1. A device for determining die value or magnitude of a quantity or variable :
(a)   sensor
(b)   transducer
(c)   gauge
(d)   instrument
(e)   indicator.

Ans: d

2. Determining moisture in steam by measuring the temperature in a throttling calorimeter is an example of :
(a)   direct measurement
(b)   indirect measurement
(c)   measurement by comparison
(d)   measurement by calibration
(e)   automatic measurement.

Ans: b

3. The closeness with which the reading of an instrument approaches the true value of the variable being measured is called :
(a)   accuracy
(b)   precision
(c)   sensitivity
(d)   resolution
(e)   discrimination.

Ans: a

4. Errors due to assignable causes are called :
(a)   static errors
(b)   systematic errors
(c)   calibration errors
(d)   random errors
(e)   known errors.

Ans: b

5. Pick up the appropriate word for A pointer moving over a scale :
(a) instrument
(b) indicator
(c) transducer
(d) gauge
(e) recorder.

Ans: b

6. Pick up the appropriate word for A reading obtained from the motion of a pointer on a scale :
(a) analog
(b) digital
(c) display
(d) indicator
(e) instrument.
Ans: a

7. Pick up the appropriate word for The reading displayed as a number, a series of holes on a punched card, or a sequence of pulses on magnetic tape :
(a) pulse train
(b) digital
(c) analog
(d) numeral
(e) recording.
Ans: b

8. For studying detailed variations with time, one uses :
(a) indicator
(b) digital indicator
(c) recorder
(d) integrator
(e) analog indicator.
Ans: c

9. The condition of how much successive readings differ from one another for a fixed value of the variable is called :

(a)   accuracy

(b)   error

(c)   sensitivity

(d)   resolution

(e)   precision.

Ans: e

10.   The ratio of output signal or response of the instrument" to a change in input or measured variable is called :

(a)   sensitivity

(b)   precision

(c)   resolution

(d)   threshold

(e)   accuracy.

Ans: a

11.   The smallest change in measured value to which the instrument will respond is called

(a)   accuracy

(b)   precision

(c)   amplification

(d)   resolution

(e)   sensitivity.

Ans: d

12.   It responds directly to the measured quantity, producing a related motion or signal :

(a)   sensing element

(b)   transducer

(c)   transmitter

(d)   indicator

(e)   measuring device.

Ans: a

13.   Which of the following is used to count the number of brass items passing on a conveyor line, when no contact is permitted with the object:

(a)   event counter

(b)   mechanical counter

(c)   magnetic pick up

(d)   photoelectric cell

(e)   electronic counter.

Ans: d

14.   Which of the following does not pertain to timing device :

(a)   charging of a condenser

(b)   flow of oil through a dash pot

(c)   release of air through a nozzle

(d)   flow of sand through an opening

(e)   piezoelectric crystal.

Ans: e

15.   Motion of fast-moving systems may be timed and studied by means of a :

(a)   stroboscope

(b)   piezoelectric crystal

(c)   electronic timer

(d)   chronometer

(e)   photovoltaic cell.

Ans: a

16.   In which device the input motion changes the inductive coupling between primary and secondary coils :

(a)   potentiometer

(b)   synchro

(c)   collimator

(d)   protractor

(e)   dial gauge.

Ans: b

17.   Which effect is useful in measuring rapidly varying forces :

(a)   piezoelectric

(b)   strain gauge

(c)   photovoltaic

(d)   pneumatic gauging

(e)   change of capacitance.

Ans: a

18. Pressure measuring devices are not based on:

(a) measure of an equivalent height of liquid column

(b) measure of the force exerted on a fixed area

(c) measure of some change in electrical or physical characteristics of the fluid

(d) area measurement by polar planimeter

(e) all of the above.

Ans: d

19. Which of the following may be measured by the deflection of an elastic element, by balancing against a known force, by the acceleration produced in an object of known mass :

(a) force

(b) pressure

(c) temperature

(d) level

(e) displacement.

Ans: a

20. The sensitivity of reading of manometer can be increased by :

(a) inclining the manometer rube

(b) using low specific gravity fluid

(c) application of optical magnification

(d) use of level sensing device

(e) all of the above.

Ans: a

21. Which of the following device is used as a standard for calibrating pressure gauges :

(a) manometer

(b) diaphragm

(c) bellows

(d) dead weight pressure tester

(e) piezoelectric crystal.

Ans: d

22. Which gauge can be used to measure pressure below 1 |xm :

(a) dead weight tester

(b) pirani gauge

(c) ionization gauge

(d)   McLeod gauge

(e)   absolute pressure sensor.

Ans: c

23.   Which is not correct statement about selection of tube material for a Bourdon gauge:

(a)   Have high creep strength to withstand high temperature

(b)   Be stable enough to maintain its calibration indefinitely

(c)   Be immune to corrosion from the fluid inside the tube, and from the atmosphere outside it

(d)   Be hard enough to withstand the applied pressure without any part of it being stressed above the limit of proportionality

(e)   Be easy to fabricate.

Ans: a

24.   Hysteresis error in Bourdon tube can be minimized by :

(a)   using proper tube material

(b)   using proper diameter and thickness of tube

(c)   avoiding temperature cycling

(d)   using it well within the designed pressure range

(e)   using separating diaphragm and avoid direct ingress of hot. fluid to tube

Ans: d

25.   Pick up false statement about pressure measurements :

(a)   low pressure is normally measured by manometers

(b)   medium pressure by diaphragms or bellows

(c)   medium and high pressure by Bourdon gauge

(d)   all pressures by transducers

(e)   absolute pressure by piezoelectric crystal.

Ans: e

26.   Pressure gauges are never connected directly to live steam because :

(a)   the tubes or bellows which operate them would be overheated, causing serious error and damage

(b)   steam if leaks, can cause serious injuries to operators

(c)   entry of steam would cause static head error

(d)   parts of pressure gauge can't withstand temperature of steam

(e)   pressure gauges are not calibrated to measure steam pressure directly.

Ans: a

27.   A siphon or loop in the connecting pipe is interposed as close as possible to the pressure gauge
so that:

(a)   steam can condense to form a seal of water to fill the tube or bellows at the pressure being measured

(b)   air or vapour collection is avoided

(c)   moisture formed in pipe can be drained

(d)   static head errors are eliminated

(e)   it acts as dampener and does not pass on pressure variations to sensor.

Ans: a

28.   When the pressure medium to be measured is air or gas, the pipe is made to rise continuously
to the gauge, so that:

(a)   no air or vapour can collect in pipe

(b)   any moisture can be drained   '

(c)   moisture does not come in contact with elements of sensor/gauge

(d)   moisture can condense to form seal of water

(e)   static head error due to moisture is eliminated.

Ans: b

29.   Ring balance gauge is used for measurement of:

(a)   absolute pressure

(b)   vacuum

(c)   differential pressure

(d)   temperature

(e)   gauge pressure.

Ans: c

30.   The deflection of center of capsule (formed by circumferential welding of two diaphragms) is
proportional to :

(a)   active diameter of diaphragm (D)

(b)   D

(c)   D2

(d)   D3

(e)   D4

Ans: e

31.   The development of following element has improved the reliability and the response action of low pressure gauges :

(a)   diaphragm

(b)   capsule

(c)   bourdon

(d)   ring balance

(e)   all of the above.

Ans: b

32.   Proving rings are used to measure :

(a)   displacement

(b)   force

(c)   velocity

(d)   acceleration

(e)   shock.

Ans: b

33.   Which is not correct about load cells used to measure weight/force :

(a)   accuracy of the order of 0.01 to 1%

(b)   rugged and compact construction

(c)   no moving parts and negligible deflection under load

(d)   low resistance to side load and low overload withstand

(e)   hermetically sealed and thermal compensation.

Ans: d

34.   Which type of device is suitable for dynamic force measurement:

(a)   lever balance

(b)   spring balance

(c)   proving ring

(d)   piezo-electric transducer

(e)   all of the above.

Ans: d

1935. Hysteresis errors in Bourdon tubes can be minimized by :

(a)   selecting proper material

(b)   proper design and fabrication

(c)   using them well within the designed pressure range

(d)   avoiding direct entry of steam into it

(e)   calibrating it from time to time.

Ans: c

36. In case of strain gauge transducers, several strain cycles, and temperature cycles are carried out before making measurements, in order to :

(a)   increase life

(b)   enable high repeatable readings

(c)   eliminate premature failures

(d)   increase accuracy

(e)   avoid drift.

Ans: b

37.   Accuracy of standard pressure gauges, used for testing and calibration purposes is of the order of :

(a)   ± 1.5%

(b)   ± 1%

(c)   ± 0.5%

(d)   ± 0.25%

(e)   ±0.1%.

Ans: d

38.   Which gauge is based on the change of heat conductivity of a gas with pressure and the change of electrical resistance of a wire with temperature :

(a)   thermocouple gauge

(b)   Bourdon gauge

(c)   Ionization gauge

(d)   nuitating disk gauge

(e)   Pirani gauge.

Ans: e

39.   Which of the following have relatively large and negative temperature coefficients of resistance :

(a)   radiation pyrometers

(b)   optical pyrometers

(c)   thermistors

(d)   platinum resistance detectors

(e)   thermocouples.

Ans: c

40.   Thermal expansion of a solid is employed in :
(a)   thermocouple
(b)   resistance thermometer
(c)   bulb thermometer
(d)   bimetal element
(e)   zener diode.

Ans: d

41.   Cold junction compensation is needed in ase of measurement of temperature by :
(a)   thermocouple
(b)   thermopile
(c)   thermistor
(d)   zener diode
(e)   resistance thermometer.

Ans: a

42.   Which of the following consists of a very thin strip of nickel or platinum foil which responds to temperature in the same manner as the resistance thermometer :
(a)   thermo pile
(b)   bolometer
(c)   radiation pyrometer
(d)   thermistor
(e)   optical pyrometer.

Ans: b

43.   For measuring temperature in the range of 20 to 600°C, following liquid is used in glass thermometer :
(a)   mercury
(b)   alcohol
(c)   toluene
(d)   pentane
(e)   creosote.

Ans: a

44.   For measuring temperature in the range of 200 to 30°C, following liquid is used in glass thermometer:
(a)   mercury
(b)   alcohol
(c)   toluene
(d)   pentane
(e)   creosote.
Ans: d

45.   Which of the following glass is used for 00-600°C temperature measurement by mercury-in-glass thermometer :
(a)   lead glass
(b)   normal grade
(c)   borosilicate
(d)   supermax
(e)   any one of the above.
Ans: d

46.   Pick up false statement about liquid-in-metal thermometers :
(a)   remote indication of temperature can't be given
(b)   error is produced if capillary passes through hot zone
(c)   error also occurs if instrument base is at high ambient temperature
(d)   error can also creep in by the head of the liquid if the bulb is installed either above or below the Bourdon
(e)   these are used for industrial applica-tions where accuracy is not so impor-tant.
Ans: a

47.   Twisting the thermocouple wires together and heat welding them :
(a)   is the standard practice of making junction
(b)   would result in noise generation
(c)   cause small errors due to local e.m.f. which may arise if the junction is too long
(d)   would slow down the response
(e)   result in inaccuracies.
Ans: c

48.   Which of the following thermocouple generates highest e.m.f. for a given temperature :
(a)   copper-constantan

(b) iron–constantan

(c) chromel–alumel

(d) platinum–rhodium platinum

(e) silver–palladium.

Ans: b

49. Protective coating by a suitable cover are applied over strain gauge in order to protect it against:

(a) temperature rise

(b) dust and dirt

(c) moisture

(d)   ageing

(e)   shorting by conductive contact.

Ans: c

50. The resistance of strain gauge grid used in pressure transducers is of the order of :

(a)   0.1 to 1 ohm

(b)   1 to 10 ohm

(c) 10 to 100 ohm

(d) 100 to 2000 ohm

(e) 2000 to 105 ohm

Ans: d

51. During temperature changing conditions, quite appreciable difference, occurs be tween the –true–temperature and the measured temperature because of the time required for the transfer of heat through thermometer pockets (thermowells) to thermometer sensing element. This time lag is of the order of :

(a)   0.1 to 1 sec

(b)   1 to 2.5 sec

(c) 2.5 to 10 or 20 sec

(d) 25 to 100 sec

(e) 100 to 500 sec.

Ans: c

52. Pick up false statement:

(a) copper–constantan thermocouple is a stable couple resistant to both oxidis¬ing and reducing atmosphere, but needs protection from acidic vapours

(b) Iron-constantan thermocouple suffers from oxidation attack on iron wire, if exposed

(c) iron-constantant couple can be made stable by using enamelled iron

(d) Both wires of chromel-alumel ther-mocouples are prone to damage by sulphurous gases

(e) copper-constantan thermocouple is used as a reference standard for calibration purposes.

Ans: e

53. Automatic cold junction compensation in thermocouple is provided by :

(a) connecting thermocouple wires, in op-position

(b) a nickel wire resistance in series with a manganin resistance

(c) maintaining cold junction temperature constant by a cooling unit

(d) using a photovoltaic cell

(e) connecting a dry battery cell in opposi¬tion.

Ans: b

54. The material used for resistance temperature sensor is :

(a) copper

(b) nickel

(c) platinum

(d) any one of above

(e) none of above.

Ans: d

55. To prevent self-heating errors becoming too great, the current through platinum element (100 ohm) is kept at a very small value :

(a) 0.1 raA

(b) 1 mA

(c) 5 mA

(d) 20 mA

(e) 50 mA.

Ans: c

56. In calibration of temperature sensors by fixed point method, the device is calibrated at:

(a) ice point (0°C)

(b) steam point (100°C)

(c) sulphur point (444.6°C)

(d) all of the above

(e) none of the above.

Ans: d

57. Pick up correct statement about calibration of temperature sensors by comparison method using liquid bath :

(a) water is used for temperatures from 0 to 100°C

(b) special grade of paraffin oil is used for temperatures between 100 and 200°C

(c) For temperature between 200 and 600°C, a mixture of sodium nitrate and potassium nitrate is used

(d) all of above are true

(e) none of above is true.

Ans: d

58. Local velocity is measured by a :

(a) pitot tube

(b) venturi tube

(c) orifice plate

(d) vena contracta device

(e) nozzle.

Ans: a

59. Flange taps in case of orifice plate are installed :

(a) 25 mm from each side of the orfice plate

(b) D (pipe diameter) upstream and D/2 downstream

(c) just at surface of orifice plate

(d) 2.5 D upstream and 8 D downstream

(e) any one of the above.

Ans: a

60. Vena-contracta taps are employed :

(a) D upstream and D downstream from the plate

(b) D upstream and at vena contracta

(c) 2 D upstream and at vena contracta

(d) just at surface of plate upstream and at vena contracta

(e) any one of the above.

Ans: b

61. For an orfice plate having ratio of inside and pipe diameter as 0.5, the pressure loss in

comparison to differential pressure created is of the order of :

(a)   5%

(b)   10%

(c)   20%

(d)   35%

(e)   50%.

Ans: e

62.   15° taper venturi tube causes loss of following % of the differential pressure :

(a)   5%

(b)   10%

(c)   20%

(d)   30%

(e)   40%.

Ans: b

63.   Pick out false statement about advantages of orifice plates, used for flow measurement :

(a)   no moving parts

(b)   long-term reliability

(c)   highturn-down ratio

(d)   inexpensive

(e)   inherently simple in operation.

Ans: c

64.   Pick out false statement about disadvantages of orifice plates :

(a)   square root relationship

(b)   poor turn-down ratio

(c)   critical installation requirements

(d)   short-term reliability

(e)   high irrecoverable pressure loss.

Ans: d

65.   Dall tube is another variation of :

(a)   orifice plate

(b)   nozzle

(c)   venturi tube

(d)   rotameter

(e)   pitot-tube.

Ans: c

66.   Target meter is concerned with measure-ment of:

(a)   flow

(b)   pressure

(c)   viscosity

(d)   density

(e)   level.

Ans: a

67.   The flow error in case of normal nozzles is of the order of :

(a)   0.1%

(b)   0.2%

(c)   0.5%

(d)   1%

(e)   2%.

Ans: d

68.   Which of the following flow meter maintains a constant pressure differential but varies the orifice area with flow :

(a)   Ledoux bell

(b)   variable area

(c)   straightening vane

(d)   variable head

(e)   vane-type.

Ans: b

69.   Flow in open channels is measured by using :

(a)   nozzle

(b)   orifice plate

(c)   propeller

(d)   weir

(e)   vortex-shedding meter.

Ans: d

70.   For measuring air flow, following meter is often used :

(a) vane-type or anemometer

(b) electro magnetic flow meter

(c) vortex-shedding meter

(d) ultrasonic flow meter

(e) pitot tube.

Ans: a

71. Laser droppler anemometer is used to measure :

(a) pressure

(b) velocity

(c) level

(d) density

(e) temperature.

Ans: b

72. In which flow device the pressure loss is minimum :

(a) orifice plate

(b) nozzle

(c) variable orifice meter

(d) venturi tube

(e) Dall tube.

Ans: e

73. Pick out the odd flow measuring device among the following :

(a) positive displacement type

(b) nutating disc type

(c) sliding vane type

(d) turbine type

(e) hydraulic flume.

Ans: e

74. Dynamometers are :

(a) force measuring devices

(b) torque measuring devices

(c) power measuring devices

(d) energy measuring devices

(e) displacement measuring devices.

Ans: c

75.   In some measurements, in order to increase the sensitivity, two measuring and two reference cells are often used. This arrange ment is usually referred to as :
(a)   wheatstone bridge
(b)   katharometer
(c)   attenuator
(d)   amplifier
(e)   Kelvin bridge.
Ans: b

76.   Paramagnetic analyser is used to measure following gas sample in air
(a)   oxygen
(b)   ozone
(c)   nitrogen
(d)   nitrogen oxides
(e)   hydrocarbons.
Ans: a

77.   Continuous analysers for measuring following are based on the chemiluminescent flameless reaction with ethylene :
(a)   oxygen
(b)   ozone
(c)   sulphur oxides
(d)   nitrogen oxides
(e)   pollutants.
Ans: b

78.   In capillary viscometer, viscosity is proportional to :
(a)   flow
(b)   1/flow
(c)   Vflow
(d)   1/Vfl ow
(e)   1/flow3/2.
Ans: b

79.   Industrial flow meters are based on :

(a)   rotational devices

(b)   flow through restrictions

(c)   flow around obstructions

(d)   all of above

(e)   none of above.

Ans: d

80.   Chromatographic analyser is used to measure the :

(a)   02 content in flue gases

(b)   C02 content in flue gases

(c)   CO content in flue gases

(d)   amount of individual gases in a mix¬ture

(e)   amount of elements in an alloy.

Ans: d

81.   The Ringelmann chart is associated with measurement of:

(a)   smoke density

(b)   S02 and S03

(c)   NO,

(d)   CO

(e)   dust concentration.

Ans: a

82.   The pH value is a measure of hydrogen ionin a solution. The letters pH stand for :

(a)   percentage of H2 in solution

(b)   power of the hydrogen ion concentra-tion

(c)   presence of hydrogen ions

(d)   purity of H20

(e)   none of the above.

Ans: b

83.   The density can be measured using :

(a)   weight

(b)   buoyancy

(c)   hydrostatic head

(d)   resonant elements

(e)   all of above.

Ans: e

84. Electrode potential is concerned with measurement of:
(a) density
(b) viscosity
(c) chemical analysis
(d) PH
(e) all of above.
Ans: d

85. Almost all pH measurements are best made with a:
(a) glass electrode
(b) solid state electrode
(c) liquid ion exchange electrode
(d) redox electrode
(e) heterogeneous membrane electrode.
Ans: a

86. Pure water has pH value of 7. This means that pure water has :
(a) 7 g of ionized hydrogen per litre
(b) 10 g of ionized hydrogen in/m
(c) 1CT7 % of ionized hydrogen
(d) 10"7 g of ionized hydrogen per litre
(e) none of the above.
Ans: d

87. Which measurement is a good guide to the quality of the water :
(a) conductivity
(b) pH
(c) dissolved 02 content
(d) turbidity
(e) all of the above.
Ans: a

88. The commonly used unit of conductivity is:
(a) mho
(b) mho/m

(c)   n mho/cm

(d)   ohm/m

(e)   m mho/mm.

Ans: c

89.   Spectrophotometer is used to :

(a)   measure surface hardness

(b)   measure surface characteristics

(c)   measure chemical composition of al-loys

(d)   analyse colour spectrum

(e)   analyse gas composition.

Ans: d

90.   The change in length of humidity sensitive elements is measured by :

(a)   hydrometer

(b)   hygrometer

(c)   psychrometer

(d)   photometer

(e)   all of the above.

Ans: b

91.   The orsat apparatus is used for measuring:

(a)   chemical analysis of flue gases

(b)   moisture in air

(c)   composition of alloys

(d)   colour spectrum

(e)   molecular configuration.

Ans: a

92.   The error caused in vibration measuring equipment due to non compliance (not stiff) of bond made between sensor and the surface it is mounted is called :

(a)   cross-coupling

(b)   coupling compliance

(c)   influence error

(d)   subject loading by sensor

(e)   spurious variation in capacitance.

Ans: b

93. Machine health monitoring is mainly based on measurement of:
(a) lub oil pressure
(b) vibrations at strategic points
(c) bearing temperature measurement
(d) efficiency and losses of machine
(e) all of above.
Ans: b

94. Mass-spring seismic sensors measure directly the :
(a) displacement
(b) velocity
(c) acceleration
(d) shock
(e) force.
Ans: c

95. An operation which, in the presence of a disturbing influence, tends to reduce the difference between the actual state of a system and an arbitrarily varied desired state and which does so on the basis of this difference, is called :
(a) automatic control
(b) feedback control
(c) open feed back control
(d) closed feed back control
(e) self regulation.
Ans: d

96. An apparatus which measures the value of a quantity or condition which is subject to change with time, and operates to maintain within limits this measured value, is called
(a) automatic regulator
(b) self controller
(c) feedback controller
(d) two-position controller
(e) floating regulator.
Ans: a

97. The time required for the controlled variable to reach a specified value after the application of

a step input is called :

(a) rise time

(b) settling time

(c) response time

(d) peak time

(e) proportional time.

Ans: c

98. The operating characteristic which inherently assists the establishment of equilibrium is called :

(a) corrective action

(b) self regulation

(c) automatic regulation

(d) proportional control action

(e) floating controller action.

Ans: b

99. The quantity or condition of the controlled system which is directly, measured or controlled :

(a) set point

(b) deviation

(c) controlled variable

(d) command signal

(e) control agent.

Ans: c

100. The range of values through which the variable must change to cause the final control element to move from one extreme position to the other :

(a) throttling range

(b) disturbance

(c) proportional band

(d) response

(e) deviation.

Ans: a

101. The range of scale values through which the controlled variable must pass in order that the final control element be moved through its entire range :

(a) throttling

(b)   floating band

(c)   controller band

(d)   settling time

(e)   proportional band.

Ans: e

102.   A controller action in which there is a predetermined relation between the values of the controlled variable and the rate of motion of a final control element:

(a)   floating controller action

(b)   proportional–position controller action

(c)   proportional–speed floating control¬ler action

(d)   two–position controller action

(e)   self–regulation controller action.

Ans: a

103.   The controller action in which there is continuous linear relation between the position of the final control element and the value of the controlled variable :

(a)   floating controller action

(b)   proportional–position controller action

(c)   proportionrl–speed floating controller action

(d)   two–position controller action

(e)   self–regulation controller action.

Ans: b

104.   The stability, accuracy, and speed ofresponse of a control system are determined by analysing :

(a)   its mathematical model

(b)   closed–loop feedback control system

(c)   steady–state response

(d)   transient response

(e)   steady–state and transient response.

Ans: e

105.   The steady–state performance is evaluated in terms of the :

(a)   accuracy with which the output is controlled for a specified input

(b)   maximum overshoot

(c)   rise time

(d)   response time

(e)   all of the above.

Ans: a

106.   The transient performance, i.e. the behaviour of the output variable as the system changes, from one steady-state

condition to another, is evaluated in terms of;

(a)   accuracy

(b)   settling time

(c)   response time

(d)   peak time

(e)   maximum overshoot, rise time, and response time.

Ans: e

107.   The immediately apparent feature of an observed transient performance is :

(a)   the existence and magnitude of the maximum overshoot

(b)   the frequency of the transient oscilla-tion

(c)   the response time

(d)   all of the above

(e)   none of the above.

Ans: d

108.   Following is the property of the system which opposes a change in the output variable :

(a)   load

(b)   power element

(c)   resistance

(d)   damping

(e)   all of the above.

Ans: d

109.   When an automatic control system is the output variable overshoots its desired steady-state condition and a transient oscillation occurs :

(a)   underdamped

(b)   over damped

(c)   critically damped

(d)   damped

(e)   without damping.

Ans: a

110.   The overshoot and the settling time are maximum with :

(a)   underdamped system

(b)   overdamped system

(c)   critically damped system

(d)   damped system

(e)   non damped system.

Ans: a

111.   The steady state output of the system to input sinusoids of varying frequency is referred to as :

(a)   frequency response of a system

(b)   Nyquist plot

(c)   Bode plot

(d)   transient response

(e)   logarithmic plot.

Ans: a

112.   System function is expressed as :

(a)   Response function

(b)   lyccitation function

(c)   (a)/(b)

(d)   (b)/(a)

(e)   characteristic equation.

Ans: c

113.   The frequency response can be obtained analytically from the :

(a)   characteristic equation

(b)   transfer functions of the components

(c)   polar plot

(d)   Bode diagram

(e)   all of the above.

Ans: b

114.   The transient performance characteristics of the control are conveniently obtained from curve of the :

(a)   open-loop frequency response func-tion

(b)   transfer functions of system

(c)   closed loop frequency response

(d)   all of above

(e)   none of above.

Ans: a

115.   The % age of silica in water is measured by a :

(a)   colorimeter

(b)   photometer

(c)   electro chemical equipment

(d)   conductivity cell

(e)   Katharometer.

Ans: a