) 1.0 to 5.0

B) 6.0 to 10.0

C) 11.0 to 15.0

D) 16.0 to 20.0

Answer Key: A

Question No. 19

The amount of time by which an activity can be delayed without affecting project completion time is-

A) Total float

B) Free float

C) Independent float

D) Activity float

Answer Key: A

Question No. 20

An activity of the project is graphically represented by _____ on the ADM network diagram.

A) Circle
B) Straight line
C) Arrow
D) Rectangle

Answer Key: C

Question No. 21

Slack represents the difference between the-

A) Latest allowable time and the normal expected time
B) Latest allowable time and the earliest expected time
C) Proposed allowable time and the earliest expected time
D) Normal allowable time and the latest expected time

Answer Key: B

Question No. 22

Which of the following types of distribution represents the time estimates in PERT?

A) Beta distribution
B) Normal distribution
C) Weibull distribution
D) Poisson distribution

Answer Key: A

Question No. 23

The sum of the clearance angle, rake angle and cutting wedge angle is always equal to-

A) 360°
B) 45°
C) 180°
D) 90°

Answer Key: D

Question No. 24

The term 'grating' in metrology means that-

A) Rulings are spaced relatively far apart, requiring some type of interpolating device to make accurate settings
B) Rulings need not have any pattern
C) Rulings follow a logarithmic scale
D) Rulings are more closely spaced, producing a periodic pattern without blank gaps

Answer Key: D

Question No. 25

The size of a shaper is given by-

A) Stroke length
B) Motor power
C) Mass of machine
D) Rate size

Answer Key: A

Question No. 26

The preferred instrument for measuring depth of holes, slots and recesses is-

A) Screw gauge
B) Feeler gauge
C) Fillet gauge
D) Vernier depth gauge

Answer Key: D

Question No. 27

Which of the following statements is TRUE?

A) An angle dekkor is a small variation of a clinometer

B) An angle dekkor is a small variation of an autocollimator

C) An angle dekkor is a small variation of a sine bar

D) An angle dekkor is a small variation of a bevel protractor

Answer Key: B

Question No. 28

A positive displacement pump has an overall efficiency of 88% and a volumetric efficiency of 92%. What is the mechanical efficiency?

A) 40%

B) 95.65%

C) 4.34%

D) 88%

Answer Key: B

Question No. 29

Carbon content is the lowest in-

A) Cast iron

B) Eutectoid steel

C) Hypoeutectoid steel

D) Hypereutectoid steel

Answer Key: C

Question No. 30

_____ is formed when martensite is warmed to about 400 °C.

A) Troosite

B) Cementite

C) Pearlite

D) Austenite

Answer Key: A

Question No. 31

Which of the following thermodynamical quantities is/are path functions?

A) Temperature only

B) Work only

C) Heat only

D) Both heat and work

Answer Key: D

Question No. 32

Telescopic gauges are T-shaped adjustable gauges used to measure-

A) Holes only

B) Slots only

C) Flatness only

D) Both holes and slots

Answer Key: D

Question No. 33

A grinding wheel marked M D 120 N 100 B 77 1/8 is made of-

A) Diamond

B) Cubic Boron Nitride

C) Silicon carbide

D) Aluminium oxide

Answer Key: A

Question No. 34

The force for which work done is independent of _____ is called the conservative force.

A) Distance

B) Path

C) Time

D) All of the options

Answer Key: B

Question No. 35

When acceleration is _____, the velocity of a particle is constant.

A) Negative

B) Maximum

C) Zero

D) Minimum

Answer Key: C

Question No. 36

The condition in which the instrument does NOT read zero when the quantity to be measured is zero is-

A) Offset error

B) Multiplier error

C) Scale factor error

D) Random error

Answer Key: A

Question No. 37

The shaft designated as 40 H8/f7 means that the tolerance grade for the shaft is-

A) IT 4

B) IT 7

C) IT 8

D) IT 0

Answer Key: B

Question No. 38

Coolant used while turning cast iron is-

A) Lard oil

B) Soluble oil

C) Kersoene

D) None of the options

Answer Key: D

Question No. 39

Materials that produce continuous chips are-

A) Cast iron

B) Low carbon steel

C) Hard brass

D) None of the options

Answer Key: B

Question No. 40

Carnot cycle consists of-

A) Two constant volume and two reversible adiabatic process

B) Two reversible isothermal and two reversible adiabatic process

C) Two constant pressure and two reversible adiabatic process

D) One constant volume, one constant pressure and two reversible adiabatic process

Answer Key: B

Question No. 41

The gas constant (R) is equal to the-

A) Ratio of specific heat at constant pressure to the specific heat at constant volume

B) Product of specific heat at constant pressure and specific heat at constant volume

C) Sum of specific heat at constant pressure and specific heat at constant volume

D) Difference between specific heat at constant pressure and specific heat at constant volume

Answer Key: D

Question No. 42

Drilling is used to produce which type of geometry?

A) Slots

B) Holes

C) Profiles

D) Keyways

Answer Key: B

Question No. 43

The process of chamfering the entrance of a drilled hole is known as-

A) Counter-boring

B) Counter-sinking

C) Counter-fillet

D) Trepanning

Answer Key: B

Question No. 44

Chip breakers are used to-

A) Minimize the usage of coolant

B) Remove chips from bed

C) Break the chips into short segments

D) Minimize heat generation

Answer Key: C

Question No. 45

The range of Moh's scale of hardness is from-

A) 1–5

B) 5–10

C) 1–10

D) 11–15

Answer Key: C

Question No. 46

According to grinding, soft grade of grinding wheel refers to-

A) V to Z

B) A to H

C) I to P

D) Q to U

Answer Key: B

Question No. 47

The point at which the sales revenue is equal to total cost is known as-

A) PERT

B) BEP

C) CPM

D) EOQ

Answer Key: B

Question No. 48

Which of the following is NOT a direct cost?

A) Raw material consumed during production

B) Wages to laborers

C) Rent, tax, and duties

D) Hire charges for tools and equipment

Answer Key: C

Question No. 49

Non-consumable tungsten electrodes are used in-

A) TIG welding

B) MIG welding

C) Submerged arc welding

D) Plasma arc welding

Answer Key: A

Question No. 50

Which of the following is a disadvantage of the Pitot tube?

A) It is very difficult to install and remove

B) It has no moving parts which helps in minimizing frictional losses

C) It is very expensive

D) It has low sensitivity

Answer Key: D

Question No. 51

A cantilever of a certain length carries a point load at the free end. What will be the bending moment diagram?

A) Parabola with the maximum ordinate at the centre of the beam

B) Parabola with the maximum ordinate at the cantilever end of the beam

C) Triangle with the maximum ordinate at the free end

D) Triangle with the maximum ordinate at the cantilever end of the beam

Answer Key: D

Question No. 52

One horse power is approximately equal to -

A) 1.333 kW

B) 1.000 kW

C) 0.8000 kW

D) 0.7457 kW

Answer Key: D

Question No. 53

At a certain time, a particle had a speed of 18 m/s in the positive direction. About 2.4 s later, its speed was 30 m/s in the opposite direction. What is the average acceleration of the particle during this 2.4 s interval?

A) 10 m/s^2

B) 20 m/s^2

C) -10 m/s^2

D) -20 m/s^2

Answer Key: D

Question No. 54

The property by virtue of which a liquid opposes relative motion between its different layers is called-

A) Surface tension

B) Coefficient of viscosity

C) Viscosity

D) Osmosis

Answer Key: C

Question No. 55

_____ is defined as the square root of the ratio of the inertia force of a flowing fluid to the elastic force.

A) Euler's number

B) Weber number

C) Mach number

D) Froude number

Answer Key: C

Question No. 56

The coefficient of velocity is defined as the ratio of the-

A) Actual velocity of the jet at the vena contracta to the theoretical velocity

B) Area of the jet at the vena contracta to the area of the orifice

C) Ideal discharge through an orifice to the actual discharge

D) None of the options

Answer Key: A

Question No. 57

A flow is called sub-sonic, if the Mach number is-

A) Less than unity

B) Equal to 2

C) Between 1 and 6

D) More than 6

Answer Key: A

Question No. 58

The liquid used in manometers should have-

A) Low density

B) High density

C) High vapour pressure

D) None of the options

Answer Key: B

Question No. 59

P.M.T.S. (Predetermined Motion Time Systems) includes which of the following methods?

A) M.T.M. (Method Time Measurement)
B) W.F.S. (Work Factor Systems)
C) B.M.T.S. (Basic Motion Time Study)
D) All of the options

Answer Key: D

Question No. 60

The type of layout used for manufacturing aircraft is-

A) Product layout
B) Process layout
C) Fixed-position layout
D) None of the options

Answer Key: C

Question No. 61

The difference between the lower and higher values that an instrument is able to measure is called-

A) Accuracy
B) Sensitivity
C) Range
D) Error

Answer Key: C

Question No. 62

In which type of welding is flux prepared in the form of a coarse powder and the granulated flux is spread over the joint?

A) Electric arc welding
B) Submerged arc welding
C) MIG welding
D) TIG welding

Answer Key: B

Question No. 63

A fine grained grinding wheel is used to grind-

A) Hard and brittle materials
B) Soft and ductile materials
C) Hard and ductile materials
D) Soft and brittle materials

Answer Key: A

Question No. 64

In lapping operation, the amount of metal removed is-

A) 0.005 to 0.01 mm
B) 0.1 to 0.2 mm
C) 0.5 to 1.0 mm
D) 1 to 2 mm

Answer Key: A

Question No. 65

Buffing wheels are made of-

A) Softer metals
B) Cotton
C) Carbon
D) Graphite

Answer Key: B

Question No. 66

The amount of heat generated per kg of fuel is known as the-

A) Calorific value
B) Heat energy
C) Sensible heat
D) Latent heat

Answer Key: A

Question No. 67

In the ASA system, if the tool nomenclature is 8-6-5-5-10-15-2 mm, then the side rake angle will be-

A) 5°
B) 6°
C) 8°
D) 10°

Answer Key: B

Question No. 68

A device, which holds and locates a workpiece during an inspection or for manufacturing operations, is known as the-

A) Jig
B) Fixture
C) Templates
D) None of the options

Answer Key: B

Question No. 69

The composition of gunmetal is generally-

A) 80% Cu + 15% Cr + 5% Sn
B) 86% Cu + 9% Ni + 5% Sn
C) 88% Cu + 2% Zn + 10% Sn
D) 70% Cu + 10% Mg + 20% Sn

Answer Key: C

Question No. 70

Which of the following metals has the lowest melting point?

A) Antimony
B) Tin
C) Silver
D) Zinc

Answer Key: B

Question No. 71

As the percentage of carbon increases in steel, which of the following decreases?

A) Strength
B) Hardness
C) Ductility
D) None of the options

Answer Key: C

Question No. 72

The property of a material, which enables it to regain its original shape after deformation, when external forces are removed, is known as-

A) Elasticity

B) Plasticity

C) Ductility

D) Toughness

Answer Key: A

Question No. 73

The property of a material, which enables it to resist fracture due to high impact loads, is known as-

A) Elasticity

B) Plasticity

C) Ductility

D) Toughness

Answer Key: D

Question No. 74

The ratio of maximum stress to nominal stress at the same section is known as the-

A) Stress concentration factor

B) Factor of safety

C) Endurance limit

D) None of the options

Answer Key: A

Question No. 75

For perfectly elastic bodies, the coefficient of restitution is always-

A) Infinity

B) 0

C) 1

D) Between 0 and 1

Answer Key: C

Question No. 76

Find the pressure at a point which is 4 m below the free surface of water. Take the specific weight of water as 9.8 kN/m^3.

A) 29.2 kN/m^2

B) 36.2 kN/m^2

C) 33.2 kN/m^2

D) 39.2 kN/m^2

Answer Key: D

Question No. 77

Total pressure on a horizontally immersed surface is given by the relation-
(where w = Specific weight of the liquid; A = Area of the immersed surface; and x = Depth of the horizontal surface from the liquid level)

A) wA/x

B) wx/A

C) wAx

D) Ax/w

Answer Key: C

Question No. 78

The ratio of change in dimension of the body to the original dimension is known as-

A) Shear stress

B) Compressive stress

C) Tensile stress

D) Strain

Answer Key: D

Question No. 79

Bulk modulus, K is given by-

A) Direct stress/Linear strain

B) Direct stress/Shear strain

C) Volumetric stress/Volumetric strain

D) Tensile stress/Tensile strain

Answer Key: C

Question No. 80

The friability of a grinding wheel is associated with-

A) Hardness

B) Fracture

C) Size

D) None of the options

Answer Key: B

Question No. 81

In order to check the clearance between two mating surfaces, a _____ gauge should be used.

A) Ring

B) Plug

C) Feeler

D) Scale

Answer Key: C

Question No. 82

When more volume of acetylene and less volume of oxygen is supplied, then a _____ flame is obtained.

A) Neutral

B) Oxidizing

C) Carburizing

D) Nitriding

Answer Key: C

Question No. 83

The heat generated in resistance welding is given by:
(where I = current in amperes, R = resistance in ohms, T = time of current flow in seconds, H = heat generated in joules)

A) $H = I^2RT$

B) $H = I^2R / T$

C) $H = I^2 / RT$

D) $H = RT / I^2$

Answer Key: A

Question No. 84

In rightward gas welding process, the angle between the welding torch and work is kept -

A) 40° to 50°

B) Less than 30°

C) 70° to 80°

D) More than 80°

Answer Key: A

Question No. 85

For perfectly plastic bodies, the coefficient of restitution is equal to:

A) 1

B) Greater than 1

C) 0

D) Less than 1

Answer Key: C

Question No. 86

The phase above the eutectoid temperature for carbon steels is known as-

A) Cementite

B) Ferrite

C) Pearlite

D) Austenite

Answer Key: D

Question No. 87

Which law states that "the total pressure of a mixture of gases is equal to the sum of the partial pressures of the constituents"?

A) Avogadro's law

B) Dalton's law

C) Charles's law

D) Boyle's law

Answer Key: B

Question No. 88

18-4-1 high speed steel contains-

A) Vanadium 4%, chromium 18% and tungsten 1%

B) Vanadium 1%, chromium 4% and tungsten 18%

C) Vanadium 18%, chromium 1% and tungsten 4%

D) Nickel 18%, chromium 1% and tungsten 4%

Answer Key: B

Question No. 89

In a diesel cycle, combustion occurs at constant-

A) Pressure

B) Temperature

C) Volume

D) Heat

Answer Key: A

Question No. 90

Which of the following is an amorphous material?

A) Diamond

B) Silver

C) Lead

D) Glass

Answer Key: D

Question No. 91

Which of the following welding techniques requires a vacuum environment?

A) Ultrasonic welding

B) Laser-beam welding

C) Plasma-arc welding

D) Electron-beam welding

Answer Key: D

Question No. 92

Short circuit transfer in MIG welding is also known as-

A) Spray transfer
B) Dip transfer
C) Globular transfer
D) Free flight transfer

Answer Key: B

Question No. 93

Which of the following is a NOT a surface finishing process?

A) Honing
B) Buffing
C) Lapping
D) Turning

Answer Key: D

Question No. 94

Which of the following is/are a natural abrasive?

A) Corundum
B) Diamond
C) Emery
D) All of the options

Answer Key: D

Question No. 95

The rate of change of displacement of a body is called-

A) Velocity
B) Acceleration
C) Momentum
D) Impulse

Answer Key: A

Question No. 96

The letter K in the conventional abrasive wheel specified by 51 A 60 K 5 V 05 denotes the-

A) Hardness of the wheel
B) Type of abrasive
C) Bond material
D) Structure of the wheel

Answer Key: A

Question No. 97

Which of the following represents the isentropic process?

A) Irreversible Adiabatic process
B) Reversible Adiabatic process
C) Reversible Isothermal process
D) Irreversible Isothermal process

Answer Key: B

Question No. 98

The ratio of bulk modulus to shear modulus for Poisson's ratio of 0.25 will be-

A) 3/2
B) 5/6

C) 1

D) 5/3

Answer Key: D

Question No. 99

Which of the following is a scalar quantity?

A) Force

B) Speed

C) Velocity

D) Acceleration

Answer Key: B

Question No. 100

Which of the following laws states that the volume of a given gas is inversely proportional to its pressure at constant temperature?

A) Boyle's law

B) Charles' law

C) Joule's law

D) Avogadro's law

Answer Key: A

Question No. 101

In which of the following states of India is the Shevaroy Hills located?

A) Rajasthan

B) Karnataka

C) Andhra Pradesh

D) Tamilnadu

Answer Key: D

Question No. 102

Which of the following Mahajanapadas in ancient India had Champa as its capital?

A) Anga

B) Magadha

C) Vajji

D) Kasi

Answer Key: A

Question No. 103

Which satellite is dedicated as India's first multi wavelength space observatory?

A) Astrosat

B) SRMSAT

C) SARAL

D) Jugnu

Answer Key: A

Question No. 104

Noise pollution is measured in-

A) Decibel

B) Ampere

C) Ohm

D) Joule

Answer Key: A

Question No. 105

The process of decomposition of biodegradable solid waste by earthworms is called-

A) Land fills
B) Shredding
C) Vermi composting
D) Composting

Answer Key: C

Question No. 106

Which of the following causes Acid rain?

A) Nitrogen oxide
B) Oxygen
C) Sulphur
D) Carbon monoxide

Answer Key: A

Question No. 107

In 2019, _____ signed an MoU with Centre for Development of Advanced Computing (C-DAC) to set up a 1.3 Petaflop high-performance computing facility and data centre.

A) IIT - Kharagpur
B) IIT - Mumbai
C) IIT - Chennai
D) IIT - Delhi

Answer Key: A

Question No. 108

Ozone layer is present in-

A) Troposphere
B) Stratosphere
C) Mesosphere
D) Ionosphere

Answer Key: B

Question No. 109

_____ results in decreased soil fertility through rapid leaching of essential mineral nutrients found in most forest soils.

A) Deforestation
B) Afforestation
C) Over exploitation
D) Sewage disposal

Answer Key: A

Question No. 110

Which of the following is NOT a solution for global warming?

A) Reducing fossil fuel consumption
B) Planting more trees
C) Deforestation
D) Using compact fluorescent light (CFL) bulbs

Answer Key: C

Question No. 111

Which of the following has the smallest storage capacity?

A) Floppy disk
B) Hard disk
C) Zip disk
D) CD

Answer Key: A

Question No. 112

Which of the following is NOT an email protocol?

A) SMTP
B) IMAP
C) POP3
D) Telnet

Answer Key: D

Question No. 113

Which of the following is NOT a PowerPoint Presentation view?

A) Normal
B) Slide sorter
C) Reading view
D) Review

Answer Key: D

Question No. 114

Prem Singh Tamang is the Chief Minister of which State?

A) Sikkim
B) Meghalaya
C) Nagaland
D) None of the options

Answer Key: A

Question No. 115

Minamata disease first occured in-

A) Japan
B) Russia
C) China
D) Korea

Answer Key: A

Note: Translation error in Hindi and hence mark is awarded to candidates who have taken the exam in Hindi.

Question No. 116

According to water pollution, the actual pollutants present in mine drainage is-

A) Polychlorinated biphenyls
B) Sulphuric acid
C) Insecticides
D) Herbicides

Answer Key: B

Question No. 117

_____ can lead to a decrease in the dissolved oxygen level in the water while also increasing the biological demand of aquatic organisms for oxygen.

A) Air pollution
B) Ecological pollution
C) Thermal pollution
D) Water pollution

Answer Key: C/D

Question No. 118

Deccan festival is organized every year in the city of-

A) Chennai

B) Bengaluru

C) Hyderabad

D) Mumbai

Answer Key: C

Question No. 119

Which is the fifth largest state in India in terms of area?

A) Rajasthan

B) Assam

C) Madhya Pradesh

D) Gujarat

Answer Key: D

Question No. 120

When is the National Panchayati Raj Day observed?

A) 20 March

B) 18 August

C) 24 April

D) 27 February

Answer Key: C

Question No. 121

PART XII of Indian constitution deals with-

A) Administration of Union territories

B) Scheduled Areas and Tribal Areas

C) Finance, Property, Contracts and Suits

D) Directive Principles of State Policy

Answer Key: C

Question No. 122

Which of the following water pollutants can cause damage to the nervous system in human beings?

A) Potassium

B) Calcium

C) Lead

D) Iodine

Answer Key: C

Question No. 123

Stratosphere extends up to a height of-

A) 45 km

B) 35 km

C) 50 km

D) 25 km

Answer Key: C

Question No. 124

Which type ransomware is used to encrypt your important data, such as documents, pictures and videos, but not to interfere with basic computer functions?

A) Bad rabbit ransomware

B) Jigsaw ransomware

C) Crypto ransomware

D) Wordpress ransomware

Answer Key: C

Question No. 125

Which input device converts sound waves into electrical signals?

A) Microphone

B) Amplifier

C) Loudspeaker

D) Sensors

Answer Key: A

Question No. 126

What is the hexadecimal equivalent of the binary number $(01101001)_2$?

A) $(69)_{16}$

B) $(96)_{16}$

C) $(D1)_{16}$

D) $(1D)_{16}$

Answer Key: A

Question No. 127

_____ is an activity in which an intruder obtains sensitive information of a user by making phone calls on mobile phones.

A) Vishing

B) Affiliate fraud

C) POS theft

D) Identity cloning

Answer Key: A

Question No. 128

In the mesh topology, how many nodes are configured in such a way that each node has twenty pathways that interconnect one node with each other?

A) 21

B) 22

C) 19

D) 20

Answer Key: A

Question No. 129

What is the expansion of opcode in machine instructions?

A) Optimal code

B) Open code

C) Opposite code

D) Operation code

Answer Key: D

Question No. 130

Which of the following commands is used to display the operating system name in Ubuntu?

A) grep

B) diff

C) uname

D) wget

Answer Key: C

Question No. 131

To improve the ease of access to financial services and their performance, the RBI Governor Shaktikanta Das launched three big projects in May 2024, one of which was the _____ site.

A) ARPHAAR
B) PRAVAAH
C) PULSAR
D) AHAAH

Answer Key: B

Question No. 132

In May 2024, Indian Airforce successfully test-fired the Rudram-II Missile, which is a/an_____ missile.

A) Air-to-surface
B) Sea-to-ocean
C) Land-to-land
D) Land-to-sea

Answer Key: A

Question No. 133

Which of the following sports is associated with Murugappa Gold Cup?

A) Football
B) Hockey
C) Cricket
D) Table tennis

Answer Key: B

Question No. 134

In which of the following years was the Indian Premier League started?

A) 2006
B) 2008
C) 2010
D) 2012

Answer Key: B

Question No. 135

The National Stock Exchange functions from _____.

A) New Delhi
B) Mumbai
C) Nagpur
D) Kolkata

Answer Key: B

Question No. 136

Which of the following is yielded as white powder upon burning magnesium ribbon?

A) Magnesium oxide
B) Magnesium hydroxide
C) Magnesium carbonate
D) Magnesium sulphate

Answer Key: A

Question No. 137

Which of the following materials is preferred for a permanent magnet?

A) Alnico
B) Y-alloy

C) Silicon steel

D) Silver

Answer Key: A

Question No. 138

Give an example of a metal which is a liquid at room temperature.

A) Sodium

B) Mercury

C) Iodine

D) Calcium

Answer Key: B

Question No. 139

What enables an electric current flow in a circuit?

A) The motion of protons

B) The motion of neutrons

C) The motion of positrons

D) The motion of electrons

Answer Key: D

Question No. 140

A man lifts a load of 25 kg from the ground and puts it on the head, 2.5 m above the ground. If the value of g = 10 ms^{-2}, then the value of work done by him on the load is:

A) 220 J

B) 625 J

C) 225 J

D) 22.5 J

Answer Key: B

Question No. 141

A neutral solution has a pH of-

A) Exactly 7

B) Less than 7

C) More than 7

D) Exactly 14

Answer Key: A

Question No. 142

If the number of electrons, protons and neutrons in a species are equal to 18, 16 and 16 respectively, then find the Atomic mass number.

A) 16

B) 18

C) 32

D) 34

Answer Key: C

Question No. 143

The minerals from which a metal can be extracted profitably and conveniently are called-

A) Allotropes

B) Alloys

C) Ores

D) Hydrocarbons

Answer Key: C

Question No. 144

Which type of reaction occurs when carbon burns in oxygen to give carbon dioxide?

A) Decomposition reaction
B) Addition reaction
C) Substitution reaction
D) Combustion reaction

Answer Key: D

Question No. 145

The maximum number of electrons that can be accommodated in a shell is indicated by the formula:

A) $2n$
B) $2n^2$
C) $2n^{-2}$
D) $2n^3$

Answer Key: B

Question No. 146

Which of the given devices is used to compare potential differences?

A) Potentiometer
B) Odometer
C) Ammeter
D) Galvanometer

Answer Key: A

Question No. 147

A machine does 1920 J of work in 240 seconds. What is the power of the machine?

A) 2 W
B) 45 W
C) 8 W
D) 15 W

Answer Key: C

Question No. 148

A 250 V bulb passes a current of 0.3 A. Calculate the power in the lamp.

A) 25 W
B) 50 W
C) 75 W
D) 90 W

Answer Key: C

Question No. 149

What is the basic working principle of a DC generator?

A) Faraday's law of electromagnetic induction
B) Kepler's laws
C) Ohm's law
D) Thermodynamics law

Answer Key: A

Question No. 150

Limestone, chalk and marble are different forms of-

A) Ammonium hydroxide
B) Calcium hydroxide
C) Calcium carbonate
D) Sodium hydroxide

Answer Key: C