NATIONWIDE EDUCATION AND SCHOLARSHIP TEST (N.E.S.T.)

SAMPLE QUESTIONS

Important: Please note that the questions given in this Sample Question Paper are for example only. The number and distribution of questions in each section of the actual paper will be as advertised in our publicity material in the relevant section of this website and posters sent to your college this year.

Section-I
PHYSICS & CHEMISTRY

1. An electron moving in an electromagnetic field moves—
   (a) In a straight path
   (b) Along the same plane in the direction of its propagation
   (c) Opposite to the original direction of propagation
   (d) In a sine wave

2. The total work done on the particle is equal to the change in its kinetic energy
   (a) Always
   (b) Only if the forces acting on the body are conservative.
   (c) Only if the forces acting on the body are gravitational.
   (d) Only if the forces acting on the body are elastic.

3. The following unit measure energy:
   (a) Kilo-watt hour.
   (b) Volt*volt/sec*ohm.
   (c) Pascal*foot*foot
   (d) (Coulomb*coulomb)*farad

4. Astronauts in stable orbits around the earth are in a state of weightlessness because
   (a) There is no gravitational force acting on them.
   (b) The satellite and the air inside it have acceleration equal to that of gravitational acceleration there.
   (c) The gravitational force of the earth and the sun balance giving null resultant.
   (d) There is no atmosphere at the height at which the satellites move.

5. An organ pipe, open at both ends and another organ pipe closed at one end, will resonate with each other, if their lengths are in the ratio of
   (a) 1:1   (b) 1:4   (c) 2:1   (d) 1:2

6. During an isothermal expansion of an ideal gas
   (a) Its internal energy increases.
   (b) Its internal energy decreases.
   (c) Its internal energy does not change.
   (d) The work done by the gas is not equal to the quantity of heat absorbed by it.

7. A parallel plate capacitor is charged and the charging battery is then disconnected. If the plates of the capacitor are moved further apart by means of insulating handles
   (a) The charge on the capacitor increases.
   (b) The voltage across the plates increases.
   (c) The capacitance increases.
   (d) The electrostatic energy stored in the capacitor decreases.

8. Two equal negative charges q are fixed at point (0,a) and (0,-a) on the y-axis. A positive charge Q is released from rest at the point (2a,0) on the x-axis. The charge Q will
   (a) Execute simple harmonic about the origin
   (b) Move to the origin and remain at rest
   (c) Move to infinity
   (d) Execute oscillatory but not simple harmonic motion

9. A square conducting loop of length L on a side carries a current I.
   The magnetic field at the centre of the loop is
   (a) Independant of L
   (b) Proportional to L*L
   (c) Inversely proportional to L
   (d) Directly proportional to L.

10. The focal length of a convex lens when placed in air and then in water will
   (a) Increase in water with respect to air
   (b) Increase in air with respect to water
   (c) Decrease in water with respect to air
   (d) Remain the same

11. The maximum kinetic energy of the photoelectron emitted from the surface is dependant on
   (a) The intensity of incident radiation
   (b) The potential of the collector electrode
   (c) The frequency of incident radiation
   (d) The angle of incidence of radiation of the surface

12. An electron orbiting in a circular orbit around the nucleus of the atom
   (a) Has a magnetic dipole moment
   (b) Exerts an electric force on the nucleus equal to that on it by the nucleus
   (c) Does not produce a magnetic induction at the nucleus
   (d) All of the above

13. The X-rays beam coming from an X-ray tube will be:
   (a) Monochromatic.
   (b) Having all wavelengths smaller than a certain minimum wavelength
   (c) Having all wavelengths larger than a certain minimum wavelength
   (d) Having all wavelengths lying between a minimum and a maximum wavelength

14. The mass number of a nucleus is
   (a) Always less than its atomic number
   (b) Always more than its atomic number
   (c) Always equal to its atomic number
   (d) Sometimes more and sometimes equal to its atomic number

15. Two successive elements belonging to the first transition series have the same number of electrons partially filling orbitals. They are
   (a) V and Cr   (b) Ti and V   (c) Mn and Cr   (d) Fe and Co

16. When n=l has the same value for two or more orbitals,the new electron enters the orbital where
   (a) n is maximum   (b) n is minimum   (c) l is maximum   (d) l is minimum

17. A balloon filled with ethylene is pricked with a sharp pointed needle and quickly placed in a tank full of hydrogen at the same pressure. After a while the balloon would have
   (a) Shrunk
   (b) Enlarged
   (c) Completely collapsed
   (d) Remain unchanged in size

18. Which of the following statements is not true?
   (a) The ratio of the mean speed to the rms speed is independant of temperature
   (b) The square of the mean speed of the molecules is equal to the mean squared speed at a certain temperature
   (c) Mean kinetic energy of the gas molecules at any given temperature is independant of the mean speed
   (d) None

19. Which of the following statements represent Raoult's Law?
   (a) Mole fraction of solvent = ratio of vapour pressure of the solution to vapour pressure of the solvent
   (b) Mole fraction of solute = ratio of vapour pressure of the solution to vapour pressure of the solvent
   (c) Mole fraction of solute = lowering of vapour pressure of the solution.
   (d) Mole fraction of solvent = lowering of vapour pressure of the solution

20. Elements having the same atomic number and the same atomic mass are known as
   (a) Isotopes
   (b) Isotones
   (c) Isomers
   (d) None of the above

21. Which is the most acidic amongst
   (a) Nitrophenol
   (b) O-toulene
   (c) Phenol
   (d) Cresol

22. Pure water does not conduct electricity because it is
   (a) Almost not ionised
   (b) Low boiling
   (c) Neutral
   (d) Readily decomposed

23. In a salt bridge, KCl is used because
   (a) It is an electrolyte
   (b) The transference number of K+ and Cl– is nearly the same
   (c) It is a good conductor of electricity
   (d) All of the above

24. A depolarizer used in the dry cell batteries is
   (a) KCl   (b) MnO2   (c) KOH   (d) None of the above

25. The hydrolysis of alkyl halides by aqueous NaOH is best termed as
   (a) Electrophilic substitution reaction
   (b) Electrophilic addition reaction
   (c) Nucleophilic addition reaction
   (d) Nucleophilic substitution reaction

26. The hydrocarbon that gives a red precipitate with ammoniacal cuprous chloride is (where 'O' means a triple bond)
   (a) CH3-CH2-CH2-CH3
   (b) CH3-COC-CH3
   (c) CH2=CH-CH=CH2
   (d) CH3-CH2-COCH

27. Which of the following reagents is neither neutral nor basic
   (a) Lucas' reagent
   (b) Tollen's reagent
   (c) Bayer's reagent
   (d) Fehling's solution

28. The substance which is most easily nitrated
   (a) Toluene
   (b) Bbenzene
   (c) Nitrobenzene
   (d) Chlorobenzene

29. Carbylamine reaction is a test for
   (a) Primary amine
   (b) Secondary amine
   (c) Tertiary amine
   (d) Quarternary ammonium salt

30. Which of the following oxides cannot be reduced by carbon to obtain metal
   (a) ZnO
   (b) Al2O3
   (c) Fe2O3
   (d) PbO

31. Which of the following is not an oxide ore?
   (a) Cassiterite
   (b) Siderite
   (c) Pyrolusite
   (d) Bauxite

32. Which among the following is called philosopher's wool
   (a) Cellulose
   (b) Calamine
   (c) Stellite
   (d) Cerussite

33. When a bicycle is in motion,the force of friction exerted by the ground on the two wheels is such that it acts
   (a) In the backward direction on the front wheel and in the forward direction on the rear wheel.
   (b) In the forward direction on the front wheel and in the backward direction on the rear wheel.
   (c) In the backward direction on both the front and rear wheels.
   (d) None of the above.

34. A certain radioactive element A, has a half life = t seconds.
   In (t/2) seconds the fraction of the initial quantity of the element so far decayed is nearly
   (a) 29%
   (b) 15%
   (c) 10%
   (d) 45%

35. Which of the following plots would be a straight line ?
   (a) Logarithm of decay rate against logarithm of time
   (b) Logarithm of decay rate against logarithm of number of decaying nuclei
   (c) Decay rate against time
   (d) Number of decaying nuclei against time

36. A radioactive element x has an atomic number of 100.
   It decays directly into an element y which decays directly into element z.
   In both processes a charged particle is emitted.
   Which of the following statements would be true?
   (a) y has an atomic number of 102
   (b) y has an atomic number of 101
   (c) z has an atomic number of 100
   (d) z has an atomic number of 101

37. If the sum of the roots of the equation ax² + bx + c=0 is equal to the sum of the squares of their reciprocals then a/c, b/a, c/b are in
   (a) AP
   (b) GP
   (c) HP
   (d) None of these

38. A man speaks the truth 3 out of 4 times.
   He throws a die and reports it to be a 6.
   What is the probability of it being a 6?
   (a) 3/8
   (b) 5/8
   (c) 3/4
   (d) None of these

39. If cos²A + cos²B + cos²C = 1 then ABC is a
   (a) Right angle triangle
   (b) Equilateral triangle
   (c) All the angles are acute
   (d) None of these

40. Image of point (3,8) in the line x + 3y = 7 is
   (a) (-1,-4)
   (b) (-1,4)
   (c) (2,-4)
   (d) (-2,-4)

41. The mass number of a nucleus is
   (a) Always less than its atomic number
   (b) Always more than its atomic number
   (c) Sometimes more and sometimes equal to its atomic number
   (d) None of the above

42. The maximum KE of the photoelectron emitted from a surface is dependent on
   (a) The intensity of incident radiation
   (b) The potential of the collector electrode
   (c) The frequency of incident radiation
   (d) The angle of incidence of radiation of the surface

43. Which of the following is not an essential condition for interference
   (a) The two interfering waves must be propagated in almost the same direction or the two interfering waves must intersect at a very small angle
   (b) The waves must have the same time period and wavelength
   (c) Amplitude of the two waves should be the same
   (d) The interfering beams of light must originate from the same source

44. When X-Ray photons collide with electrons
   (a) They slow down
   (b) Their mass increases
   (c) Their wavelength increases
   (d) Their energy decreases

45. An electron emits energy
   (a) Because its in orbit
   (b) When it jumps from one energy level to another
   (c) Electrons are attracted towards the nucleus
   (d) The electrostatic force is insufficient to hold the electrons in orbits

1. Configuration of an UART in serial communication has
   a. clock signal   b. baud rate, stop bit, data length   c. both   d. none

2. Deadlock happens when two processes waiting for the resources used by each other; in this condition
   a. both processes know that they are waiting for each other
   b. one process knows that other is waiting
   c. both a and b
   d. none

3. Physical memory location in running program is resolved by
   a. linker   b. compiler   c. loader   d. none

4. Task switching is switching between
   a. processes   b. threads   c. concurrent part in same program   d. all

5. In 2-pass compiler
   a. identifier can be used without its declaration
   b. identifier should be declared before its first use
   c. both
   d. none

6. The difference between functional/ordinary SDLC and object-oriented SDLC is
   a. in functional SDLC, the development time is more than design time
   b. in object oriented SDLC, design time is more than development time.
   c. both
   d. none

7. Which of the following is not a bus-interface for a microprocessor?
   a. ISA   b. AGP   c. PCI   d. ICE

8. Which of the following statements is true for structure?
   a. a structure can contain a pointer to itself.
   b. structure can be compared
   c. both
   d. none

9. Which is not defined as codd's rule of RDBMS?
   a. comprehensive data sub-language rule   b. view updates
   c. physical data dependency   d. integrity dependency

10. Encryption means
    a. text to cipher   b. cipher to text   c. both   d. none

11. In micro-processor, over clocking will result in
    a. overheating   b. malfunctioning   c. both   d. none

12. Caché is
    a. ROM   b. RAM   c. PROM   d. EPROM

13. Unix os implements two types of pipes, one is formatted and the other is
    a. low level pipes   b. high level pipes   c. middle level pipes   d. none

14. Which of the following remains in memory temporarily?
    a. Resident portion of COMMAND.COM   b. Transient portion of COMMAND.COM
    c. API   d. Disk BIOS

15. If the time quantum is too large, Round Robin scheduling degenerates to
    a. Shortest Job First Scheduling   b. Multi-level Queue Scheduling
    c. FCFS   d. None of the above

16. Transponders are used for which of the following purposes?
    a. Uplinking   b. Downlinking   c. Both (a) and (b)   d. None of the above

17. The format specifier "-%d" is used for which purpose in C?
    a. Left justifying a string   b. Right justifying a string
    c. Removing a string from the console   d. Used for the scope specification of a char[] variable

18. Virtual functions allow you to
    a. Create an array of type pointer-to-base-class that can hold pointers to derived classes
    b. Create functions that have no body
    c. Group objects of different classes so they can all be accessed by the same function code
    d. Use the same function call to execute member functions to objects from different classes

19. A sorting algorithm which can prove to be a best time algorithm in one case
    and a worst time algorithm in worst case is
    a. Quick Sort   b. Heap Sort   c. Merge Sort   d. Insert Sort

20. Banker's algorithm for resource allocation deals with
    a. Deadlock prevention   b. Deadlock avoidance   c. Deadlock recovery   d. None of these

21. Which of the following communications lines is best suited to interactive processing applications?
    a. Narrowband channels   b. Simplex channels   c. Full-duplex channels   d. Mixedband channels

22. What is the main function of a data link content monitor?
    a. To detect problems in protocols
    b. To determine the type of transmission used in a data link
    c. To determine the type of switching used in a data link
    d. To determine the flow of data

23. Which of the following memories has the shortest access time?
    a. Caché memory   b. Magnetic bubble memory   c. Magnetic core memory   d. RAM

24. In which of the following page replacement policies, Balady's anomaly occurs?
    a. FIFO   b. LRU   c. LFU   d. NRU

25. After execution of CMP, a instruction in Intel 8085 microprocessor
    a. ZF is set and CY is reset.   b. ZF is set CY is unchanged
    c. ZF is reset, CY is set   d. ZF is reset, CY is unchanged

26. In a certain society, there are two marriage groups, red and brown. No marriage is permitted within a group. On marriage, males become part of their wives groups; women remain in their own group. Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden
    A male born into the brown group may have
    a. An uncle in either group   b. A brown daughter
    c. A brown son   d. A son-in-law born into red group

27. A parallel plate air-filled capacitor has plate area of 10^{-4} m² and plate separation of 10^{-3} m. It is connected to a 0.5 V, 3.6 GHz source. The magnitude of the displacement current is ($e_0 = 1/36p \times 10^{-9}$ F/m)
    a. 10 mA   b. 100 mA   c. 10 A   d. 1.59 mA

28. The phase velocity of an electromagnetic wave propagating in a hollow metallic rectangular waveguide in the TE_{10} mode is
    a. equal to its group velocity   b. less than the velocity of light in free space
    c. equal to the velocity of light in free space   d. greater than the velocity of light in free space

29. Noise with uniform power spectral density of N_0W/Hz is passed through a filter $H(w) = 2 \exp(-jwt_4)$ followed by an ideal low pass filter of bandwidth BHz. The output noise power in Watts is
    a. $2N_0B$ b. $4N_0B$ c. eN_0B d. $16 N_0B$

30. The cascade amplifier is a multi-stage configuration of
    a. CC-CB   b. CE-CB   c. CB-CC   d. CE-CC

1. For a cantilever beam with uniformly varying load, shape of bending moment curve is
   a. parabolic   b. hyperbolic   c. straight line   d. cubic.

2. For 1st order lever, mechanical advantage is
   a. <1   b. >1   c. =1   d. none

3. The negative resistance characteristic is exhibited by
   a. Diode   b. Triode   c. Tetrode   d. Pentode

4. Thermal efficiency of IC engines will be
   a. 20-25%   b. 30-35%   c. 60-75%   d. 45- 55%.

5. When a mass is supported by a spring of constant k, which is cut in 4 equal pieces and connected in parallel way, the equivalent spring constant is
   a) k/4   b) 16k c) 64k   d) o.4k.

6. Mass production of bolts and rivets is by
   a. hot extrusion   b. forging   c. cold heading d. cold peening

7. Mercury doesn't stick to glass tube because
   a. cohesive force>adhesive force   b .cohesive force<adhesive force
   c. cohesive force= adhesive force   d. none of the above

8. Euler's formula is used for column of length
   a. >80   b. <80   c. >90   d. >110

9. If a body weighing 40 kg floats in water with 40% of volume immersed, the sp. gravity of the body is
   a. 1   b. 0.16 c. 0.25   d. none

10. If center distance of an involutes mating gear changes then the pressure angle
    a. increases b. decreases c. remains unaltered d. neither of them

11. Normalising is
    a. heated above critical temp and cooled in air
    b. heated above critical temp and quenched in oil
    c. heated below critical temp and cooled in air
    d. none of these.

12. The best suited material for permanent magnet is
    a. Alnico   b. silicon   c. copper   d. mild steel

13. Hooke's joint is used for
    a. parallel and intersecting shafts   b. non-parallel non-intersecting
    c. non-parallel and intersecting d. parallel and non-intersecting

14. Which of the following is a loose running fit?
    a. h6f6   b. h6e6 c. h6d6   d. none of these

15. Specific speed in a turbo machine depends on
    a. geometric shape   b. size c. head d. all of these

16. Unit of surface roughness is
    a. micron   b. PPM   c. mm2   d. meter

17. Mohr's circle is used to find
    a. principle stress   b. resultant of ANS   c principal strain d. none

18. Which one in the following has less carbon content?
    a. tool steel b. spring steel   c. carburising steel   d. forging steel

19. Spheroidising is a process of
    a. annealing   b. normalising   c. tempering   d. case hardening

20. What type of thread is used in lead screw of a lathe
    a. acme thread   b. V c. square   d. buttress

21. Wear allowance of a go nogo end plug gauge is given for
    a. go end   b. nogo end   c. both   d. none

22. Herring bone gears are used when it is required that a/an
    a. axial thrust is transmitted   b. radial thrust is transmitted
    c. torque is transmitted.   d. None of the above

23. In ball bearings, cage is used to
    a. maintain the ball position   b) maintain parallelism between inner and outer race
    c. both   d. none

24. Distance of ozone layer from surface of earth
    a. 0 to 100 km   b. 20 to 50 km   c. 50 to 100 km   d. 10 to 15 km

25. An elevator is moving up with an acceleration of 4.9 m/sec2 with a body weighing 15 kg is attached with spring balance. What is the value in the spring balance?
    a. 10   b. 15   c. 20   d. 30

26. At same heat input and max pressure
    a. efficiency of Otto cycle is more than diesel   b. efficiency of dual cycle is more than diesel
    c. efficiency of diesel cycle is more than Otto   d. all the above

27. Bending stress is (if y is the distance from the neutral axis)
    a. inversely proportional to y   b. proportional to y
    c. independent of y   d. none of the above

28. Which of the following is a wrong statement?
    a. Plaster of Paris is made from dolomite, bauxite and limestone.
    b. Highest temperature is represented by red colour.
    c. In ball bearing, grease lubrication acts as boundary layer lubrication.
    d. Diesel is always the most efficient fuel for automobiles.

29. Fahrenheit and centigrade are equal at
    a. -40   b. 0   c. 32 d. 100

30. Melting point of ice changes with
    a. increase with pressure   b. increase with pressure ratio c. Both d. none

Q.1.   Non-circatrical alopecia is seen in

A.   Alopecia aerate

B.   Autoimmune in etiology

C.   Pseudopalade

D.   DLE

Ans: A

Q.2.   Direct immunofluorescence is positivie in

A.   Atopic dermatitis

B.   SLE

C.   Pemphigus

D.   Secondary syphilis

Ans: C

Q.3.   Shortest acting non depolarizing muscle relaxant

A.   Mevacurium

B.   Vercuronium

1. For 1 cu m of first class Brick Work (metric brick), the no. of bricks required will be
   (a) 400   (b) 450   (c) 500   (d) 550

2. Where ordinary Portland cement is used, removal of properties under slabs spanning up to 4.5m may be done (according to BIS 456-1978) after expiry of
   (a) 5 days (b) 7 days   (c) 10 days   (d) 15 days

3. In the calculation of carpet area, the area of corridor and passage of a building will be
   (a) included   (b) excluded   (c) 40% included (d) 80% included

4. For earthwork the unit of lead for a distance of 500m is
   (a) 30m   (b) 50m (c) 60m (d) 100m

5. For 2 coats white washing on a coat of primer to new plaster, the quality of unslaked lime in kg required per sqm area will be
   (a) 20   (b) 25   (c) 30   (d) 35

6. Surveyor companies used to measure the
   (a) QB   (b) WCB   (c) FB   (d) BB

7. Width of Gauge for a railway track (B.G.) in metre is
   (a) 1.625   (b) 1.676   (c) 1.675   (d) 1.673

8. Mach number is the ratio of

   (a) inertia and gravity force (b) inertia & elastic force
   (c) viscous & inertia force   (d) none of the these

9. The bearing of is line AB of an equilateral triangle ABC (anti dockwise) is 60°, the bearing of line CA is
   (a) 90°   (b) 180 °   (c) 60°   (d) 240°

10. Toughness of Aggregate is determined by
    (a) impact value test   (b) crushing value test
    (c) abrasion test   (d) shape test

11. The city Chandigarh was planned by Architect
    (a) Frank Lloyd Wright   (b) Le-Carbousier
    (c) Bruce Allospp   (d) J.N.L. Durand

12. If the floor to floor height of a building is 3.6mts, numbers of tread will be (height of one riser is 15cm)
    (a) 24   (b) 23   (c) 25   (d) 22

13. If the plot area is 3000 m^2 and F.S.I. is 1.5, then built-up area will be
    (a) 250m^2 (b) 3000 m^2 (c) 2000 m^2 (d) 4500 m^2

14. Which is not the principle of planning?
    (a) roominess   (b) aspect   (c) unity   (d) circulation

15. Airports are classified under
    (a) residential zone   (b) industrial zone
    (c) agricultural zone   (d) none of these

16. Order of color (Descending) in road traffic signal is
    (a) Red, Green, Yellow   (b) Green, Yellow, Red
    (c) Yellow, Green, Red   (d) Red, Yellow, Green

17. School Ahead sign is
    (a) Warning sign   (b) Informatory sign
    (c) Regulatory sign   (d) Control sign

18. Pyramids were designed in :
    (a) Mughal Architecture   (b) Egyptian Architecture
    (c) Roman Architecture   (d) Greek Architecture

19. Aggregate impact value < 10% categorized under
    (a) strong   (b) week for road surfacing
    (c) exceptionally strong   (d) satisfactorily for road surfacing

20. The degree of precision required in survey work mainly depends on the
    (a) purpose of survey   (b) area to be surveyed
    (c) source of error   (d) nature of field

21. The first railway line between Mumbai and Thane was opened in the year
    (a) 1844   (b) 1853   (c) 1854   (d) 1855

22. Trim command in Auto-CAD is the command of
    (a) Draw   (b) Format   (c) Modify   (d) Help

23. Which of the following is unit of Kinematic Viscosity in SI System
    (a) m^2/sec (b) N-sec/m^2 (c) Stokes   (d) Poise

24. A Clinometer is used for measuring the
    (a) slope   (b) distance   (c) level   (d) none of these

25. Least count of a Prismatic Compass is

    (a) 30 min (b) 15 min   (c) 45 min   (d) 1 min

26. The minimum grade of concrete recommended by IS 450-2000
    (a) M15 (b) M20 (c) M25 (d) M30

27. The first sky scraper building in Mumbai was
    (a) World Trade Centre, Coloba   (b) Kalpataru Heights, Agripada
    (c) Usha Kiran, Tardeo   (d) Fortune Tower, J.J.Road

28. The Water collected at Bhandup Treatment Plant comes from
    (a) Vaitama Dam (b) Tansa Dam (c) Bhatsa Dam   (d) Badlapur Dam

29. Sand stone is
    (a) sedimentary rock (b) metamorphic rock (c) igneous rock (d) volcanic rock

30. The maximum Bearing Capacity of soil is that of
    (a) black cotton soil   (b) loose fire sandy soil   (c) hard rock   (d) soft clay soil

1. During Prophase-I of meiosis-I, crossing over takes place between:
   (a) Some homologous pairs only.
   (b) non-sister chromatids of some homologous chromosomes only.
   (c) non-sister chromatids of each homologous pair.
   (d) All of these.

2. In Mendelian experiments, an F_1 individual produces gametes in the ratio of $1:1:1:1$. This is because:
   (a) it is a dihybrid.   (b) of independent assortment
   (c) it is dihybrid test cross ratio   (d) both a and b

3. A gene located a Y-chromosome and hence transmitted from father to son is know as :
   (a) Operator gene   (b) Supressor gene
   (c) Holandric gene   (d) Sex-linked recessive gene

4. A person shows blood pressure of 160/90. He is suffering from:
   (a) Hypotension   (b) No tension
   (c) Hypertension   (d) Arteriosclerosis

5. One of the following is used as a green manure. Identify it.
   (a) Rhizobium radicicola   (b) Crotalaria juncea
   (c) Bacillus polymyxa   (d) Plants with root nodules only.

6. The types of gametes produced by a single heterozygous yellow round pea plant may be -
   (a) YR, Yr, yR, yr   (b) YR, yR   (c) YR, Yr   (d) b or c

7. One of the following is not a man made intergeneric hybrid -
   (a) Raphanobrassica   (b) Pomato
   (c) Secale cereale   (d) Triticale

8. Genes are -
   (a) segments of chromosomes
   (b) made of DNA segments and associated histone proteins
   (c) specific polynucleotide sequences in DNA
   (d) all of these

9. Producer gas differs from bio gas because -
   (a) it is produced through microbial action
   (b) it contains carbon monoxide
   (c) it does not burn with smokeless flame
   (d) it is produced in fermenter tank

10. Agriculture is considered a primary industry in India because -
    (a) It accounts for nearly $2/5^{th}$ of the Gross National Product.
    (b) It empoys majority of working population
    (c) It gives primary education in starting an industry
    (d) All the three.

11. Some pairs of codons and anticodons are given as follows -
    (a) AUG – UAC   (b) GGU – CCU
    (c) CAG – GUC   (d) AUU – UAA

12. Point out the statement which is not applicable to the pesticides
    (a) many pesticides are not target specific
    (b) some pesticides are poisonous
    (c) pesticides pollute soil, water and air
    (d) pesticides minimize economic loss in agriculture

13. The sex organs are totally absent but sexual reproduction takes place in –
    (a) Rhodophyceae   (b) Basidiomycetes
    (c) Chlorophyceae   (d) Imperfect fungi

14. A pea plant with the genotype Rr YY TT is a -
    (a) trihybrid   (b) dihybrid
    (c) monohybrid   (d) single heterozygous dominant

15. Which of the following are not naturally synthesized in human body?
    (a) proteins   (b) enzymes
    (c) vitamins   (d) all the three

16. How many types of nitrogen containing bases are found in a nucleotide of DNA?
    (a) 2   (b) 4   (c) 3   (d) 1

17. DAP is a form of -
    (a) high energy containing compound used in cell metabolism.
    (b) biomass used for production of bioenergy
    (c) animal energy
    (d) organic waste of animal origin

18) The flower in Hibiscus (China rose) is -
    (a) hypogynous   (b) monadelphous
    (c) epipetalous   (d) all of these

19. Fragmentation is a type of -
    (a) sexual reproduction   (b) asexual reproduction
    (c) clonal propagation   (d) vegetative cultivation

20. In aerobic respiration, total number of ATP formed without involving ETS comes to -
    (a) 6 ATP   (b) 4 ATP   (c) 2 ATP   (d) 8 ATP

21. Alleles are the -
    (a) two genes on the homologous chromosomes
    (b) two forms of the same gene
    (c) two genes present on the same locus of a homologous chromosomes
    (d) two homologous chromosomes with identical gene loci

22. The hybrid, improved Mexican wheat varieties developed by Norman Borlaug wer -
    (a) dwarf
    (b) succeptible to diseases
    (c) with high quality but poor yield
    (d) with high yield but poor quality and resistance to diseases

23. Cycas shows -
    (a) heterospory   (b) heterophylly
    (c) heterogametophytes (d) all of these

24. CO_2 is not released during -
    (a) aerobic respiration   (b) anaerobic respiration
    (c) alcoholic fermentation (d) Lactic acid fermentation

25. (i) Multiplication   (ii) Propagation   (iii) Perpetuation
    All of these represent –
    (a) rejuvenation   (b) reproduction
    (c) replication   (d) recreation

26. Which one of the following is not inexhaustible resource?
    (a) sun light   (b) tidal power   (c) coal   (d) rainfall

27. Two DNA strands are
    (a) parallel and complementary
    (b) antiparallel and non-complementary
    (c) antiparallel and complementary
    (d) parallel and non-complementary

28. Plasmids are obtained from
    (a) fungi   (b) algae   (c) bacteria   (d) virus

29. Replication of DNA, new strand has
    (a) one parental and one old strand
    (b) both new strands
    (c) both old strands
    (d) one parental and one new strand

30. s-RNA is called ribosomal RNA because
    (a) it is located in ribosome   (b) synthesized in ribosome
    (c) destroy in ribosome   (d) formed in ribosome

31) DNA fragment of gene library are made up of -
    (a) dead plants   (b) dead animals
    (c) living bacteria   (d) dead bacteria

32. What is scientific name of Holy basil?
    (a) Aloe vera   (b) Adathoda uasica
    (c) Oscimum sanctum   (d) Azadirachta indica

33. In Aloe vera …….. active principal present
    (a) saponin   (b) tannin
    (c) barbalain   (d) vasakin

34. Rhizobium fixes N_2 in legumes due to
    (a) haemoglobin   (b) leghaemoglobin
    (c) globulin   (d) hematoglobin

35. Transpiration is related to which of the following
    (a) wilting of leaves (b) shoot formation
    (c) flowering induction (d) bud formation

36. In Hill reaction, Hill used …….. to prove the presence of oxygen.
    (a) ferric cynide   (b) ferric salt
    (c) haemoglobin   (d) leghaemoglobulin

37. Photolysis of water requires
    (a) light and water   (b) light and chlorophyll
    (c) light and CO_2 (d) CO_2 and H_2O

38. In plant during photosynthesis PGA is reduced by -
    (a) NAD   (b) FAD
    (c) $NADPH_2$ (d) $FADH_2$

39. With H_2O and chlorophyll, the most essential raw material for photosynthesis is
    (a) CO_2 (b) O_2
    (c) H_2S (d) CO

40. During glycolysis 3 PGAL is phosphorylated into 1,3 – diPGA by using
    (a) phosphoric acid   (b) ATP
    (c) ADP   (d) AMP

41. Pyruvic acid is formed after the glycolysis contains …….. carbon atoms.
    (a) 4   (b) 6   (c) 3   (d) 2

42. From following …….. is the common respiratory substrate.
    (a) amino acid   (b) glucose   (c) protein   (d) fats

43. The double fertilization includes fusion of one male gamete with female gamete and another male gamete with -
    (a) secondary nucleus (b) egg cell
    (c) nucellus   (d) antipodal cell

44. The female gametophyte is represented by -
    (a) nucellus   (b) egg cell
    (c) embryo sac   (d) antipodal cells

45. The micropyle of anatropous ovule is closes to
   (a) hilum   (b) chalaza
    (c) funicle   (d) style

While the following sample questions do not collectively comprise an entire assessment, they do illustrate the manner in which many of the topics might be assessed. (*Calculator use is optional in answering the multiple-choice questions.*)

1. Which of the following is the graph of $-3 \leq x < 2$?

(A)

(B)

(C)

(D)
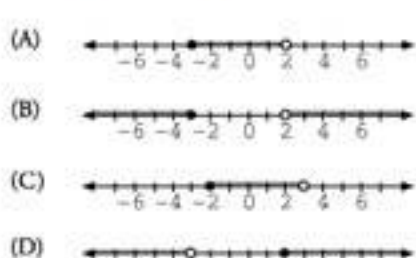
2. In the figure below, which pair of points is on the line $2x + 3y = 0$?
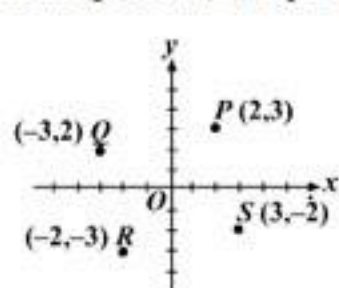
(A) P and Q (B) Q and R (C) Q and S (D) R and S

3. For the equation $4y = 2x$, which of the following statements is true?

(A) The value of y increases 4 times as fast as the value of x.

(B) The value of y increases 2 times as fast as the value of x.

(C) The value of y increases $\frac{1}{2}$ as fast as the value of x.

(D) The value of y increases $\frac{1}{4}$ as fast as the value of x.

4. If $x = -2$, $y = 3$, and $z = -4$, what is the value of $\frac{2x^2 - y}{3z}$?

(A) $-\frac{13}{12}$ (B) $-\frac{5}{12}$ (C) $\frac{5}{12}$ (D) $\frac{11}{12}$

5. Which of the following is a graph of a function of x?

(A)   (B)

(C)   (D)
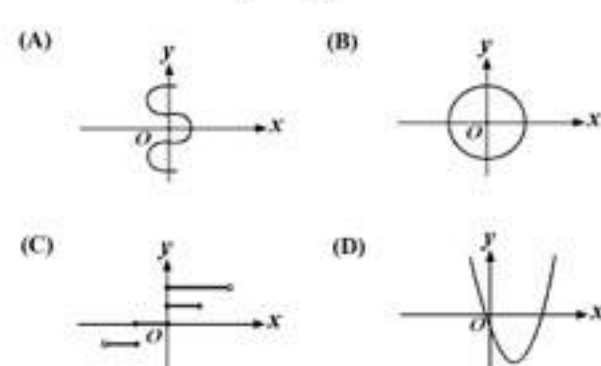
6. If $4x - 3(x + 1) = 5$, what is the value of x?

(A) $\frac{1}{2}$ (B) 4   (C) 6   (D) 8

7. When a new movie opened at a local theater, the numbers of tickets sold in each of the first four days were w, x, y, and z, respectively. If $w > x > y > z$, then which of the following could be true?
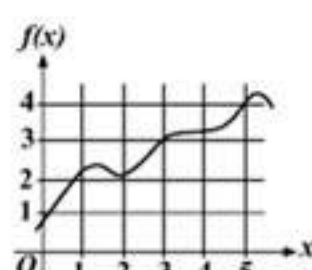
(A) $x = w + y$ (B) $w = x + y$ (C) $w + x = x + z$ (D) $w + x + y = z$

8. What is the slope of the line $2x - 5y = 15$?

(A) $-\frac{5}{2}$ (B) $-\frac{2}{5}$ (C) $\frac{2}{5}$ (D) $\frac{5}{2}$

9. In the equation $y = x^2$, if x is increased by 3, then y is increased by

(A) 6   (B) 9   (C) $6x + 6$ (D) $6x + 9$

10. The figure above shows a portion of the graph of a function f. According to the graph, if $f(x) = 3.6$, then x is between which of the following?

(A) 1 and 2   (B) 2 and 3   (C) 3 and 4   (D) 4 and 5

11. There are 150 weights. While some are 1 kg., others are 2 kg. The sum of all the weights is 260. What is the number of 1 kg. weights?

(a) 45   (b) 35   (c) 40   (d) 50

12. A car travels 12 kms. with his 4/5th filled tank. How far will it travel if its tank is 1/3 filled?

(a) 6 kms.   (b) 4 kms.   (c) 15 kms.   (d) 5 kms.

13. The sum of the digits of a two-digit number is 8. When 18 is added to the number, the digits are reversed. Find the number?

(a) 33   (b) 53   (c) 30   (d)35

14. Father's age is 5 times his son's age. 4 years back the father was 9 times older than his son. Find the father's present age.

(a) 42 years (b) 40 years   (c) 45 years   (d) 38 years

15. If 20 workers take 15 days to complete a job, in how many days can 25 workers finish the same job?

a) 10 days   b) 12 days   c) 8 days   d) 11 days

16. If Rs. 1,260 is divided between A, B and C in the ratio 2:3:4, what is C's share?

(a) Rs. 560   (b) Rs. 550   (c) Rs.540   (d) Rs. 650

17. If A is traveling at 72 km per hour on a highway. B is traveling at a speed of 21 meters per second on a highway. What is the difference in their speed in m/sec?

(a) 1.2 m/sec(b) 1.1 m/sec   (c) 1 m/sec   (d) 0.8 m/sec

18. There is a six-letter word UGANDA. How many ways can you arrange the letters in the word in such a way that both A's are together.

(a) 24   (b) 240   (c) 60   (d) none of these

19. Complete the series. 3, 8, _, 24, _, 48, 63.

(a) 14, 34   (b) 12, 36   (c) 15, 35   (d) none of these

20. Complete the series: 4, -5, 11, -14, 22, _.

(a) 49   (b) -33   (c) -23   (d) -27

21. A finishes the work in 10 days & B in 8 days individually. If A works for only 6 days then how many days should B work to complete the remaining work?

(a) 3.2 days (b) 3 days   (c) 2.9 days   (d) 3.6 days

22. A boy has Rs. 2. He wins or loses Re. 1 at a time. If he wins, he gets Re. 1 and if he loses the game, he loses Re. 1. He can loose only 5 times. He is out of the game if he earns Rs. Find the number of ways in which this is possible?

(a) 12   (b) 16   (c) 20   (d) 18

23. $a + 2b = 6$, $ab = 4$, $2/a + 1/b =$ _.

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

24. There are a certain number of rows in which if we place 5, 7, or 9 balls per row, then no ball remains. But if we place 11 balls, then one ball is less to complete the row. Find out no of balls.

(a) 315   (b) 630   (c) 945   (d) cannot be determined

25. A frog tries to jump out of a well 30m high. It jumps 3m up and slips down 2m each time. After how many jumps will it come out of the well?

(a) 30   (b) 27   (c) 28   (d) cannot be determined

26. Out of 10 white, 9 black and 7 red balls, in how many ways can we select one or more balls

(a) 234   (b) 52   (c) 630   (d) 879

26. A and B throw a dice. The probability that A's throw is not greater than B's is

(a) 5/12   (b) 7/12   (c) 11/12   (d) 5/36

27. Given two numbers A and B, let A denotes the single AM between these and S denotes the sum of n AMs between them. Then S/A depends upon

(a) n   (b) n,a   (c) n,b   (d) n,a,b

28. If the sum of the roots of the equation $ax^2+bx+c=0$ is equal to the sum of the squares of their reciprocals, then, a/c, b/a, c/b are in

(a) AP   (b) GP   (c) HP   (d) None of the these

In the following questions (105 and 106), ~ represents the integral sign, for example, $1\sim2[f(x)]$ means integration of the function f(x) over the interval 1 to 2.

29. The value of $-1\sim2[|2-x^2|]dx$, i.e. integration of the function $|2-x^2|$ over the interval -1 to 2 is

(a) 0   (b) 1   (c) 2   (d) None of the above

30. If $0\sim\Box[\log \sin x]dx=k$, then the value of $0\sim\Box/4[\log(1 + \tan x)]dx$, where $\Box$ stands for pi, is

(a) -k/4   (b) k/4   (c) -k/8   (d) k/8

31. If a, b, c be in GP and p,q be respectively AM between a,b and b,c then

(a) 2/b=1/p+1/q   (b) 2/b=1/p-1/q   (c) 2=a/p-c/q   (d) None of the above

32. A solution of KMnO4 is reduced to MnO2. The normality of solution is 0.6. The molarity is

(a) 1.8M   (b) 0.6M   (c) 0.1M   (d) 0.2M

33. A person travels 12 km in the southward direction and then travels 5km to the right and then travels 15km toward the right and finally travels 5km towards the east, how far is he from his starting place?

(a) 5.5 kms   (b) 3 km   (c) 13 km   (d) 6.4 km

110. X's father's wife's father's granddaughter uncle will be related to X as

(a) Son   (b) Nephew   (c) Uncle   (d) Grandfather

34. Find the next number in the series 1, 3, 7, 13, 21, 31, _

(a) 43   (b) 33   (c) 41   (d) 45

35. If in a certain code "RANGE" is coded as 12345 and "RANDOM" is coded as 123678, then the code for the word "MANGO" would be

(a) 82357   (b) 89343   (c) 84629   (d) 82347

36. Integrate $3x + 5 / (x^3-x^2-x+1)$

(a) 1/2 log | (x+1)/(x-1)| - 4/(x-1)   (b) log |2+tanx|

(c) -(1+logx)/x   (d) 2 log(tanx)/(tanx+2)

37. If $y=\cos^2(\cos x + 4\sin x)/(17)^{1/2}$, then dy/dx is

(a) 0   (b) 1   (c)-1   (d) none of these

Section-IV
ENGLISG LANGUAGE / VERBAL ANALYSIS

Choose the correct synonyms.

1. TO DISPEL
   a. to dissipate   b. to dissent   c. to distort   d. to disfigure

2. LATITUDE:
   a. scope   b. segment   c. globule   d. legislature

3. DEPRECIATION:
   a. Deflation   b. Depression   c. Devaluation   d. fall

4. DISPARITY:
   a. inequality   b. impartiality   c. unfairness   d. twist

5. OVATION:
   a. oration   b. gesture   c. emulation   d. applause

6. INSINUATE:
   a. invisible   b. hint   c. inaccurate   d. cause resentment

7. PROLIFIC:
   a. scrace   b. abundant   c. beseech   d. crave

8. RELINQUISH:
   a. repudiate   b. fecund   c. vanquish   d. cede

9. RUPTURE:
   a. break   b. continue   c. enthusiasm   d. happiness

10. NASCENT:
    a. latent   b. reactive   c. emerging   d. unstable

Choose the correct antonyms.

11. DILIGENCE:
    a. caution   b. Laziness   c. assiduousness   d. meticulousness

12. DOGMATIC:
    a. Flexible   b. Alternating   c. Imperfect   d. authoritarian

13. CRYPTIC:
    a. hidden   b. essential   c. explicit   d. smooth

14. ALIENATE:
    a. Estrange   b. warm   c. accept   d. irradiate

15. PRECARIOUS:
    a. uncertain   b. Stable   c. critical   d. causal

16. DEPRECATE:
    a. augment   b. reduce   c. approve   d. deny

17. CROSS:
    a. happy   b. divide   c. group   d. cropper

18. CHIMERICAL:
    a. chide   b. realistic   c. draconian   d. draught

19. UNTOWARD:
    a. unwieldy   b. plausible   c. convenient   d. phlegmatic

20. VAGRANT
    a. ubiquitous   b. twaddle   c. retract   d. settled

Choose correct alternatives.

21. I saw her _____ the airport
    a. at   b. on   c. in   d. into

22. Dr. Manoj Gupta specialises _____ pleasant, well-balanced wines.
    a. into   b. about   c. in   d. with

23. By the time I arrived _____ the pub she already left.
    a. in   b. on   c. at   d. into

24. What's the time _____ your watch?
    a. in   b. on   c. at   d. by

25. When will you come _____ the play?
    a. by   b. at   c. for   d. on

Pick up the correct spellings.

26. a. suparintendent   b. superintendent
    b. sweeperintendent   d. superentendant

27. a. separate   b. sepurate
    c. sweeprate   d. separite

28. a. suceed   b. succeed
    c. saxede   d. seccede

29. a. insurence   b. independence
    c. intemperet   d. indelgense

30. a. despair   b. dispair
    c. souviner   d. covard

Section-III
LOGIC / REASONING

Read the passage carefully and answer the following questions.

"There are six steps that lead from the first to the second floor. No two people can be on the same step. Mr. A is two steps below Mr. C and Mr. B is a step next to Mr. D. Only one step is vacant (No one is standing on that step). Denote the first step by step 1 and second step by step 2 etc."

1. If Mr. A is on the first step, which of the following is true?
   (a) Mr. B is on the second step
   (b) Mr. C is on the fourth step
   (c) Mr. E, could be on the third step
   (d) Mr. D is on higher step than Mr. C.

2. If Mr. E was on the third step & Mr. B was on a higher step than Mr. E, which step must be vacant?
   (a) step 1   (b) step 2   (c) step 4   (d) step 5

3. If Mr. B was on step 1, which step could A be on?
   (a) 2 & 3 only   (b) 3 & 4 only   (c) 3 & 5 only   (d) 4 & 5 only.

4. If there were two steps between the step that A was standing and the step that B was standing or, and A was on a higher step than D, A must be on step _.
   (a) 2   (b) 3   (c) 4   (d) 5

5. In A language, if intelligent is coded as hosfkmhhdos, how is 'suspect' coded?
   (a) ttofdu   (b) tttofbu   (c) rvrqdds   (d) rvrqbds

6. In a class composed of x girls and y boys, what part of class is composed of girls?
   (a) y/(x + y)   (b) x/xy   (c) x/(x + y)   (d) y/xy

7. There are 200 questions on a 3 hr examination. Among these questions, 50 are maths problems. It is suggested that twice as much time be spent on each maths problem as for each other question. How many minutes should be spent on mathematics problems?
   (a) 36   (b) 72   (c) 60   (d) 100

Read the passage carefully and answer the following questions.

"All G's are H's. All G's are J's or K's.
All J's and K's are G's.
All L's are K's.
All N's are M's.
No M's are G's."

8. If no P's are K's, which of the following must be true?
   (a) All P's are J's
   (b) No P is a G
   (c) No P is an H
   (d) If any P is an H it is a G

9. Which of the following can be logically deduced from the conditions stated?
   (a) No M's are H's
   (b) No M's that are not N's are H
   (c) Both a and b are correct
   (d) None of the above is correct

10. Which of the following inconsistent with one or more of the conditions?
    (a) All H's are G's
    (b) All H's that are not G's are M's
    (c) Some H's are both M's and G's
    (d) No M's are H's

Read the passage carefully and answer the following questions.

"Six swimmers A, B, C, D, E, F compete in a race. The outcome is as follows.
i.   B does not win.
ii.   Only two swimmers separate E & D.
iii. A is behind D & E
iv.   B is ahead of E, with one swimmer intervening
v.   F is ahead of D
vi.   F is ahead of D"

11. Who stood fifth in the race?
    (a) A   (b) B   (c) C   (d) E

12. How many swimmers separate A and F?
    (a) 1   (b) 2   (c) 4   (d) cannot be determined

13. The swimmer between C & E is _.
    (a) None   b) F   (c) D   (b) B

14. If at the end of the race, swimmer D is disqualified by the judges then swimmer B finishes in which place?
    (a) 1   (b) 2   (c) 3   (d) 4

15. If "PROMPT" is coded as QSPLOS, then "PLAYER" should be
    (a) QMBZFS   (b) QWMFDW   (c) QUREXM   (d) URESTI

The questions 130-135 are based on the following pattern.The problems below contain a question and two statements giving certain data. You have to decide whether the data given in the statements are sufficient for answering the questions. The correct answer is
   (A) If statement (I) alone is sufficient but statement (II) alone is not sufficient.
   (B) If statement (II) alone is sufficient but statement(I) alone is not sufficient.
   (C) If both statements together are sufficient but neither of statements alone is sufficient.
   (D) If both together are not sufficient.

15. What is John's age?
    (I) In 15 years John will be twice as old as Dias would be   (II) Dias was born 5 years ago

16. What is the distance from city A to city C in kms?
    (I) City A is 90 kms from City B   (II) City B is 30 kms from City C

17. If A=C. A, B, C are real numbers, then -
    (I) A-B=B-C   (II) A-2C = C-2B

18. What is the 30th term of a given sequence?
    (I) The first two terms of the sequence are 1, ½   (II) The common difference is -1/2

19. Was Avinash early, on time or late for work?
    (I) He thought his watch was 10 minutes fast   (II) Actually his watch was 5 minutes slow

20. What is the value of A if A is an integer?
    (I) $A^4 = 1$ (II) $A^3 + 1 = 0$

1. Which of the following is not correct about the characteristics of the roman Gods/goddesses?
   a. **Jupiter:** Supreme God, linked to weather, heaven, agriculture, , justice, war, peace treaties, and light.
   b. **Juno:** Wife of Jupiter, protector women.
   c. **Minerva:** Goddess of Wisdom, crafts, industries and trade.
   d. **None** of the above.

2. To which musical Gharana does Bismillah Khan belong?
   a. Delhi Gharana
   b. Bambai Gharana
   c. Chennai Gharana
   d. None of the above

3. In Hindu mythology, what is the name of the auspicious jewel Lord Vishnu wears on a pendant around his neck?
   a. Kaustubham
   b. Arindham
   c. both
   d. none

4. In Indian musical terminology, what is the feminine of Raga?
   a. Raga Bhairvi
   b. Raga Pahari
   c. both
   d. none

5. With reference to Indian Public Finance, consider the following statements:
   1. Disbursements from Public Accounts of India are subject to the Vote of Parliament.
   2. The Indian Constitution provides for the establishment of a Consolidated Fund, a Public Account and a Contingency Fund for each State.
   3. Appropriations and disbursements under the Railway Budget are subject to the same form of parliamentary control as other appropriations and disbursements.
   Which of the statements given above are correct?
   (a) 1 and 2   (b) 2 and 3
   (c) 1 and 3   (d) 1, 2 and 3

6. Consider the following statements:
   1. The First Session of the Indian National Congress was held in Calcutta.
   2. The Second Session of the Indian National Congress was held under the Presidentship of Dadabhai Naoroji.
   3. Both Indian National Congress and Muslim League held their sessions at Lucknow in 1916 and concluded the Lucknow Pact.
   Which of the statements given above is/are correct?
   (a) 1 and 2   (b) 2 only
   (c) 2 and 3   (d) 3 only

7. Which one of the following statements is correct?
   (a) The Constituent Assembly of India was elected by the Provincial Assemblies in the year 1946.
   (b) Jawaharlal Nehru, M.A. Jinnah and Sardar Vallabhbhai Patel were members of the Constituent Assembly of India.
   (c) The First Session of the Constituent Assembly of India was held in January, 1947.
   (d) The Constitution of India was adopted on 26th January, 1950.

8. Consider the following statements:
   1. The highest criminal court of the district is the Court of District and Sessions Judge.
   2. The District Judge are appointed by the Governor in consultation with the High Courts.
   3. A person to be eligible for appointment as a District Judge should be an advocate or a pleader of seven years' standing or more, or an officer in judicial service of the Union or the State.
   4. When the Sessions Judge awards death sentence, it must be confirmed by the High Court before it is carried out.
   Which of the statements given above are correct?
   (a) 1 and 2   (b) 2, 3 and 4
   (c) 3 and 4   (d) 1, 2, 3 and 4

9. Consider the following statements:
   1. The Speaker of Lok Sabha has the power to adjourn the House *sine die* but, on prorogation, it is only the President who summons the House.
   2. Unless sooner dissolved or there is an extension of the term, there is an automatic dissolution of the Lok Sabha by efflux of time, at the end of the period of five years, even if no formal order of dissolution is issued by the President.
   3. The Speaker of Lok Sabha continues in office even after the dissolution of the House and until 'immediately before the first meeting of the House'
   Which of the statements given above are correct?
   (a) 1 and 2   (b) 2 and 3
   (c) 1 and 3   (d) 1, 2 and 3

10. Consider the following statements:
   1. Non-function of lachrymal gland is an important symptom of deficiency of Vitamin A.
   2. Deficiency of Vitamin B can lead to indigestion and heart enlargement.
   3. Vitamin C deficiency can lead to pain in the muscles.
   4. Deficiency of Vitamin D causes increased loss of Ca++ in urine.
   Which of the statements given above are correct?
   (a) 1 and 2   (b) 2, 3 and 4
   (c) 1, 3 and 4   (d) 1, 2, 3 and 4

11. The hormone insulin is a
   (a) Glycolipid   (b) Fatty acid
   (c) Peptide   (d) Sterol

12. The Archaeological Survey of India (ASI) is an attached office of the Department /Ministry of:
   (a) Culture
   (b) Tourism
   (c) Science and Technology
   (d) Human Resource Development

13. Which of the following is a wrong statement?
   a. AFFIDAVIT - A statement on oath for use as evidence in legal proceedings.
   b. COPYRIGHT - Exclusive right of an author in his works.
   c. DECREE - Judgment or decision having the force of law.
   d. PLAINTIFF - A person who has to undergo emotional pain due to justice passed on is not in his favour.

14. Who is the original writer of the famous collection of poems *Rubaiyaat*?
   a. Ameer Khusru
   b. Matthew Arnold
   c. Harvansh Rai Bachchan
   d. Gulzar

15. Which one of the following statements is not correct?
   (a) The largest Buddhist monastery in India is in Assam
   (b) The languages Konyak is spoken in Nagaland
   (c) The largest river island in the world is in Assam
   (d) Sikkim is the least-populated State of the Indian Union

16. Consider the following statements:
   1. The Chinese pilgrim Fa-Hien attended the fourth Great Buddhist Council held by Kanishka.
   2. The Chinese pilgrim Huen-Tsang met Harshavardhan and found him to be antagonistic to Buddhism.
   Which of the statements given above is/are correct?
   (a) 1 only   (b) 2 only
   (c) Both 1 and 2   (d) Neither 1 nor 2.

17. Consider the following crops:
   1. Cotton   2. Groundnut
   3. Maize   4. Mustard
   Which of the above are Kharif crops?
   (a) 1 and 2   (b) 1, 2 and 3
   (c) 3 and 4   (d) 1, 2, 3 and 4

18. Which one of the following statements is not correct?
   (a) The largest Buddhist monastery in India is in Assam
   (b) The languages Konyak is spoken in Nagaland
   (c) The largest river island in the world is in Assam
   (d) Sikkim is the least-populated State of the Indian Union

19. Consider the following statements:
   1. Non-function of lachrymal gland is an important symptom of deficiency of Vitamin A.
   2. Deficiency of Vitamin B can lead to indigestion and heart enlargement.
   3. Vitamin C deficiency can lead to pain in the muscles.
   4. Deficiency of Vitamin D causes increased loss of Ca++ in urine.
   Which of the statements given above are correct?
   (a) 1 and 2   (b) 2, 3 and 4
   (c) 1, 3 and 4   (d) 1, 2, 3 and 4

20. The hormone insulin is a
   (a) Glycolipid   (b) Fatty acid
   (c) Peptide   (d) Sterol

21. In which organ of the human body are the lymphocyte cells formed?
   (a) Liver   (b) Long bone
   (c) Pancreas   (d) Spleen

22. Water required per day per head in India is :
   (a) 135 litres   (b) 200 lit   (c) 105 lit   (d) 150 lit

23. Department of survey of India is situated at
   (a) Mumbai   (b) Chandigarh   (c) Dehradun   (d) Bangalore

24. Dr. A.P.J. Kalam is the
   a. 11th President of India   b. 12th President of India
   c. 13th President of India   d. 14th President of India

25. Which of the following statements is not correct?
   a. The Taj Mahal is on the bank of River Yamuna.
   b. The Indian capital Delhi is on the bank of River Yamuna.
   c. The city of Kanpur is situated on the bank of Yamunad.
   d. Golden Temple is in Amritsar.

26. The Taj Mahal was completed in

   (a) 20 yrs   (b) 22 yrs   (c) 21 yrs   (d) 15 yrs

27. The Commercial capital of India is
   (a) Delhi   (b) Calcutta   (c) Chennai   (d) Mumbai

28. Which among the following National Highway routes is the longest?
   (a) Agra-Mumbai   (b) Chennai-Thane   (c) Kolkata-Hajira   (d) Pune-Machilipatnam

29. Which of the following authors won the Booker Prize twice?
   (a) Margaret Atwood   (b) J.M. Coetzee
   (c) Graham Swift   (d) Ian McEwan

30. In the well-known Lawn Tennis doubles team, Max Mirnyi - once the partner of Mahesh Bhupati - comes from which of the following countries?
   (a) Italy   (b) Sweden   (c) Belarus   (d) Croatia

31. Which of the following cricketers holds the record for the highest score in a Test Cricket Team Match innings by an Indian?
   (a) Sunil Gavaskar   (b) Vinoo Mankad
   (c) Sachin Tendulkar   (d) V.V.S. Laxman

32. INS Trishul, acquired by the Indian Navy in 2003, has been built by
   (a) Israel   (b) USA   (c) Russia   (d) France

33. INSAT-3E, India's communi-cation satellite, was launched in 2003 from
   (a) French Guiana   (b) Seychelles
   (c) Mauritius   (d) Mauritania

34. Which one of the following statements is correct?
   'Deccan Odyssey' is
   (a) A book on Chatrapati Shivaji
   (b) A warship recently acquired by the Indian Navy
   (c) A recently started air service between Mumbai and Colombo
   (d) A luxury train which travels through Maharashtra and includes Goa in its Journey

35. Which one of the following cities (they were in the news in recent times) is not correctly matched with its country?
   (a) Salamanca   : Spain
   (b) Cannes   : Italy
   (c) Cancun   : Mexico
   (d) Bruges   : Belgium

36. Standard 18-carat gold sold in the market contains
   (a) 82 parts gold and 18 parts other metals
   (b) 18 parts gold and 82 parts other metals
   (c) 18 parts gold and 6 parts other metals
   (d) 9 parts gold and 15 parts other metals

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