1.

AYD, BVF, DRH, ?, KGL

(A)

FMI

(B)

GMJ

(C)

HLK

(D)

GLJ

Answer: (D)

2.

42 40 38 35 33 31 28 ..?

(A)

25 22

(B)

26 23

(C)

26 24

(D)

25 23

Answer: (C)

3.

Pituitary : Brain : : Thymus : ?

(A)

Larynx

(B)

Spinal Cord

(C)

Throat

(D)

Chest

Answer: (D)

4.

"Here are some words translated from an artificial language.

gorblflur means fan belt

pixngorbl means ceiling fan

arthtusl means tile roof

Which word could mean ""ceiling tile""?"

(A)

gorbltusl

(B)

flurgorbl

(C)

arthflur

(D)

pixnarth

Answer: (D)

5.

A, CD, GHI, ?, UVWXY

(A)

LMNO

(B)

MNO

(C)

MNOP

(D)

NOPQ

Answer: (C)

6.

6 10 14 18 22 26 30 ..?

(A)

36 40

(B)

33 37

(C)

38 42

(D)

34 38

Answer: (D)

7.

Blunt : Sharp : : Sow : ?

(A)

Water

(B)

Crow

(C)

Farm

(D)

Reap

Answer: (D)

8.

"Here are some words translated from an artificial language.

hapllesh means cloudburst

srenchoch means pinball

resbosrench means ninepin

Which word could mean ""cloud nine""?"

(A)

leshsrench

(B)

ochhapl

(C)

haploch

(D)

haplresbo

Answer: (D)

9.

AK, EO, IS, ?

(A)

MW

(B)

MV

(C)

XW

(D)

NX

Answer: (A)

9.

AK, EO, IS, ?

(A)

MW

(B)

MV

(C)

XW

(D)

NX

Answer: (A)

10.

8 12 9 13 10 14 11,?, ?

(A)

14 11

(B)

15 12

(C)

8 15

(D)

15 19

Answer: (B)

11.

Amnesia : Memory : : Paralysis : ?

(A)

Movement

(B)

Limbs

(C)

Handicapped

(D)

Legs

Answer: (A)

12.

"Here are some words translated from an artificial language.

agnoscrenia means poisonous spider

delanocrenia means poisonous snake

agnosdeery means brown spider

Which word could mean ""black widow spider""?"

(A)

deeryclostagnos

(B)

agnosdelano

(C)

agnosvitriblunin

(D)

trymuttiagnos

Answer: (C)

13.

MHZ, NIW, OKT, PNQ, ?

(A)

RRN

(B)

QRN

(C)

QRM

(D)

QQN

Answer: (B)

14.

36 31 29 24 22 17 15..?

(A)

13 11

(B)

10 5

(C)

13 8

(D)

10 8

Answer: (D)

15.

Book : Publisher : : Film : ?

(A)

Producer

(B)

Director

(C)

Editor

(D)

Writer

Answer: (A)

16.

World Minority Day is celebrated on which of the following day?

(A)

45278

(B)

44936

(C)

44997

(D)

45132

Answer: (A)

17.

On which date is Good Governance Day celebrated in India?

(A)

44936

(B)

45000

(C)

45028

(D)

45285

Answer: (D)

18.

According to Dr. Ambedkar, which article is the most important article of the Indian Constitution?

(A)

Article - 32

(B)

Article 21

(C)

Article - 24

(D)

Article 256

Answer: (A)

19.

On which lake is the Tul Bul project?

(A)

Kolleru Lake

(B)

Chilka Lake

(C)

Wular Lake

(D)

Bhimtal Lake

Answer: (C)

20.

Where is Saat Tal Lake situated?

(A)

Uttarakhand

(B)

Rajasthan

(C)

Jammu and Kashmir

(D)

Tamil Nadu

Answer: (A)

21.

The country has recently deployed a fleet of underwater drones in the Indian Ocean?

(A)

Russia

(B)

Japan

(C)

China

(D)

Bangladesh

Answer: (C)

22.

The largest artificial freshwater lake in Asia is?

(A)

Himayat Sagar, Hyderabad

(B)

Udaipur, Dhebar Lake

(C)

Kaliveli, Tamil Nadu

(D)

Pulicat, Tamil Nadu

Answer: (B)

23.

The largest natural freshwater lake in India is?

(A)

Cho Lamu Lake

(B)

Lonar Lake

(C)

Dal Lake

(D)

Wular Lake

Answer: (D)

24.

Pulicat is a?

(A)

Khari Lake

(B)

dry lake

(C)

Crater Lake

(D)

Lagoon

Answer: (D)

25.

Where is Kolleru Lake?

(A)

Uttar Pradesh

(B)

Andhra Pradesh

(C)

Madhya Pradesh

(D)

Maharashtra

Answer: (B)

26.

In which city was 102nd Indian Science Congress held in 2015?

(A)

Mumbai

(B)

Kolkata

(C)

Gandhinagar

(D)

New Delhi

Answer: (D)

27.

In which city was 18th SAARC summit held in 2014?

(A)

Islamabad

(B)

Kathmandu

(C)

New Delhi

(D)

Dhaka

Answer: (A)

28.

In which country was 6th BRICS Summit held in 2014?

(A)

Russia

(B)

South Africa

(C)

India

(D)

Brazil

Answer: (C)

29.

In which city was UN Climate Change Summit held in 2014?

(A)

Paris

(B)

Brisbane

(C)

New York

(D)

Sydney

Answer: (A)

30.

In which city was 9th G-20 Summit held in 2014?

(A)

Seoul

(B)

London

(C)

Saint Petersburg

(D)

Brisbane

Answer: (D)

31.

In which city was 25th ASEAN Summit held in 2014?

(A)

Nay Pyi Daw

(B)

Singapore

(C)

Bail

(D)

Kulala Lumpur

Answer: (D)

32.

The 6th IBSA Summit was held in 2013 at _____.

(A)

Brasilia

(B)

New Delhi

(C)

Pretoria

(D)

Cape Town

Answer: (D)

33.

The member countries of IBSA Dialogue Forum are_____.`

(A)

India, Brazil and South Africa

(B)

India, Britain and Spain

(C)

Israel, Brazil and Sweden

(D)

India, Bangladesh and South Africa

Answer: (A)

34.

The member countries of BRICS are _____.

(A)

Britain, Russia, Ireland, Canada and Sweden

(B)

Brazil, Russia, Indonesia, China and South Africa

(C)

Brazil, Russia, India, China and South Africa

(D)

Britain, Russia, India, Canada and Spain

Answer: (C)

35.

Following 2014 Crimean crisis, the G-8 Group became G-7 Group by expelling _____.

(A)

Russia

(B)

Germany

(C)

France

(D)

Canada

Answer: (B)

36

The conversion of a reactant, undergoing a first order reaction, at a time equal to three times the half life of the reaction is

(A)

0.875

(B)

0.5

(C)

0.425

(D)

Data insufficient to calculate

Answer: (A)

37.

A typical example of an exothermic reversible reaction conducted at high pressure in industry is

(A)

Dehydration of ethanol

(B)

Methanol synthesis

(C)

Reformation of methane

(D)

Polymerisation of ethylene

Answer: (A)

38.

Recycling back of outlet stream to the reactor from an ideal CSTR carrying out a first order liquid phase reaction will result in _____ in conversion.

(A)

Decrease

(B)

Increase

(C)

No change

(D)

Either decrease or increase depends on the type of reaction

Answer: (C)

39.

Threshold energy in a reaction is equal to the

(A)

Activation energy

(B)

Normal energy of reactants

(C)

Both Activation energy & Normal energy of reactants

(D)

None

Answer: (C)

40.

In case of calcination of limestone, $CaCO_3$ $CaO + CO_2$, the addition of more of CaO will result in _____ in the concentration of CO_2.

(A)

No change

(B)

Increase

(C)

Decrease

(D)

Unpredictable from the data

Answer: (A)

41.

The equilibrium constant of chemical reaction _____ in the presence of catalyst.

(A)

Increases

(B)

Decreases

(C)

Remains unaffected

(D)

Can either increase or decrease (depends on the type of catalyst)

Answer: (C)

42.

From among the following, choose one which is not an exothermic process.

(A)

Methanol synthesis

(B)

Catalytic cracking

(C)

Ammonia synthesis

(D)

Oxidation of sulphur

Answer: (B)

43.

If a solid-gas non-catalytic reaction occurs at very high temperature, the rate controlling step is the _____ diffusion.

(A)

Film

(B)

Ash layer

(C)

Pore

(D)

None of these

Answer: (A)

44.

The rate constant of a chemical reaction increases by 100 times when the temperature is increased from 400 °K to 500 °K. Assuming transition state theory is valid, the value of E/R is

(A)

8987°K

(B)

9210°K

(C)

8764°K

(D)

8621°K

Answer: (B)

45.

The catalytic activity of enzymes is due to their capacity to lower the _____ energy.

(A)

Activation

(B)

Potential

(C)

Kinetic

(D)

None of these

Answer: (A)

46.

For a fluidised bed reactor, the most suitable/relevant model is a _____ model.

(A)

Tank in series

(B)

Bubbling bed

(C)

Plug flow

(D)

None of these

Answer: (B)

47.

High purity oxygen is used for

(A)

welding

(B)

cutting of metals

(C)

medicinal purposes

(D)

all of these

Answer: (D)

48.

The liquefaction of gases in general is favoured at

(A)

low temperature and low pressure

(B)

low temperature and high pressure

(C)

high temperature and high pressure

(D)

high temperature and low pressure

Answer: (B)

49.

The raw materials for the manufacture of calcium carbide are

(A)

limestone and coke

(B)

limestone and slaked lime

(C)

limestone and sand

(D)

limestone and caustic soda

Answer: (A)

50.

Acetylene is manufactured by

(A)

reacting calcium carbide with liquid water

(B)

Sachsse process

(C)

Wulff process

(D)

all of these

Answer: (D)

51.

The producer gas is mainly used in

(A)

petroleum refinery

(B)

fertilizer industry

(C)

steel industry

(D)

pharmaceutical industry

Answer: (C)

52.

Producer gas is obtained by

(A)

thermal cracking of naphtha

(B)

passing steam and air through red hot coke

(C)

passing air through red hot coke

(D)

passing steam through red hot coke

Answer: (C)

53

Which one of the following reactions is not an exothermic

(A)

Absorption of sulphur troixide by 98.5% sulphuric acid

(B)

Oxidation of sulphur trioxide

(C)

Oxidation of sulphur to sulphur dioxide

(D)

Thermal dissociation of iron pyrites

Answer: (D)

54.

Grignard reagent is

(A)

ethyl magnesium chloride

(B)

ethyl chloride

(C)

sodium sulphate

(D)

sodium cabonate

Answer: (A)

55.

Potassium carbonate is not prepared by the Solvy process because

(A)

potassium bicarbonate is unstable

(B)

potassium bicarbonate is soluble is water

(C)

potassium bicarbonate is soluble in ammonium chloride and potassium chloride solutions

(D)

potassium bicarbonate does not decompose on heating

Answer: (C)

56.

Soda ash is also called

(A)

sodium carbonate

(B)

sodium hydroxide

(C)

sodium bicarbonate

(D)

sodium oxide

Answer: (A)

57.

During the electrolysis of sodium chloride the anodic reaction is

(A)

oxidation of sodium ions

(B)

reduction of sodium ions

(C)

oxidation of chloride ions

(D)

reduction of chloride ions

Answer: (C)

58.

The Fourier transform of product of two time functions [f1(t)f2(t)] is given by :

(A)

[f1(ω) + f2(ω)]

(B)

[f1(ω) / f2(ω)]

(C)

[f1(ω) * f2(ω)]

(D)

[f1(ω) x f2(ω)]

Answer: (C)

59.

The magnitude spectrum of a Fourier transform of a real-valued time signal has _____ symmetry.

(A)

no

(B)

odd

(C)

even

(D)

conjugate

Answer: (C)

60.

The trigonometric Fourier series of a periodic time function can have only _____ terms.

(A)

sine

(B)

cosine

(C)

sine and cosine

(D)

dc and cosine

Answer: (D)

61.

In Fourier series expansion, An will zero for _____ function and will be zero for _____ function.

(A)

odd, odd

(B)

odd, even

(C)

even, odd

(D)

even, even

Answer: (B)

62.

The inverse Fourier transform of product of two time functions [f1(ω)f2(ω)] is given by :

(A)

[f1(t) + f2(t)]

(B)

[f1(t) * f2(t)]

(C)

[f1(t) / f2(t)]

(D)

[f1(t) x f2(t)]

Answer: (B)

63.

In equation $3x - y \geq 3$ and $4x - 4y > 4$

(A)

Have solution for positive x and y

(B)

Have no solution for positive x and y

(C)

Have solution for all x

(D)

Have solution for all y

Answer: (A)

64.

In a LPP, the objective function is always

(A)

Linear

(B)

Quadratic

(C)

Cubic

(D)

Biquadratic

Answer: (A)

65.

The objective function of a linear programming problem is:

(A)

a constraint

(B)

function to be optimised

(C)

A relation between the variables

(D)

None of these

Answer: (B)

66.

The linear inequalities or equations or restrictions on the variables of a linear programming problem are called:

(A)

a constraint

(B)

Decision variables

(C)

Objective function

(D)

None of these

Answer: (A)

67.

Which of the following is a type of Linear programming problem?

(A)

Manufacturing problem

(B)

Diet problem

(C)

Transportation problems

(D)

All of these

Answer: (D)

68.

Feasible region in the set of points which satisfy

(A)

The objective functions

(B)

Some the given constraints

(C)

All of the given constraints

(D)

None of these

Answer: (C)

69.

Which of the following cannot be the value of absolute pressure of a fluid at any point?

(A)

0

(B)

1.45 bar

(C)

– 1 bar

(D)

24 bar

Answer: (C)

70.

When the body is completely or partially immersed in a fluid, how much its weight be distributed for it to be in stable equilibrium.

(A)

Is independent of weight distribution

(B)

Around the lower part

(C)

round the upper part

(D)

None of the mentioned

Answer: (B)

71.

Which of the following equation must be perfunctorily satisfied while dealing with fluid flow problems?

(A)

Newton’s third law

(B)

Law of conservation of momentum

(C)

Continuity equation

(D)

Newton’s second law

Answer: (C)

72.

Which among the following is an assumption of Hagen-Poiseuille equation?

(A)

Fluid is uniform

(B)

Fluid is laminar

(C)

Fluid is turbulent

(D)

Fluid is compressible

Answer: (B)

73.

Which of the following is a formula for the friction factor of circular pipes?

(A)

Re/64

(B)

16/Re

(C)

64/Re

(D)

Re/16

Answer: (C)

74.

Which among the following is not global parameters of fluid?

(A)

Mass flow rate

(B)

Density

(C)

Viscosity

(D)

External diameter

Answer: (D)

75.

Which of the following is the mathematical technique used to predict physical parameters?

(A)

Dimensional analysis

(B)

Temperature analysis

(C)

Pressure analysis

(D)

Combustion analysis

Answer: (A)

76.

Which among the following have the same forces acting on them?

(A)

Dynamic similarity

(B)

Geometric similarity

(C)

Conditional similarity

(D)

Kinematic similarity

Answer: (A)

77.

Absorption with chemical reaction' is involved in the removal of

(A)

Carbon dioxide from gaseous stream using alkaline solution

(B)

Benzol from coke oven gas using solar oil/wash oil

(C)

Ammonia from coke oven gas using refrigerated water

(D)

Tar from coke oven gas in primary gas coolers using chilled wate

Answer: (A)

78.

"Direction: It consists of two statements, one labelled as ‘Statement (I)’ and the others as ‘Statement (II)’. You are to examine these two statements carefully and select the answer using the codes given below:

Statement (I): The concept of Just-In-Time is operationalized when the exact number of units required are bought at each successive stage of production, at the appropriate time.

Statement (II): Just-In-Time concept has been expanded to mean a manufacturing philosophy of eliminating waste."

(A)

Both Statement (I) and Statement (II) individually true and Statement (II) is the correct explanation of Statement (I)

(B)

Both statement (I) and Statement (II) are individually true, but Statement (II) is not the correct explanation of Statement (I)

(C)

Statement (I) is true, but Statement (II) is false

(D)

Statement (I) is false, but Statement (II) is true

Answer: (B)

79.

The ratio of the largest load in a test to the original cross-sectional area of the test specimen is called the _____ stress.

(A)

Yield point

(B)

Breaking

(C)

Ultimate

(D)

None of these

Answer: (C)

80.

A sand mixture was screened through a standard 20-mesh screen. The mass fraction of oversize material in feed, overflow and underflow were found to be 0.50, 0.70 and 0.20 respectively. The screen effectiveness based on the undersize is _____.

(A)

0.64

(B)

0.56

(C)

0.46

(D)

None of the mentioned

Answer: (A)

81.

What is heat transfer?

(A)

Flow of thermal energy from low-temperature reservoir to high-temperature reservoir

(B)

Flow of energy in the form of heat from high-temperature reservoir to low-temperature reservoir

(C)

Flow of thermal energy irrespective of reservoir temperature

(D)

None of these

Answer: (B)

82.

Which of the following is a method of heat transfer?

(A)

Convection

(B)

Radiation

(C)

Conduction

(D)

All of the mentioned

Answer: (D)

83.

Heat transfer takes place according to which of the following law?

(A)

Newton’s second law of motion

(B)

First law of thermodynamics

(C)

Newton’s law of cooling

(D)

Second law of thermodynamics

Answer: (D)

84.

Which of the following is the rate of heat transfer unit?

(A)

Watt

(B)

Pascal

(C)

Joule

(D)

Newton

Answer: (A)

85.

Which of the following is an example of steady-state heat transfer?

(A)

Electric bulb cools down by the surrounding atmosphere

(B)

Chilling effect of cold wind on a warm body

(C)

Boilers and turbines

(D)

Cooling of I.C engine

Answer: (A)

86.

Which way is heat transfer believed to take place in a long, hollow cylinder that is kept at consistent but varied temperatures on its inner and outer surfaces?

(A)

Unpredictable

(B)

Radial only

(C)

No heat transfer takes place

(D)

Axial only

Answer: (B)

87.

Which of the following is correct regarding one dimensional heat transfer?

(A)

Steady – f (x, y, t), Unsteady – f (x)

(B)

Steady – f (y, z), Unsteady – f (y)

(C)

Steady – f (x, t), Unsteady – f (x)

(D)

Steady – f (x), Unsteady – f (x, t)

Answer: (D)

88.

A person prefers to sit by a fire during the cold winter months. Which of the following heat transfer types gives him with the most heat?

(A)

Convection and radiation together

(B)

Radiation will provide quick warmth

(C)

If it is near the fire, convection sounds good

(D)

Conduction from the fire

Answer: (B)

89.

On which of the following does convective heat transfer coefficient doesn’t depend?

(A)

Orientation of solid surface

(B)

Time

(C)

Surface area

(D)

Space

Answer: (C)

90.

In liquids and gases, heat transmission is primarily caused by

(A)

Convection

(B)

Radiation

(C)

Conduction

(D)

Conduction as well as convection

Answer: (A)

91.

For conduction heat transfer, the heat energy propagation will be minimal for _____

(A)

Copper

(B)

Air

(C)

Water

(D)

Lead

Answer: (B)

92.

Instrumentation in a plant offers the advantage of

(A)

Greater safety of operation

(B)

Better quality of product

(C)

Greater operation economy

(D)

All of these

Answer: (D)

93.

Select the correct statement from the following.

(A)

The frequency response of a pure capacity process is unbounded

(B)

The phase lag of a pure time delay system decreases with increasing frequency

(C)

The amplitude ratio of a pure capacity process is inversely proportional to frequency

(D)

The amplitude ratio of a pure time delay system increases with frequency

Answer: (C)

94.

Which of the following instruments is not used for measuring sub-zero (<0°) temperatures?

(A)

Platinum resistance thermometer

(B)

Mercury in glass thermometer

(C)

Vapor pressure thermometer

(D)

Radiation pyrometer

Answer: (D)

95.

A non-linear chemical system is exemplified by a/an

(A)

Isothermal CSTR

(B)

Mixer

(C)

Non-isothermal CSTR

(D)

None of these

Answer: (C)

96.

Thermal well made of _____ gives the fastest speed of response, while measuring temperature by thermocouples.

(A)

Steel

(B)

Vycor (a glass)

(C)

Nichrome

(D)

Inconel

Answer: (B)

97.

Silver point temperature is _____ °C.

(A)

760.5

(B)

860.5

(C)

960.5

(D)

1060.5

Answer: (C)

98.

Which of the following controllers has the least maximum deviation?

(A)

P-controller

(B)

P-I controller

(C)

P-I-D controller

(D)

P-D controller

Answer: (D)

99.

_____ controller has the maximum stabilising time.

(A)

P

(B)

PD

(C)

PI

(D)

PID

Answer: (C)

100.

A control system is unstable, if the open loop frequency response exhibits an amplitude ratio exceeding unity at the crossover frequency. This is _____ criterion.

(A)

Bode stability

(B)

Nyquist

(C)

Routh stability

(D)

None of these

Answer: (A)

101.

Bode diagram are generated from output response of the system subjected to which of the following input?

(A)

Impulse

(B)

Step

(C)

Ramp

(D)

Sinusoidal

Answer: (D)

102.

Working principle of mercury in glass thermometer is based on the _____ of mercury with increase in temperature.

(A)

Increase of pressure

(B)

Increase of thermal conductivity

(C)

Volumetric expansion

(D)

Differential linear expansion

Answer: (C)

103.

Which of the following is directly concerned with psychrometry?

(A)

Lewis relationship

(B)

Galileo number

(C)

Weber number

(D)

Dean number

Answer: (A)

104.

The 'shanks system' of leaching (i.e., counter-current multiple contact leaching) is used for

(A)

Recovery of tannis from the tree barks and woods

(B)

Leaching sodium nitrate from Chilean nitrate bearing rock

(C)

Both Recovery of tannis from the tree barks and woods & Leaching sodium nitrate from Chilean nitrate bearing rock

(D)

None of these

Answer: (C)

105.

Which is not concerned directly with mass transfer?

(A)

Schmidt number

(B)

Sherwood number

(C)

Lewis relationship

(D)

Froude number

Answer: (D)

106.

Calculation of mass transfer co-efficient is mostly/normally done using _____ theory.

(A)

Surface renewal

(B)

Film

(C)

Penetration

(D)

None of these

Answer: (B)

107.

Component A is diffusing in a medium B. The flux NA relative to a stationary point is equal to the flux due to molecular difusion, if

(A)

Mass transfer is accompanied by reaction

(B)

Diffusion of A is in stagnant medium B

(C)

Molecular mean free path is high

(D)

There is equimolar counter diffusion

Answer: (D)

108.

One mole feed of a binary mixture of a given composition is flash vaporised at a fixed P and T. If Raoult's law is obeyed, then changing the feed composition would effect

(A)

The product composition but not the fraction vaporised

(B)

The product composition as well as the fraction vaporised

(C)

The fraction vaporised but not the product composition

(D)

Neither the product composition nor the fraction vaporised

Answer: (C)

109.

The recovery of pencillin from the acidified fermentation broth is done by

(A)

Distillation

(B)

Evaporation

(C)

Absorption

(D)

Liquid extraction

Answer: (D)

110.

Absorption factor, for a fixed degree of absorption from a fixed amount of gas should be

(A)

1

(B)

> 1

(C)

< 1

(D)

≤ 1

Answer: (B)

111.

Polar organic compounds are normally used as separating agents for the azeotropic and extractive distillation. Which of the following is the most important factor to be considered for the choice of the separating agent for extractive distillation?

(A)

Cost

(B)

Availability

(C)

Toxicity

(D)

Selectivity

Answer: (D)

112.

Ponchan-Savarit method analyses the fractional equipment based on

(A)

Enthalpy balance only

(B)

Material balance only

(C)

Both enthalpy and material balances

(D)

The assumption of constant molaloverflow

Answer: (C)

113.

The solvent used in liquid extraction should not have high latent heat of vaporisation, because

(A)

The pressure drop and hence the pumping cost will be very high

(B)

It cannot be recovered by distillation

(C)

Its recovery cost by distillation may be prohibitatively high

(D)

It will decompose while recovering by distillation

Answer: (C)

114.

Overall tray efficiency of a distillation column is the ratio of the number of

(A)

Overall gas transfer units to the number of ideal trays required

(B)

Ideal trays required to the number of real trays required

(C)

Real trays required to the number of ideal trays required

(D)

None of these

Answer: (B)

115.

Wind load consideration in the design of a support can be neglected, when the vessel is

(A)

Tall (say 30 metres), but is full of liquid

(B)

Tall but empty

(C)

Short (< 2 m) and housed indoor

(D)

None of these

Answer: (C)

116.

Vertical condenser is advantageous to the horizontal condenser from operation point of view, when

(A)

Hydrostatic head is required for refluxing the condensate

(B)

Only the function of condensation is to be carried out

(C)

Sub cooling of condensate is desired

(D)

Both the functions of condensation & sub cooling are carried out in a single unit

Answer: (D)

117.

In a distillation column, bubble caps are located on trays with a pitch of _____ times the outside diameter of the caps.

(A)

1.3 to 2

(B)

1.6 to 2

(C)

2.5

(D)

1.5 to 3

Answer: (A)

118.

Minimum tube pitch recommended for shell and tube heat exchangers is about _____ times the outside diameter of the tube.

(A)

1.25

(B)

1.75

(C)

2.5

(D)

3.5

Answer: (A)

119.

Brass valves are usually made for pipe sizes _____ inches.

(A)

≤ 1

(B)

≤ 2

(C)

> 2.5

(D)

> 3.5

Answer: (B)

120.

An increase in the liquid resistance to interphase mass transfer and a resultant reduction in plate efficiency is caused by

(A)

An increase in liquid viscosity

(B)

An increase in relatived volatility for rectification columns

(C)

Decrease in gas solubility for absorbers

(D)

All of these

Answer: (D)

121.

Welded joint efficiency in the design of chemical process equipment is taken as

(A)

0.55

(B)

0.75

(C)

0.85

(D)

0.95

Answer: (C)

122.

Apex angle of conical heads used in the bottom heads of chemical process equipments is usually

(A)

30°

(B)

45°

(C)

60°

(D)

75°

Answer: (C)

123.

The minimum shell thickness for tank ≤ 15 metres diameter is limited to _____ mm, for reasons of elastic stability.

(A)

2

(B)

5

(C)

10

(D)

15

Answer: (B)

124.

The retention time of material in a rotary dryer depends upon its

(A)

Rpm

(B)

Slope & length

(C)

Flights arrangement

(D)

All of these

Answer: (D)

125.

What is thermodynamics?

(A)

study of the relationship between heat and other forms of energy

(B)

study of the conversion of chemical energy to other forms of energy

(C)

study of the relationship between mechanical energy to other forms of energy

(D)

study of the conversion of mechanical energy to other forms of energy

Answer: (A)

126.

Which of the following is a branch of thermodynamics?

(A)

Equilibrium thermodynamics

(B)

Classical thermodynamics

(C)

Chemical thermodynamics

(D)

All of the mentioned

Answer: (D)

127.

Which of the following is a thermodynamics law?

(A)

Zeroth law of thermodynamics

(B)

Faraday’s Law of thermodynamics

(C)

Ideal Gas Law of thermodynamics

(D)

Boyle’s Law of thermodynamics

Answer: (C)

128.

Heat does not spontaneously flow from a colder body to a hotter one. Which of the following thermodynamics law states this?

(A)

Zeroth law of thermodynamics

(B)

First law of thermodynamics

(C)

Second law of thermodynamics

(D)

Third law of thermodynamics

Answer: (C)

129.

Which of the following is an application of thermodynamics?

(A)

Refrigerators

(B)

Gas compressors

(C)

Power plants

(D)

All of the mentioned

Answer: (C)

130.

Which of the following is a type of thermodynamic system

(A)

Open system

(B)

Closed system

(C)

Thermally isolated system

(D)

All of the mentioned

Answer: (D)

131.

Which of the following occurs without a change in the internal energy?

(A)

Isochoric process

(B)

Isenthalpic process

(C)

Steady-state process

(D)

None

Answer: (C)

132.

Which of the following thermodynamic law gives the concept of enthalpy?

(A)

First law of thermodynamics

(B)

Second law of thermodynamics

(C)

Third law of thermodynamics

(D)

Fourth law of thermodynamics

Answer: (C)

133.

What is the value of the absolute thermodynamic temperature scale?

(A)

3K

(B)

0K

(C)

1K

(D)

4K

Answer: (B)

134.

Which of the following follows the Carnot theorem?

(A)

Heat engines

(B)

Gas turbine engines

(C)

Gas compressors

(D)

All of the mentioned

Answer: (D)

135.

If a piston/cylinder with a cross-sectional size of 0.01 m2 is resting on the stops, what should the water pressure be to lift the piston with an outside pressure of 100 kPa?

(A)

218kPa

(B)

168kPa

(C)

198kPa

(D)

318kPa

Answer: (C)

136.

----- elephant is a vegetarian

(A)

a

(B)

an

(C)

the

(D)

no article

Answer: (C)

137.

Identify the Sentences:

Don't tease him or he will attack you.

(A)

simple

(B)

negative

(C)

complex

(D)

compound

Answer: (D)

138.

Find Sentence Pattern:

The doctor advised him complete rest

(A)

SVOC

(B)

SVCC

(C)

SVOA

(D)

SVOO

Answer: (D)

139.

New York is ----- large city

(A)

a

(B)

an

(C)

the

(D)

no article

Answer: (A)

140.

Identify the Sentences:

He was carrying a heavy load.

(A)

simple

(B)

negative

(C)

compound

(D)

complex

Answer: (A)

141.

Find Prepositions:

She is good ----- English.

(A)

in

(B)

about

(C)

at

(D)

for

Answer: (C)

142.

Find out the Tense:

I studied French at the college.

(A)

simple past

(B)

past perfect

(C)

present continuous

(D)

present perfect

Answer: (A)

143.

Fill in the blanks with Gerund :

The boys were punished for ----- late.

(A)

came

(B)

to come

(C)

to coming

(D)

coming

Answer: (D)

144.

Select the odd one out

(A)

Kitchenware

(B)

Chair

(C)

Sofa

(D)

Table

Answer: (A)

145.

Are you attending ----- reception today

(A).

a

(B)

an

(C)

the

(D)

no article

Answer: (C)

146.

Identify the Errors:

Are / you involved / in this project? / are you?

(A)

are

(B)

you involved

(C)

in this project

(D)

are you

Answer: (D)

147.

Select the odd one out

(A)

Radium

(B)

Radio

(C)

Granite

(D)

Dynamite

Answer: (B)

148.

Identify the Sentence:

Can you help me with a thousand rupees?

(A)

interrogative

(B)

negative

(C)

complex

(D)

compound

Answer: (A)

149.

find out the Homophones:

----- is a heavy metal.

(A)

led

(B)

lid

(C)

lead

(D)

none of these

Answer: (C)

150.

find out the Homophones:

----- him very well.

(A)

no

(B)

now

(C)

know

(D)

none

Answer: (C)