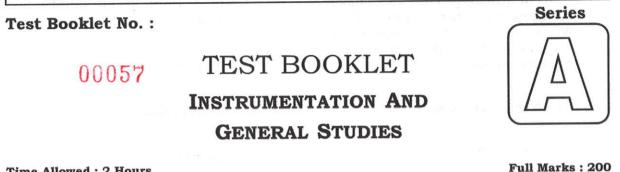
SORFSL/INS/24

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO



Time Allowed : 2 Hours

Read the following instructions carefully before you begin to answer the questions :

1. The name of the Subject, Roll Number as mentioned in the Admission Certificate, Test Booklet No. and Series are to be written legibly and correctly in the space provided on the Answer-Sheet with Black/Blue ballpoint pen.

Answer-Sheet without marking Series as mentioned above in the space provided for in the Answer-Sheet 2. shall not be evaluated.

3. All questions carry equal marks.

The Answer-Sheet should be submitted to the Invigilator.

Directions for giving the answers : Directions for answering questions have already been issued to the respective candidates in the Instructions for marking in the OMR Answer-Sheet' along with the Admit Card and Specimen Copy of the OMR Answer-Sheet.

Example :

Suppose the following question is asked :

The capital of Bangladesh is

(A) Chennai

(B) London

(C) Dhaka

(D) Dhubri

You will have four alternatives in the Answer-Sheet for your response corresponding to each question of the Test Booklet as below :

(A) (B) (C) (D)

In the above illustration, if your chosen response is alternative (C), i.e., Dhaka, then the same should be marked on the Answer-Sheet by blackening the relevant circle with a Black/Blue ballpoint pen only as below :

(A) (B) ((D)

The example shown above is the only correct method of answering.

- Use of eraser, blade, chemical whitener fluid to rectify any response is prohibited. 4.
- Please ensure that the Test Booklet has the required number of pages (23) and 100 questions immediately after 5. opening the Booklet. In case of any discrepancy, please report the same to the Invigilator.
- No candidate shall be admitted to the Examination Hall/Room 20 minutes after the commencement of the 6. examination.
- No candidate shall leave the Examination Hall/Room without prior permission of the Supervisor/Invigilator. No 7. candidate shall be permitted to hand over his/her Answer-Sheet and leave the Examination Hall/Room before expiry of the full time allotted for each paper.
- No Mobile Phone, Electronic Communication Device, etc., are allowed to be carried inside the Examination 8. Hall/Room by the candidates. Any Mobile Phone, Electronic Communication Device, etc., found in possession of the candidate inside the Examination Hall/Room, even if on off mode, shall be liable for confiscation.
- No candidate shall have in his/her possession inside the Examination Hall/Room any book, notebook or loose 9 paper, except his/her Admission Certificate and other connected papers permitted by the Commission.
- Complete silence must be observed in the Examination Hall/Room. No candidate shall copy from the paper of 10. any other candidate, or permit his/her own paper to be copied, or give, or attempt to give, or obtain, or attempt to obtain irregular assistance of any kind.
- This Test Booklet can be carried with you after answering the questions in the prescribed Answer-Sheet. 11.
- Noncompliance with any of the above instructions will render a candidate liable to penalty as may be deemed 12. fit.
- No rough work is to be done on the OMR Answer-Sheet. You can do the rough work on the space provided in the 13. Test Booklet

N.B. : There will be negative marking @ 0.25 per 1 (one) mark against each wrong answer.



[No. of Questions : 100]

- 1. An isolated container initially holds two ideal gases at different temperatures $(T_1 > T_2)$. Over time, the gases reach thermal equilibrium. Which of the following is true about the entropy (S) of the system after reaching equilibrium?
 - (A) S remains constant
 - (B) S increases
 - (C) S decreases
 - (D) S depends on the initial volume of the container
- 2. A light wave undergoes doubleslit diffraction. As the separation distance between the slits is decreased, which of the following statements is true about the central maximum and the secondary maxima on the diffraction pattern?
 - (A) The central maximum becomes brighter and the secondary maxima become fainter.
 - (B) The central maximum becomes fainter and the secondary maxima become brighter.
 - (C) Both the central maximum and the secondary maxima become brighter.
 - (D) Both the central maximum and the secondary maxima become fainter.

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- **3.** Which of the following phenomena is responsible for the formation of Newton's rings in an interference experiment?
 - (A) Diffraction
 - (B) Polarization
 - (C) Reflection
 - (D) Interference
- 4. Two radio waves with different frequencies $(f_1 \text{ and } f_2)$ are used for communication purposes. If both waves travel through a vacuum at the speed of light (c), which of the following statements is true about their wavelengths $(\lambda_1 \text{ and } \lambda_2)$?
 - (A) $\lambda_1 > \lambda_2$, regardless of the specific frequencies.
 - (B) $\lambda_1 < \lambda_2$, regardless of the specific frequencies.
 - (C) The relationship between λ_1 and λ_2 depends on the ratio of f_1 and f_2 $(\lambda_1/\lambda_2 = f_2/f_1)$.
 - (D) It is impossible to determine the relationship between λ_1 and λ_2 without knowing the specific frequencies.

- 5. You place a thin film of oil on the top of a smooth pool of water. As you look down at the film under white light, you notice a vibrant green colour. Why does the oil appear green?
 - (A) Green light is the only light that can pass through the oil
 - (B) The oil preferentially absorbs all colours except green
 - (C) The oil film reflects green light due to constructive interference
 - (D) The water reflects green light and the oil film is transparent
- **6.** A system undergoes an isothermal (constant temperature) expansion process against a constant external pressure. The system then reaches thermodynamic equilibrium. Which of the following statements is always true concerning this process?
 - (A) The internal energy of the system increased.
 - (B) The system did positive work on the surroundings.
 - (C) The entropy of the system decreased.
 - (D) The enthalpy of the system remained constant.

- 7. A Carnot heat engine operates between a hot reservoir at 800 K and a cold reservoir at 300 K. If the engine absorbs 1000 J of heat from the hot reservoir during one cycle, what is the maximum amount of work that can be obtained from this cycle?
 - (A) 625 J
 - (B) 750 J
 - (C) 875 J
 - (D) 1000 J
- 8. An ideal gas is compressed in an adiabatic (no heat transfer) process. What happens to the temperature of the gas?
 - (A) The temperature remains constant
 - (B) The temperature increases
 - (C) The temperature decreases
 - (D) It depends on the initial pressure of the gas

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- **9.** Which of the following statements is true about longitudinal waves?
 - (A) The particles of the medium oscillate parallel to the direction of wave propagation.
 - (B) The particles of the medium oscillate perpendicular to the direction of wave propagation.
 - (C) The particles of the medium oscillate at an angle to the direction of wave propagation.
 - (D) The particles of the medium do not oscillate at all.
- **10.** Which of the following statements about energy density is true?
 - (A) Energy density is a measure of the rate at which energy is released from a source.
 - (B) Energy density is independent of the volume or mass of the energy source.
 - (C) Energy sources with higher energy density are generally more environmentally friendly.
 - (D) Energy density is a measure of the amount of energy stored per unit mass or volume of an energy source.

- **11.** Which of the following is **not** a part of the DOT (Department of Transportation) number on a tire's sidewall?
 - (A) DOT impression
 - (B) Plant code and manufacturer
 - (C) Date of manufacture
 - (D) Thread wear indicator size
- **12.** Which of the following marks is generated when a vehicle travels faster than the tire can handle at a curved path?
 - (A) Skid mark
 - (B) Yaw mark
 - (C) Tire scrub
 - (D) None of the above
- **13.** The observation that repeats the maximum time in a series of data is known as
 - (A) standard deviation
 - (B) median
 - (C) mode

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(D) variance

- **14.** If you roll two six-sided dice, what is the probability that the sum of the numbers is non-prime?
 - (A) $\frac{1}{6}$
 - (B) $\frac{1}{8}$
 - (C) $\frac{13}{36}$
 - (D) $\frac{11}{36}$
- **15.** What is the primary function of the polyvinyl butyral (PVB) interlayer in laminated glass?
 - (A) To enhance the aesthetic appearance of the glass
 - (B) To increase the thermal insulation properties of the glass
 - (C) To provide safety and security by preventing shattering upon impact
 - (D) To improve the soundproofing capabilities of the glass

- **16.** Which of the following fractures appears second when a crack develops on a glass pane due to mechanical force?
 - (A) Radial
 - (B) Hackle
 - (C) Rib
 - (D) None of the above
- **17.** Which of the following instruments is used for binder analysis of all existing layers in paint sample?
 - (A) SEM-EDX
 - (B) XRD
 - (C) XRF
 - (D) Fluorescence microscopy
- **18.** When two colours seem to be the same visually, which of the following instruments is used to distinguish them?
 - (A) ICP-MS
 - (B) Colorimeter
 - (C) SEM
 - (D) Microspectrophotometry

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- **19.** In textile weaving, which weaving pattern results in a fabric with a diagonal pattern, often used in denim production?
 - (A) Plain weave
 - (B) Satin weave
 - (C) Twill weave
 - (D) Basket weave
- **20.** The method of recovery or collection of fiber from the crime scene includes which of the following?
 - I. Collection using magnetic brush
 - II. Surface debris taping
 - III. Scraping

IV. Vacuuming

Select the correct answer using the codes given below.

(A) I, II and IV

- (B) I, II and III
- (C) I, III and IV
- (D) II, III and IV

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- **21.** With a tool having a thick edge leaving tool marks, the pattern of striation changes with
 - (A) angle of progression
 - (B) angle of tilt
 - (C) pressure applied
 - (D) force of application of the tool
- 22. If a weapon is designed to fire a charge of 50 grains of black powder, what would be the approximate weight of an equal bulk charge of Pyrodex[®] required to achieve similar pressures and velocities?
 - (A) 44 grains
 - (B) 50 grains
 - (C) 56 grains
 - (D) 62 grains
- **23.** What is the main factor that determines the maximum range of shot according to Journee's formula?
 - (A) The diameter of the shot
 - (B) The muzzle velocity of the shot
 - (C) The aerodynamic properties of the shot
 - (D) The weight of the shot

- **24.** What is the main disadvantage of using the tallysurf and the tallyron to compare toolmarks and bullets?
 - (A) They are difficult to operate and require a lot of manual adjustments
 - (B) They are outdated and not commonly used in modern forensic laboratories
 - (C) They are inaccurate and unreliable and often produce false positives or negatives
 - (D) They are destructive and damage the toolmarks and bullets with the stylus
- **25.** Which of the following statements is false about swaging or hammer rifling?
 - (A) It produces rifled barrels of exceptional quality.
 - (B) It requires a mandril with an exact negative of the rifling profile.
 - (C) It causes the metal to work harden and increase in density.
 - (D) It leaves striations in the rifling.

- **26.** What is the main reason for stellate tearing in a tight contact wound?
 - (A) The impact of the bullet on the bone
 - (B) The expansion of the gases trapped between the subcutaneous tissue and the bone
 - (C) The burning of the propellant particles on the skin
 - (D) The abrasion of the muzzle on the skin
- **27.** What is the main factor that affects the amount of carbonaceous material and grease on the bullet wipe mark?
 - (A) The type of object that the bullet passes through
 - (B) The distance between the muzzle and the target
 - (C) The condition of the barrel before the shot
 - (D) The caliber of the bullet
- **28.** Which reagent was originally used in the Lunge reagent for the proof of firing a weapon, but has been replaced due to its carcinogenic nature?
 - (A) Diphenylbenzidine
 - (B) Diphenylamine
 - (C) Sulphanilic acid
 - (D) *N*-1-naphthyl-ethylenediamine hydrochloride

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29. What was the name of the first 'rust-free' primer patented by the German company RWS in 1928?

- (A) Sinoxid
- (B) Dreyse
- (C) Forsythe
- (D) Shaw
- **30.** What is the primary factor that determines the likelihood of a ricochet occurring when a bullet strikes a surface?
 - (A) The velocity of the bullet
 - (B) The angle of incidence at which the bullet strikes the surface
 - (C) The caliber of the bullet
 - (D) The expansion or nonexpansion of the bullet
- **31.** Which type of bullet is most likely to ricochet when striking a surface?
 - (A) High-velocity, lightweight, expanding bullets
 - (B) Expanding hunting bullets
 - (C) Full metal jacket military-style bullets
 - (D) Low-velocity loadings, especially those with heavy bullets

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- **32.** Patton-Reeder indicator is used for the analysis of _____ physical evidence.
 - (A) soil
 - (B) cement
 - (C) mortar
 - (D) concrete

33. Petrographic analysis is an investigative tool for examining failures in

- (A) soil
- (B) cement
- (C) concrete
- (D) silica
- **34.** Finely grounded tricalcium silicate (C₃S) present in OPC forms which type of cement?
 - (A) Rapid hardening cement
 - (B) Blast furnace cement
 - (C) Quick setting cement
 - (D) Low heat cement

35. Who among the following is credited for being the first to use soil in a criminal investigation?

- (A) Hans Gross
- (B) Edmond Locard
- (C) Georg Popp
- (D) Gustafson
- **36.** Who among the following is considered as the founder of soil microbiology and soil microgeology?
 - (A) Paul Krick
 - (B) Arthur Conan Doyle
 - (C) James Forsyth
 - (D) Professor Ehrenberg
- **37.** When a small portion of soil is moistened with water and then a few drops of conc. HCl are added, and if bubbles are rising, then it indicates
 - (A) presence of iron
 - (B) presence of mercury
 - (C) presence of insoluble carbonates
 - (D) presence of soluble iron

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- **38.** What is the term for the process in which molecules of air are set into vibration?
 - (A) Olfaction
 - (B) Phonation
 - (C) Respiration
 - (D) Gustation
- **39.** Which among the following is a passive articulator?
 - (A) Lip
 - (B) Vocal cord
 - (C) Uvula
 - (D) Tongue
- **40.** What closure mechanism occurs when the back part of the soft palate contacts the pharyngeal wall, preventing air from escaping through the nasal cavity?
 - (A) Glottis closure
 - (B) Velic closure
 - (C) Tracheal closure
 - (D) Bronchial closure

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- **41.** What is a formant in the context of speech?
 - (A) A type of consonant sound
 - (B) A concentration of acoustic energy around a particular frequency
 - (C) The pitch of the speaker's voice
 - (D) A measure of speech clarity
- **42.** What is a signal in the context of communication systems?
 - (A) A physical medium
 - (B) An electromagnetic wave
 - (C) A function representing information or data
 - (D) A decoding mechanism
- **43.** Nasality is seen under which voice characteristics?
 - (A) Linguistic feature
 - (B) Articulatory speech
 - (C) Quality of speech sample
 - (D) None of the above

- **44.** The principle of 'general acceptance' relates to
 - (A) Locard principle
 - (B) Frye test
 - (C) Paul Krick
 - (D) Gustafson
- **45.** Which analysis technique involves in examining the oxide surface of a recorded tape for evidence of startstop and re-recording activities?
 - (A) Critical listening
 - (B) Waveform analysis
 - (C) Spectrographic analysis
 - (D) Physical inspection
- **46.** Which of the following Brodmann's areas coincide with Broca's area responsible for speech production?
 - (A) Areas 41 and 44
 - (B) Areas 42 and 45
 - (C) Areas 44 and 45
 - (D) Areas 41 and 42

47. The phonetic sounds [S] [S] and [P] have which of the following characteristics?

- I. These are voiced sounds.
- II. These are voiceless sounds.
- III. There will be a total absence of harmonics in their respective spectrograms.
- IV. These will produce periodic energy in their respective spectrograms.

Select the correct answer using the codes given below.

- (A) I and IV
- (B) I and III
- (C) II and III
- (D) II and IV
- **48.** Which horizon is more common in forested areas?
 - (A) A-horizon
 - (B) B-horizon
 - (C) E-horizon
 - (D) D-horizon

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- **49.** Which organization provides guidelines for conducting criminal and environmental soil forensic investigations?
 - (A) SICAR
 - (B) CAFSS
 - (C) PDQ
 - (D) SEM
- **50.** Arrange the layer of soil horizon in a sequence of bottom to top.
 - I. Eluviation layer
 - II. Topsoil
 - III. Parent rock
 - IV. Subsoil

Select the correct sequence using the codes given below.

- (A) IV–III–II–I
- (B) I-III-IV
- (C) III-IV-I-II
- (D) I–III–IV–II

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- **51.** After his parent's death, Mahapurush Srimanta Sankardev was raised by his
 - (A) maternal grandmother Khersuti
 - (B) paternal grandmother Khersuti
 - (C) maternal aunt Khersuti
 - (D) paternal aunt Khersuti
- **52.** The author of the book, *Harshacharita* was
 - (A) Kalidasa
 - (B) Patanjali
 - (C) Banbhatta
 - (D) Bhavabhuti
- **53.** The Doctrine of Lapse is commonly associated with
 - (A) East India Company's Governor-General Lord William Bentinck
 - (B) East India Company's Governor-General Lord Curzon
 - (C) East India Company's Governor-General Warren Hastings
 - (D) East India Company's Governor-General Lord Dalhousie

54. The Champaran Satyagraha of 1917 was led by

(A) Bal Gangadhar Tilak

- (B) Motilal Nehru
- (C) Mahatma Gandhi
- (D) Sarojini Naidu
- 55. The Ghadar Party
 - (A) was founded by expatriate Indians to oppose the British rule in India
 - (B) was headquartered in London
 - (C) believed in non-violent struggle
 - (D) was headquartered in Amritsar
- **56.** The Constitution (First Amendment) Act was passed in the year
 - (A) 1950
 - (B) 1951
 - (C) 1952
 - (D) 1953
- **57.** The calligrapher of the Indian Constitution was
 - (A) Nandalal Bose
 - (B) Beohar Rammanohar Sinha
 - (C) Dr. B. R. Ambedkar
 - (D) Prem Behari Narain Raizada

- **58.** The first female President of the UN General Assembly was
 - (A) Vijaya Lakshmi Pandit
 - (B) Sirimavo Bandaranaike
 - (C) Oprah Winfrey
 - (D) Caroline Kennedy
- **59.** 'SPARK' is the name of the
 - (A) monthly newsletter published by the ISRO
 - (B) monthly newsletter published by the BARC
 - (C) virtual space museum launched by the ISRO
 - (D) monthly newsletter published by the Maruti Suzuki India Limited
- 60. Shiva and Shakti in space are
 - (A) two ancient streams of stars believed to be among the Milky Way Galaxy's earliest building blocks
 - (B) two ancient streams of stars believed to be among the Andromeda Galaxy's earliest building blocks
 - (C) the names of the two satellite launched vehicles developed by the ISRO
 - (D) the names of the two weather satellites to be launched by the ISRO in 2024

- **61.** The author the book, *Hastividyarnava* was
 - (A) Ananta Kandali
 - (B) Madhava Kandali
 - (C) Sukumar Borkaith
 - (D) Dr. Banikanta Kakati
- **62.** Dhodar Ali was constructed during the reign of
 - (A) Swargadeo Rudra Singha
 - (B) Swargadeo Gadadhar Singha
 - (C) Swargadeo Siva Singha
 - (D) Swargadeo Ratnadhwaj Singha
- **63.** Sattriya Nritya was declared as a classical dance form of India by Sangeet Natak Akademy in the year
 - (A) 1995
 - (B) 1999
 - (C) 2000
 - (D) 2010
- 64. Patharughat Peasant Uprising took place on
 - (A) 28 January, 1827
 - (B) 28 January, 1857
 - (C) 28 January, 1894
 - (D) 28 January, 1919

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- 65. Monkey pox is an illness caused by
 - (A) a fungus called monkey pox fungi
 - (B) a virus called monkeypox virus
 - (C) a bacteria called monkey pox bacteria
 - (D) a type of algae called monkey pox algae
- **66.** 28th Session of the Conference of the Parties (COP28) to the UN Framework Convention on Climate Change (UNFCCC) took place in
 - (A) Dubai
 - (B) Abu Dhabi
 - (C) Sharjah
 - (D) Riyadh
- **67.** Pick the pollutant which is **not** present in the fossil fuel driven automobile exhaust.
 - (A) Carbon monoxide
 - (B) Sulfur dioxide
 - (C) Nitrogen oxide
 - (D) Chlorofluorocarbon

- **68.** Consider the following statements and select the correct answer from the codes given below :
 - I. Richter scale is a base-10 logarithmic scale.
 - II. Richter scale is a base-e logarithmic scale.
 - III. Richter scale was developed by Charles Francis Richter in collaboration with Beno Gutenberg.
 - IV. Richter scale was introduced in 1935.

Codes :

- (A) I only
- (B) II only
- (C) I, III and IV
- (D) II, III and IV
- **69.** The Ambassador(s) of the ICC Men's T20 World Cup 2024 is/are
 - (A) Chris Gayle
 - (B) Usain Bolt
 - (C) Yuvraj Singh
 - (D) All of them
- **70.** Montreal Protocol is an international treaty to
 - (A) mitigate stratospheric ozone layer depletion
 - (B) encourage electric vehicles
 - (C) reduce carbon footprint
 - (D) increase global wheat production

- **71.** Consider the following statements and select the correct answer from the codes given below :
 - I. Glauber's salt is also known as mirabilite.
 - II. The chemical formula of Glauber's salt is $Na_2SO_4 \cdot 10H_2O$.
 - III. The chemical formula of Glauber's salt is CaSO₄·10H₂O.
 - IV. Glauber's salt is widely used in laxative.

Codes :

- (A) I only
- (B) I and II only
- (C) I, II and IV
- (D) I, III and IV
- **72.** Among the given alternatives, which is *not* a mineral of containing aluminium?
 - (A) Carnallite
 - (B) Feldspar
 - (C) Corundum
 - (D) Bauxite

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- **73.** Among the given alternatives, pick the mismatched pair (symbols stand for their usual meanings) :
 - (A) Alkanes : C_nH_{2n+2}
 - (B) Alkenes : $C_n H_{2n-1}$
 - (C) Alkynes : $C_n H_{2n-2}$
 - (D) Aromatic hydrocarbons : $C_{4r+2}H_{2r+4}$
- **74.** Consider the following statements and select the correct answer from the codes given below :
 - I. pH is a logarithmic scale.
 - II. pH of a neutral (neither acidic nor basic) aqueous solution is 7.
 - III. pH of a neutral (neither acidic nor basic) aqueous solution is 0.
 - IV. pH historically denotes potential (or power) of hydrogen.

Codes :

- (A) I and II only
- (B) I and III only
- (C) I, II and IV
- (D) I, III and IV

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- **75.** Which among the given alternatives is *not* a tranquillizer?
 - (A) Diazepam
 - (B) Pentazocine
 - (C) Chlordiazepoxide
 - (D) Alprazolam
- **76.** Which inorganic chemical helps in clotting of blood from superficial wounds?
 - (A) Ferric chloride
 - (B) Ferrous chloride
 - (C) Ferrous oxide
 - (D) Ferric oxide
- **77.** Which one of the following species (mentioned here by their scientific names) is **not** naturally found in Assam?
 - (A) Bombyx mori
 - (B) Platanista gangetica
 - (C) Elephas maximus
 - (D) Loxodonta cyclotis

- **78.** Name the bird whose migration route is the longest.
 - (A) Siberian crane
 - (B) Arctic tern
 - (C) Flamingo
 - (D) Great snipe
- **79.** Who authored the book, *The Voyage* of the Beagle?
 - (A) Alfred Russel Wallace
 - (B) Charles Darwin
 - (C) Thomas Malthus
 - (D) Charles Lyell
- **80.** Consider the following statements and select the correct answer from the codes given below :
 - I. An alligator and a crocodile differ in the shape of the snout.
 - II. An alligator and a crocodile differ in the shape of the teeth.
 - III. An alligator and a crocodile differ in colour.
 - IV. An alligator and a crocodile differ in habitat.

Codes :

- (A) I only
- (B) I and II only
- (C) I, II and III only
- (D) I, II, III and IV

- **81.** The 1968 Nobel Prize in Physiology or Medicine was awarded to
 - (A) Har Govind Khorana
 - (B) Marshall W. Nirenberg
 - (C) Robert W. Holley
 - (D) All of them
- **82.** Identify the animal that *does not* hear infrasound.
 - (A) Dog
 - (B) Rhino
 - (C) Whale
 - (D) Elephant
- **83.** Identify the animal who **does not** lead a solitary life.
 - (A) Hyena
 - (B) Platypus
 - (C) Snow leopard
 - (D) Polar bear
- **84.** When ice melts to water, entropy of the universe
 - (A) decreases
 - (B) does not change
 - (C) increases
 - (D) may increase or decrease depending on the amount of ice involved

- **85.** The lift produced in a moving aerofoil can be explained on the basis of
 - (A) Stokes' law
 - (B) Bernoulli's theorem
 - (C) Pascal's law
 - (D) conservation of momentum
- **86.** Consider the following statements and select the correct answer from the codes given below :
 - I. Centripetal force is an example of a pseudo force.
 - II. Centrifugal force is an example of a pseudo force.
 - III. A pseudo force appears in inertial frames of reference only.
 - IV. A pseudo force appears in a non-inertial frames of reference only.
 - Codes :
 - (A) I only
 - (B) II only
 - (C) I and III
 - (D) II and IV

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- **87.** Curie temperature is that temperature above which
 - (A) a diamagnetic material becomes paramagnetic
 - (B) a ferromagnetic material becomes diamagnetic
 - (C) a ferromagnetic material becomes paramagnetic
 - (D) a paramagnetic material becomes ferrimagnetic
- **88.** The transverse nature of the light waves was established by
 - (A) interference of light
 - (B) diffraction of light
 - (C) dispersion of light
 - (D) polarization of light

- **89.** Consider the following statements and select the correct answer from the codes given below :
 - I. A thermal reactor uses fissile material as fuel.
 - II. U-235 isotope of uranium is a fissile material.
 - III. A thermal reactor uses fertile material as fuel.
 - IV. A thermalized neutron has a kinetic energy of about 0.025 eV.

Codes :

- (A) I and II only
- (B) I and IV only
- (C) II and IV only
- (D) I, II and IV
- **90.** Oil rises along the wick of a lamp on account of its
 - (A) viscosity
 - (B) surface tension
 - (C) density
 - (D) compressibility

91. On June 20th, I returned home. I _____ for almost two years.

(A) was away

(B) have been away

- (C) am away
- (D) had been away
- 92. The teacher put the crayons on the bottom shelf to make them _____ to the young children.
 - (A) accessible
 - (B) receptive
 - (C) eloquent
 - (D) ambiguous

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- 93. I have always liked your positive attitude; it has _____ affected our working relationship.
 - (A) adversely
 - (B) woefully
 - (C) candidly
 - (D) favourably
- 94. Which word means the same as
 - (A) Tentative
 - (B) Smart
- 95. Which word is the opposite of 'surreal'?
 - (A) Bizarre
 - (B) Unusual
 - (C) Phantasmagorical
 - (D) Familiar

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'dogmatic'?

- (C) Adament
- (D) Open-minded

96. For the following sentence, choose the correct homophone for the missing word :

This is the _____ of the new art museum.

- (A) sight
- (B) cite
- (C) site

party.

(D) None of the above

97. If hadn't _____ this illness, I would have been able to go with you to the

- **99.** Julia continued, "You said _____ good service".
 - (A) you knew the owner and always got
 - (B) you know the owner and have got
 - (C) you know the owner and get
- (D) you know the owner and will get

- (A) come through
- (B) come with
- (C) come down with
- (D) come up with
- **98.** Choose the correct spelling for the missing word in the following sentence :

For some reason, I _____ a change in her attitude.

- (A) perceeved
- (B) perceived
- (C) percieved
- (D) precieved

SORFSL/INS/24/55-A

100. His hot chocolate was too hot

- (A) so he put some cold milk in it
- (B) and he put some cold milk in it
- (C) but he put some cold milk in it
- (D) then he put some cold milk in it

SPACE FOR ROUGH WORK

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SEAL