076/2025

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. The principle is used to derive equations of motion for constrained mechanical systems :

(A) Newton's Laws

(B) D'Alembert's Principle

(C) Lagrange's Principle

(D) Hamilton's Principle

2. A particle of mass, m moves under the action of central force whose potential is $V(r) = kmr^3 (k > 0)$. Then energy for which the orbit will be circle of radius a about the origin is :

(A) $\frac{3}{2}mka^3$

(B) $\frac{3}{2}mka^2$

(C) $\frac{1}{2}mka$

(D) $\frac{1}{2}mka^2$

3. If $Q = q^a \cos bp$, $P = q^a \sin bp$ represents a Canonical transformation, the values of a and b are :

(A) $a = 1; b = 2$

(B) $a = \frac{1}{2}; b = 2$

(C) $a = 2; b = 1$

(D) $a = 2; b = \frac{1}{2}$

4. Which of the following is incorrect about Coriolis force?

(A) It is maximum at the poles

(B) It is zero at equator

(C) It deflects the wind to the right direction Southern hemisphere

(D) It deflects the wind to the right direction : Northern hemisphere

5. If a planet A has a longer orbital period than another planet B average distance of the planet A from the Sun :

(A) larger

(B) smaller

(C) cannot be determined

(D) same

6. In the logistic map equation $x_{n+1} = r \cdot x_n \cdot (1 - x_n)$, r represents :

(A) initial population size

(B) growth rate of the population

(C) carrying capacity of the environment

(D) bifurcation parameter controlling system behaviour

7. The Hamiltonian of a particle of mass m, with coordinate q whose Lagrangian is $L = \frac{1}{2}m\dot{q}^2 - \frac{k}{2}q\dot{q}^2$, k is a constant, is :

(A) $\frac{p\dot{q}}{2}$

(B) $\frac{p^2}{2m} + \frac{kqp^2}{2(m-kq)^2}$

(C) $\frac{p^2}{2(m-kq)}$

(D) $\frac{p^2}{2m} + \frac{kqp^2}{2m^2}$

8. The key property of Fourier series that makes it useful for representing periodic functions :

(A) converges uniformly for all functions

(B) represent any periodic function with a finite number of terms

(C) can be easily extended to all functions

(D) absolute convergence for all non-periodic functions

9. Legendre polynomials are orthogonal within the interval :

(A) $[-1, 1]$

(B) $[0, \pi]$

(C) $[0, \infty]$

(D) $[-\infty, \infty]$

10. Consider a counterclockwise circular contour $z = 1$ about the origin. Let $f(z) = \frac{z \sin z}{(z-\pi)^2}$, then the integral $\oint f(z)\,dz$ over this contour is :

(A) $i\pi$

(B) $-i\pi$

(C) zero

(D) $2i\pi$

11. Which of the following function is analytic?

(A) $|z|$

(B) $\frac{1}{z}$

(C) $\log z$

(D) $\mathrm{Re}\, z$

12. Which of the following is correct about Legendre Polynomial?

(A) $nP_n = (2n-1)xP_{n-1} - (n-1)P_{n-2}$

(B) $nP_n = xP_{n-1} - (n-1)P_{n-2}$

(C) $nP_n = (2n-1)P_{n-1} - nP_{n-2}$

(D) $nP_n = (2n-1)P_{n-1}$

13. Laguerre polynomials are commonly used in quantum mechanics to describe :

(A) Angular momentum states of particles

(B) The spatial part of wavefunctions

(C) The radial part of wavefunctions

(D) The probability distributions of particles in one-dimensional systems

14. The Dirac delta function is defined as a distribution with the property :

(A) It is continuous everywhere
(B) It is bounded
(C) It is periodic
(D) It is localized at a single point

15. In which region does an FET operate when used as a Voltage Variable Resistor (VVR)?

(A) Cutoff region
(B) Breakdown region
(C) Saturation region
(D) Ohmic region

16. What is the role of the depletion region in a *p*-*n* junction solar cell?

(A) It stores energy from sunlight for later use
(B) It creates an internal electric field that separates photo-generated electron-hole pairs
(C) It acts as a region of recombination of electrons and holes
(D) It generates electric current by thermal excitation

17. Which of the following statement is true for an inverting amplifier configuration of an Op-Amp?

(A) The output is 180° out of phase with the input
(B) The input is applied to the non-inverting terminal
(C) The output is in phase with the input
(D) The gain is always positive

18. What will be the quality factor of a band-pass filter with a lower cutoff frequency, 1 kHz and an upper cutoff frequency, 9 kHz?

(A) 0.111
(B) 0.267
(C) 0.375
(D) Infinity

19. Identify the key difference between an astable and a monostable multivibrator :

(A) Astable requires an external trigger, monostable does not
(B) Monostable requires an external trigger, astable does not
(C) Astable generates a single pulse, monostable generates a continuous wave
(D) Monostable is used for amplification, astable is not

20. Which of the following circuits is used to recover the original message signal from an AM (Amplitude Modulated) wave?

(A) Frequency multiplier
(B) Oscillator
(C) Envelope detector
(D) Mixer

21. Which of the following statement is/are correct about FM transmitters?

(i) FM transmitters vary the amplitude of the carrier signal in proportion to the input signal.

(ii) FM transmitters vary the frequency of the carrier signal based on the amplitude of the modulating signal.

(iii) FM transmitters produce signals that are more susceptible to noise than AM transmitters.

(A) Only (ii)
(B) Only (ii) and (iii)
(C) Only (iii)
(D) All of the above

22. In a microcomputer, the system bus is made up of which of the following?

(A) Data bus only
(B) Address bus only
(C) Address bus and Control bus
(D) Data bus, Address bus and Control bus

23. During 16-bit addition by using two 8-bit registers, how is the carry from the lower byte handled?

(A) Ignored
(B) Added to the higher byte addition
(C) Stored in the zero flag
(D) Reset automatically

24. What is the duration of a single T-state in an 8085 microprocessor with a clock frequency of 5 MHz?

(A) 200 nanoseconds
(B) 500 nanoseconds
(C) 5 microseconds
(D) 50 nanoseconds

25. What will be the contents of the top two stack locations following the execution of PUSH B if the contents of registers B and C are 45H and 3AH, respectively?

(A) 3AH at SP, 45H at SP-1
(B) 3AH at SP-1, 45H at SP-2
(C) 45H at SP-1, 3 AH at SP-2
(D) 45H at SP, 3 AH at SP-1

26. When interfacing an ADC to a microprocessor, the EOC signal indicates :

(A) The ADC is ready to start conversion
(B) The ADC conversion is complete and data is available
(C) The clock to the ADC is enabled
(D) The analog input has been sampled

27. If an analog multiplexer has 8 input channels (i.e., an 8-to-1 MUX), how many select lines are required to choose one input at a time?

(A) 2 (B) 4

(C) 3 (D) 8

28. Which of the following is true about the 8051's timer/counter modules?

(A) They function only as timers using internal clock

(B) They can operate only in Mode 0

(C) They can function either as timers (with external clock) or as counters (with internal pulses)

(D) They can function either as timers (with internal clock) or as counters (with external pulses)

29. Given that $\hat{T}$ and $\hat{S}$ are two linear operators, which of the following statements regarding these operators are correct :

(A) The sum and product of $\hat{T}$ and $\hat{S}$ are linear operators

(B) Sum of $\hat{T}$ and $\hat{S}$ is linear but product is not linear

(C) Sum of $\hat{T}$ and $\hat{S}$ is not linear but product is linear

(D) Both sum and product of $\hat{T}$ and $\hat{S}$ are not linear

30. Total angular momentum operator matrix j_x, j_y, j_z, J^2 for an s electron is :

(A) Hermitian but not unitary

(B) Hermitian and unitary

(C) Anti hermitian but unitary

(D) j_x, j_y, j_z are hermitian and unitary but J^2 is not

31. Consider a particle of mass m in a one dimensional harmonic oscillator potential, the ground state energy is shifted by an amount $H' = -qEx$ by the application of a weak electric field E along x direction, the first order change in energy levels is given by :

(A) $\frac{-qE}{2m\omega}$ (B) $\frac{qE}{2m\omega}$

(C) 0 (D) $\frac{-qE}{\sqrt{m\omega}}$

32. For Klein Gordon equation, which of the following statements are correct :

(A) Klein Gordon equation describes particle with spin zero both charged and neutral

(B) Klein Gordon equation with a real wave function represents a neutral particle

(C) Energy and probability density can be both positive and negative

(D) All the above statements are correct

33. Using the relativistic theory of Dirac for hydrogen atom, the phenomenon called Lamb shift breaks the degeneracy between :

(A) $2S_{\frac{1}{2}}$ and $3P_{\frac{1}{2}}$

(B) $3S_{\frac{1}{2}}$ and $2P_{\frac{1}{2}}$

(C) $2S_{\frac{1}{2}}$ and $2P_{\frac{1}{2}}$

(D) $3S_{\frac{1}{2}}$ and $3P_{\frac{1}{2}}$

34. The correct representation of Weyl equation for the anti neutrino is (σ is Pauli spin matrix and α is Dirac matrix) :

(A) $i\hbar\frac{\partial\psi}{\partial t} = i\hbar c(\sigma.\nabla)\psi$

(B) $i\hbar\frac{\partial\psi}{\partial t} = -i\hbar c(\sigma.\nabla)\psi$

(C) $i\hbar\frac{\partial\psi}{\partial t} = i\hbar c(\alpha.\nabla)\psi$

(D) $i\hbar\frac{\partial\psi}{\partial t} = -i\hbar c(\alpha.\nabla)\psi$

35. In the case of weak field Zeeman effect in Hydrogen atom, for principle quantum number $n=1$, the number of splitting and Zeeman contribution to energy are given by :

(A) No Zeeman splitting and energy contribution

(B) Zeeman splitting is 2 and Zeeman energy contribution is $\pm\mu_B B$

(C) Zeeman splitting is 2 but Zeeman energy contribution to the level is $\pm\frac{1}{2}\mu_B B$

(D) Zeeman splitting is 3 and Zeeman energy contribution is $\pm 2\mu_B B$

36. Consider a first order phase transition, which of the following statements are true at transition temperature :

(A) Molar Gibbs function is discontinuous but molar heat capacity is continuous

(B) Both molar Gibbs function and molar heat capacity are discontinuous

(C) Both molar Gibbs function and molar heat capacity are continuous

(D) Molar Gibbs function is continuous but molar heat capacity is discontinuous

37. Consider the free electrons in a metal as a fermion gas, if the specific volume of the sample is increased by eight times, then the change in the Fermi energy (E_F) and Fermi temperature (T_F) will be:

(A) E_F increased by 4 and T_F increased by 8

(B) E_F increased by 8 and T_F increased by 4

(C) E_F and T_F increased by 4

(D) E_F and T_F is $\frac{1}{4}$ times the initial value

38. A system of N non-interacting and distinguishable particle of spin 1 is in thermodynamic equilibrium. The entropy of the system is :

(A) $S = k_B \ln 3^N$

(B) $S = k_B \ln N^3$

(C) $S = 3k_B \ln N$

(D) $S = 3k_B \ln 3N$

39. A particle possess a Hamiltonian of $H = \frac{p^2}{2m} + \frac{1}{2}kq^2 + \alpha q^4$, which is moving in three dimension. The value of mean energy and molar specific heat capacity of the particle when the constant α is zero is :

(A) $3N_A k_B T^2$ and $3N_A k_B T$

(B) $3N_A k_B T$ and $3N_A k_B$

(C) $3N_A k_B T$ and Zero

(D) Both average energy and specific heat is zero

40. Consider a system is in thermal equilibrium with a heat bath at a temperature T, if the energy of the system in the Hamiltonian eigenstate $|i\rangle$ is E_i, then the density matrix $\hat{\rho}$ is given by:

(A) $\frac{\sum_i e^{-\beta E_i}|i\rangle\langle i|}{Tre^{-\beta H}}$

(B) $\frac{\sum_i e^{-\beta H_i}|i\rangle\langle i|}{Tre^{-\beta H}}$

(C) $\frac{e^{-\beta E_i}\langle i|i\rangle}{Tre^{-\beta H}}$

(D) $\frac{\sum_i e^{-\beta E_i}}{Tre^{-\beta H}}$

41. Consider a system of particles with the average number of particles in a state with energy $\in$ is given by, $n(\in) = \frac{1}{z^{-1}e^{\beta c} - 1}$, where z is fugacity. In thermodynamic limit, for such a system when $T \le T_c$, which of the following statement is true :

(A) $z(T) = 1$ and $\mu = 0$ and pressure independent of number density

(B) $z(T) = 0$ and $\mu = 0$ and pressure dependent of number density linearly

(C) $z(T) = 1$ and $\mu = 0$ and pressure dependent of number density linearly

(D) $z(T) = 1$ and $\mu = 0$ and pressure dependent of number density as $n^{\frac{3}{2}}$

42. Consider a system of d dimensional Fermi gas particles with following dispersion relation $\in (p) = cp^s$, and internal energy U, then the equation for pressure turns out to be :

(A) $P = \frac{d * U}{L^d s}$

(B) $P = \frac{sU}{L^d d}$

(C) $P = \frac{sU}{L^s d}$

(D) $P = \frac{d * U}{L^d d}$

43. The semi empirical mass formula used to estimate the binding energy of the nucleus include the following terms except :

(A) Surface energy term

(B) Coulomb energy term

(C) Shell correction term

(D) Density term

44. The spin-orbit interaction in nuclei arises due to the coupling between the spin of the particle and :

(A) Magnetic Momentum (B) Linear Moment

(C) Orbital angular momentum (D) Electric Charge

45. In which of the following element, the parity violation in beta decay was first observed?

(A) Cobalt 60 (B) Radium 90

(C) Uranium (D) Carbon 14

46. The eight fold classification scheme is applied for :

(A) Leptons (B) Bosons

(C) Fermions (D) Hadrons

47. According to Debye-Scherrer Formula, the broadening of X-ray diffraction pattern implies :

(A) Crystal Lattice imperfection (B) High X-ray source intensity

(C) Low Detector resolution (D) Low Sample temperature

48. The number of quark types in standard model of particle physics :

(A) 2 (B) 8

(C) 4 (D) 6

49. The reciprocal lattice of a bcc structure is :

(A) BCC structure (B) FCC structure

(C) Simple cubic (D) None of these

50. The Miller indices of a plane parallel to z axis and cut intercepts of 2 and 3/2 along the x and y axes respectively, is

(A) (2 3 2) (B) (3 2 0)

(C) (2 3/2 0) (D) (3 4 0)

51. If a, b, c are basis vectors and a^*, b^* and c^* represent the reciprocal lattice vectors of a crystal, then :

(A) $a^* . a = 0$ (B) $a^* \cdot b = \pi$

(C) $a^* . c = 0$ (D) $a^* . a = \pi$

52. According to Weiss theory of ferromagnetism, the spontaneous magnetization arises because of :

(A) External magnetic field (B) Symmetry breaking

(C) Thermal functions (D) Spin orbit coupling

53. According to Debye's model at highest temperature, the specific heat approaches :

(A) α (B) 0

(C) 3R (D) $\frac{12}{5}\pi^4 Nk\left(\frac{T}{\theta_D}\right)^3$

54. High dielectric constant of a material is an indication of :

(A) High capacitance (B) Low polarizibility

(C) High resistance (D) High electric conductivity

55. In ferro electric materials, the domain walls separate regions with :

(A) No electric polarization (B) High conductivity

(C) Opposite electric polarization (D) Uniform electric polarization

56. In Superconductors, the energy gap is responsible for :

(A) High magnetic susceptibility (B) Zero resistance

(C) Magnetic flux quantization (D) Conductivity at low temperature

57. The approximate values for rotational and centrifugal distortion constants for a diatomic molecule are 10 cm^{-1} and 5×10^{-4} cm^{-1} respectively. The fundamental frequency of vibration calculated by 5 persons is given in table. Who among them got the correct answer?

Person	Fundamental frequency
1	2800 cm^{-1}
2	84 THz
3	1400 cm^{-1}
4	8.4×10^{13} Hz
5	2800 Hz

(A) Only 5 (B) Both 2 and 4

(C) 1, 2 and 4 (D) 2, 3 and 4

58. The normal modes of vibration of CO_2 molecules are given. Determine the zero point energy of CO_2 molecule :

Symmetric Stretching	1330 cm^{-1}
Symmetric bending	670 cm^{-1}
Asymmetric Stretching	2350 cm^{-1}

(A) 4.31×10^{-20} (B) 0.27 eV

(C) 4.8×10^{-18} (D) 0.3 eV

59. Some statements may not associate with isomer shift. Find out :

(i) The nucleus of an atom is a point charge

(ii) Environments of emitting and absorbing nuclei are different

(iii) A direct function of s-electron density at the nucleus

(iv) Change in the oxidation state does not affect

(A) (i) only

(B) (iv) only

(C) both (i) and (iv)

(D) all statements are connected to isomer shift

60. A few statements regarding Raman Effect are given. Choose the best option :

(i) Raman Scattering is elastic

(ii) The wave number pattern and angular dependence of the stimulated Raman scattering is different from normal Raman effect

(iii) A strong continuum covering the Stoke's and anti-Stoke's regions in which absorption are expected for observing inverse Raman effect.

(iv) The Symmetric stretching mode of vibration of water is Raman active, but IR inactive

(A) All statements are true

(B) (i) False (ii) True (iii) True (iv) False

(C) (i) False (ii) True (iii) True (iv) True

(D) (i) False (ii) False (iii) True (iv) True

61. Which among the following are the features of Deslandres table?

(i) A useful method to assign vibronic transitions in electronic spectroscopy.

(ii) The wave number separation of two successive vibrational levels is called sequence

(iii) The intensity of the lines is governed by Franck Condon principle

(iv) The bands in a particular column are called progressions.

(v) The bands in a particular row are called progressions.

(A) All

(B) All except (ii)

(C) (iii), (iv) and (v)

(D) (i), (ii) and (iii)

62. Find the strength of the magnetic field to give a precessional frequency of 100 MHz for ^{17}O nucleus. Given the nuclear g factor = 0.6, nuclear magneton = 5×10^{-27} JT^{-1}, Nuclear spin = 5/2 :

(A) 22 T

(B) 55 T

(C) 8.8 T

(D) 7.9 T

63. In a vibrating diatomic rotator :

(i) The rotational lines are more close together on R branch

(ii) P branch lines are more widely spaced

(iii) P branch lines are closer

(iv) R branch lines are widely separated

Choose the right option :

(A) (i) and (ii) are correct

(B) (iii) and (iv) are correct

(C) (i) and (iii) are correct

(D) (ii) and (iv) are correct

64. Choose the statements which are NOT suitable for KDP crystal :

(i) it is used for second harmonic generation

(ii) It is tetragonal

(iii) Negative uniaxial

(iv) Anisotropic

(v) Biaxial

(vi) Isotropic

(A) Both (v) and (vi)

(B) (ii), (iii), (iv)

(C) Both (iii) and (vi)

(D) Both (ii) and (vi)

65. Match the following :

(i)	Collision broadening	(a)	Gaussian lineshape
(ii)	Doppler broadening	(b)	Femtosecond
(iii)	Q switching	(c)	Nanosecond
(iv)	Mode locking	(d)	Second
(v)	Inverse of Einstein's A coefficient	(e)	Lorentzian lineshape

(A) (i)-(e), (ii)-(a), (iii)-(c), (iv)-(b), (v)-(d)

(B) (i)-(a), (ii)-(e), (iii)-(b), (iv)-(c), (v)-(d)

(C) (i)-(e), (ii)-(a), (iii)-(b), (iv)-(c), (v)-(d)

(D) (i)-(a), (ii)-(e), (iii)-(b), (iv)-(d), (v)-(c)

66. Choose the reasons for using heterojunction semiconductor laser :

(i) large threshold current density

(ii) better optical confinement

(iii) less carrier confinement

(iv) active region has lower bandgap

(v) active region has higher refractive Index

(vi) active region is very thin

(A) all except (iii)

(B) all except (i) and (iii)

(C) (iv), (v) and (vi)

(D) all except (i)

67. The main optical phenomenon used for preparing holograms :

(A) diffraction
(B) refraction
(C) polarisation
(D) interference

68. The refractive indices for core and cladding of an optical fiber are 1.5 and $(2)^{1/2}$ respectively. Determine its numerical aperture and acceptance angle :

(A) NA = 0.293, acceptance angle = 17.03°
(B) NA = 0.5 and acceptance angle = $\pi/6$
(C) NA = 0.25 and acceptance angle = 30°
(D) NA = 0.5 and acceptance angle = 60°

69. A set of statements are given about optical fibers. Choose the right option :

(i) Multimode graded index fibers exhibit far less intermodal dispersion than multimode step index fibers
(ii) The minimum core radius for multimode step index fiber is 50 μm.
(iii) Skew rays pass through fiber axis.
(iv) Single mode step index fiber has low intermodal dispersion

(A) All statements are true
(B) (i)-True, (ii)-True, (iii)-False, (iv)-True
(C) (i)-True, (ii)-False, (iii)-False, (iv)-True
(D) Only (i) is true

70. A 10 km optical fiber has 20 dB attenuation. If the output power measured is 1 μW, determine the input power :

(A) 10 μW
(B) 0.1 mW
(C) 1 mW
(D) 100 mW

71. Which type is most useful for setting personalised learning goals?

(A) Formative
(B) Summative
(C) Diagnostic
(D) Ipsative

72. Which pair of aids would be effective in a mixed-ability classroom?

(A) Audiobooks and Radio
(B) Educational Videos and Models
(C) Animated Videos and Simulated Videos
(D) YouTube and Edpuzzle

73. The primary objective of Reflective Teaching is to :

(A) Maximise syllabus coverage
(B) Ensure discipline in the classroom
(C) Encourage self-assessment and pedagogical improvement
(D) Finish the curriculum on time

74. Which learner characteristics is most crucial in applying Vygotsky's concept of the Zone of Proximal Development (ZPD)?

(A) Learning Styles
(B) Memory Span
(C) Readiness to learn
(D) Level of Prior Knowledge

75. Match the following methods of teaching with their key features.:

(i)	Lecture method	(a)	Self-paced linear learning
(ii)	Project method	(b)	Student-centered critical thinking
(iii)	Discussion method	(c)	Passive reception of knowledge
(iv)	Programmed instruction	(d)	Encourages active learning

(A) (i)-(c), (ii)-(d), (iii)-(a), (iv)-(b)
(B) (i)-(c), (ii)-(d), (iii)-(b), (iv)-(a)
(C) (i)-(d), (ii)-(c), (iii)-(b), (iv)-(a)
(D) (i)-(c), (ii)-(a), (iii)-(d), (iv)-(b)

76. Which ethical principle requires that participants are fully informed about the research and voluntarily agree to participate?

(A) Confidentiality
(B) Magnanimity
(C) Anonymity
(D) Informed Consent

77. Which of the following is a key characteristic of research?

(A) It follows a systematic and organized procedure
(B) It is based on personal opinions and assumptions
(C) It avoids empirical evidence to maintain flexibility
(D) It is conducted without a specific problem in mind

78. What is the primary purpose of conducting a literature review in the research process?

(A) To collect primary data from participants
(B) To identify gaps in existing knowledge and relevant theories
(C) To formulate hypotheses for qualitative research
(D) To present the final findings of the study

79. In a quasi-experimental design examining educational interventions, what is the primary limitation compared to true experimental research?

(A) Smaller sample size
(B) Lack of random assignment
(C) Subjective data collection
(D) Longer duration

80. What is the primary advantage of mixed methods research in studying complex social phenomena?

(A) Faster data collection
(B) Higher statistical power
(C) Triangulation of evidence
(D) Lower resource requirements

81. Consider the following statement(s) in respect of Anti-defection Law in India :

(i) The 10th schedule of the Constitution of India is about Anti -Defection Law.

(ii) The decision on disqualification questions on the ground of defection is referred to the President who will take a decision on the advice of Election Commission.

(iii) All proceedings in relation to the disqualification under this Schedule are considered to be proceedings in Parliament or the Legislature of a state as is the case.

Which of the statement(s) given below is/are correct?

(A) Only (i) and (ii) (B) Only (ii) and (iii)

(C) Only (i) and (iii) (D) All of the above (i), (ii) and (iii)

82. Which of the following statement(s) is/are correct about GST Council?

(i) The Union Finance Minister is the Chairperson of the GST Council

(ii) The Prime Minister of India is not a member of the GST Council

(iii) The Finance Secretary of the Government of India is a member of the GST Council

(A) Only (i) and (ii) (B) Only (i) and (iii)

(C) Only (ii) and (iii) (D) All of the above (i), (ii) and (iii)

83. Which of the following statement(s) is /are true with reference to the Joint sitting of the Parliament?

(i) According to Article 108, the President can make rules for the procedure of the joint sitting after due consultation with the Chairman of the Council of States and the Speaker of the House of the People.

(ii) The President of India has the power to call a joint sitting

(iii) In the absence of the Speaker and the Deputy speaker of the Lok Sabha, the joint sitting of the Parliament is presided by the Chairman of the Rajya Sabha

(A) Only (i) and (iii) (B) Only (ii) and (iii)

(C) Only (ii) (D) Only (iii)

84. Which statement(s) regarding the Estimates Committee is/ are True?

(i) The Estimates Committee is the Largest Committee of the Parliament

(ii) The term of the committee is Two years

(iii) Estimates committee consisting of members from both Houses of Parliament

(A) Only (i) and (ii) (B) Only (ii) and (iii)

(C) Only (i) (D) Only (iii)

85. Which of the following statements about Emergency provisions under the Constitution of India is/are not correct?

(i) Proclamation of Emergency must be approved by the two houses of Parliament with special majority within two months

(ii) Every resolution approving the Proclamation of Emergency or its continuance must be passed by either house of Parliament by a special majority

(iii) The 44th Amendment Act made the Declaration of National Emergency immune to Judicial review.

(A) Only (i) (B) Only (ii) and (iii)

(C) Only (ii) (D) Only (i) and (iii)

86. Consider the statements given below :

(i) 42nd Amendment Act of 1976 moved Four subjects from the State List to the Concurrent List.

(ii) Article 248 empowers the Parliament to legislate with respect to a matter in the State List in the national interest.

(iii) Establishment of standards of weight and measure is included in the Union List.

Which of the following statement(s) is/are correct regarding the 7th Schedule of the Constitution of India?

(A) Only (i) and (ii)
(B) Only (ii) and (iii)
(C) Only (ii)
(D) Only (iii)

87. Which of the following statement(s) is/are correct about Domestic Violence Act of 2005?

(i) Section 16 deals with Proceedings to be held in Camera

(ii) Section 3 deals with Definition of Domestic violence

(iii) Section 22 deals with the Duties and Functions of the Protection Officers

(A) Only (i) and (ii)
(B) Only (ii) and (iii)
(C) Only (i) and (iii)
(D) All of the above (i), (ii) and (iii)

88. Which of the following statement(s) regarding Central Information Commission is /are correct?

(i) The Central Information Commission is a statutory body, set up under Section 18 of the Right to Information Act in 2005

(ii) It consists of a Chief Information Commissioner and not more than Eight Information Commissioners

(iii) Section 14 of the Right to Information Act 2005 deals with Removal of the Chief Information Commissioner or Information Commissioners

(A) Only (i) and (ii)
(B) Only (i) and (iii)
(C) Only (iii)
(D) None of the above

89. With reference to the sections of The Wildlife Protection Act 1972, consider the following statements :

(i) National Board for Wildlife was constituted under Section 5A.

(ii) National Tiger Conservation Authority was constituted under section 38L.

(iii) Section 6 of the Act deals with Prohibition of hunting.

Which of the above statement(s) is/are not correct about Wildlife Protection Act 1972?

(A) Only (i) and (iii)
(B) Only (iii)
(C) Only (ii)
(D) Only (ii) and (iii)

90. Consider the following statements regarding 8th Schedule of the Constitution of India :

(i) The 71st Amendment to the Indian Constitution included Konkani, Manipuri and Nepali languages in the 8th Schedule.

(ii) The Sindhi language was added in the 8th Schedule by the 31st Amendment Act.

(iii) Bodo, Dongri, Maithili and Santhali were added by the 92nd Amendment Act.

Which of the above statement(s) is/are correct?

(A) Only (i)
(B) Only (ii)
(C) Only (i) and (ii)
(D) Only (i) and (iii)

91. 'Devagita' is a well-known Malayalam translation of Jayadev's "Geeta Govinda". Name the poet who translated it into Malayalam :

(A) Pala Narayanan Nair
(B) Vyloppilli Sreedhara Menon
(C) ONV Kurup
(D) Changampuzha Krishna Pillai

92. The author of the book entitled 'Wonder that was India' :

(A) A.L. Basham
(B) Jawaharlal Nehru
(C) Karl Marx
(D) Vincent Smith

93. Three Language formula for education was proposed by :

(A) Kothari commission
(B) Muhammad committee
(C) Sachar committee
(D) Radha Krishnan committee

94. The Peasant uprising of Malabar was known as :

(A) Kuricha Rebellion
(B) Mappila Rebellion
(C) Freedom Struggle
(D) Channar Revolt

95. The Gayathri Mantra is the most reversed Vedic Mantra in Hinduism. Which Vedic Sage is considered as the author of Gayathri Mantra?

(A) Sage Viswamitra
(B) Sage Agasthya
(C) Sage Angiras
(D) Sage Kashyapa

96. Tinkathia system is associated with which one of the following movement?

(A) Champaran Satyagraha
(B) Kheda Satyagraha
(C) Non-Cooperation Movement
(D) Mappila Rebellion

97. Who was Saradamani?

(A) Wife of Ram Mohan Roy
(B) Wife of Rama Krishna Paramahamsa
(C) Mother of Vivekanand
(D) Daughter of Kesab Chandra Sen

98. Community development programme is implemented at the :

(A) Village level
(B) Block level
(C) District level
(D) Regional level

99. Which one of the following is wrongly listed with regard to Kanpur conspiracy case?

(A) S.A. Dange
(B) Muzaffar Ahmed
(C) Nalini Gupta
(D) M.N. Roy

100. 'Hinduism dies if untouchability lives and untouchability has to die if Hinduism is to live'. This was said by :

(A) Dr. B.R. Ambedkar
(B) Jawaharlal Nehru
(C) Gandhi
(D) Subash Chandra Bose

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