SET–"Y"

(Total No. of Printed Pages : 24)

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(PG–EE–JUNE–2023)

10005

Code A

FORENSIC SCIENCE

Sr. No._____

Time : 1¼ Hours **Total Questions : 100** **Max. Marks : 100**

Roll No. _____ (in figure) _____ (in words)

Name : _____ Date of Birth : _____

Father's Name : _____ Mother's Name : _____

Date of Examination : _____

(Signature of the candidate) (Signature of the Invigilator)

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Question No.	Questions
1.	A tent is in the form of a cylinder of diameter 8 m and height 2 m, surmounted by a cone of equal base and height 3 m. The canvas used for making the tent is equal to (1) $36\pi m^2$ (2) $28\pi m^2$ (3) $24\pi m^2$ (4) $32\pi m^2$
2.	HTML stands for (1) Hyper Text Makeup Lineage (2) Hyper Text Makeup Language (3) Hyper Text Markup Language (4) Hyper Text Markup Lineage
3.	Select the option in which the numbers are related in the same way as are the numbers of the following set : (7, 63, 79) (1) (5, 35, 47) (2) (6, 30, 44) (3) (7, 34, 48) (4) (8, 72, 96)
4.	Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different. (1) 11 : 119 (2) 12 : 135 (3) 21 : 440 (4) 15 : 228

Question No.	Questions
5.	5 years ago, my friend's age was 5 times of my age, now it is 3 times only. What is my friend's present age (in years) ? (1) 30 (2) 25 (3) 20 (4) 15
6.	Select the correct combination of mathematical signs that can sequentially replace the signs balance the given equations 65 * 5 * 45 * 2 * 30 * 73 (1) ÷, ×, +, –, = (2) +, ÷, ×, =, – (3) ÷, +, ×, =, – (4) ÷, +, ×, –, =
7.	Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different. (1) Obstacle (2) Interference (3) Progress (4) Hindrance
8.	Maximum diffraction in a given system happen for (1) Visible rays (2) UV rays (3) IR rays (4) Radio wave
9.	Study of life in outer space is known as (1) Endobiology (2) Exobiology (3) Enterobiology (4) Neobiology

Question No.	Questions
10.	Platelets initiate blood clotting by releasing a substance is called : (1) Prothrombin (2) Thrombin (3) Thromboplastin (4) Fibrinogen
11.	Choose the word from the options given below that is most opposite in meaning to the given word : Frequency (1) periodicity (2) rarity (3) gradualness (4) persistency
12.	25 persons are in a room 15 of them play hockey, 17 of them play football and 10 of them play hockey and football. Then the number of persons playing neither hockey nor football is (1) 2 (2) 17 (3) 13 (4) 3
13.	A and B are friends. They decide to meet between 1 PM and 2 PM on a given day. There is a conditions that whoever arrives first will not wait for the other for more than 15 minutes. The probability that they will meet on that days is (1) 1/4 (2) 1/16 (3) 7/16 (4) 9/16

Question No.	Questions
14.	If the speed of a driver be 5 km/h more than the original speed he would have covered a fixed distance 20 minutes earlier. If his speed was 3 km/h less than the original speed he would have taken 15 minutes more to cover that fixed distance. Calculate the original speed, (1) 35 kmph (2) 40 kmph (3) 30 kmph (4) 45 kmph
15.	A cube of side 100 cm is painted Red on all the faces and then cut into smaller cubes of sides 10 cm each. Find the number of smaller cubes having all the three faces painted. (1) 32 (2) 64 (3) 28 (4) 8
16.	Dental formula of deciduous teeth is (1) 2123/2123 (2) 2130/2130 (3) 2120/2120 (4) 2023/2023
17.	Puppe's Rule' helps in determination of : (1) Identity of fire arm (2) Range of fire arm (3) Sequence in which shots were fired (4) Nature of injury caused by fire arm

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18.	Erasure of writing by using soft rubber is called (1) Chemical Erasure (2) Soft Erasure (3) Hard Erasure (4) Mechanical Erasure
19.	The terms "FFFFg", "FFFg", "FFg" and "Fg" are used in relation to : (1) Black powder (2) Cartridge (3) Bore of a gun (4) Make of a gun
20.	Reinsch Test is satisfactorily used for the detection of (1) Phosphorus (2) Arsenic (3) Copper (4) Lead
21.	Charred document is stabilized by (1) Poly vinyl acetate (2) Super Glue (3) EDTA (4) Starch Solution
22.	Vitreous humor is particularly examined for checking (1) Poisoning cases (2) Metabolic (3) Alcohol level (4) Exhumed

Question No.	Questions
23.	'Stass-Otto' process is used for (1) Extraction of poisons (2) Extraction of DNA (3) Extraction of antigens (4) Isolation of compliments
24.	Amatol contains (1) TNT and RDX (2) TNT and Tetryl (3) TNT and PETN (4) TNT and Ammonium Nitrate
25.	The Algorithm associated with the speed determination of vehicle is (1) Optical flow Algorithm (2) Dijkstra's Algorithm (3) Floyd Warshall Algorithm (4) Kruskal's Algorithm
26.	After bomb scene debris has been examined microscopically, the next step is to (1) Examine explosive using AAS (2) Identify the detonating material with SEM-EDX (3) Rinse the recovered debris with acetone to separate the debris from explosive material (4) Utilize H1-NMR to fingerprint the explosive residue

Question No.	Questions
27.	The analysis of variance can be considered as an extension of (1) T-test (2) F-test (3) One-tailed test (4) Z-test
28.	Hampi denomination is present in which Indian currency : (1) 2000 (2) 200 (3) 10 (4) 50
29.	The melting point of Vicara fiber is : (1) 245-260 °C (2) 265-275 °C (3) 192-210 °C (4) 288-300 °C
30.	The database designed for collection, restoration and comparing of tool images is (1) AFTE (2) TRAX (3) NBTRD (4) NIST
31.	1°, 2°, 3° and 4° carbon atoms are present in (1) 2, 2, 3-trimethylpentane (2) 2, 3, 4-trimethylpentane (3) 2, 4-dimethylpentane (4) 3, 3-dimethylpentane

Question No.	Questions
32.	The distance between two adjacent carbon atoms is longest in (1) ethene (2) benzene (3) ethyne (4) ethane
33.	The correct structure of ethanoyl chloride is (1) CH_3CH_2Cl (2) CH_3COCl (3) CCl_3CHO (4) $CH_2ClCOOH$
34.	Among the given compounds the most susceptive to nucleophile attack at the carbonyl group is (1) $MeCOCl$ (2) MeCHO (3) $MeCO_2Me$ (4) $MeCO_2COMe$
35.	Benzyl carbonium ion is highly stabilized because (1) there is extended delocalization of π electrons (2) it is a 1° carbonium ion (3) it has electron releasing groups (4) all of the above
36.	The percentage of s-character of the hybrid orbital of carbon in ethane, ethene and ethyne respectively are (1) 25, 33, 50 (2) 20, 50, 33 (3) 25, 50, 75 (4) 33, 66, 99

Question No.	Questions
37.	Which of the following statement is incorrect ? (1) The rate of S_N2 reaction is increased in aprotic solvent. (2) The rate of S_N1 reaction is independent of the concentration of nucleophile. (3) An S_N1 reaction proceeds with inversion of configuration (4) An S_N2 reaction proceeds with stereo chemical inversion.
38.	Purification of petroleum is carried out by (1) fractional distillation (2) steam distillation (3) vacuum distillation (4) simple distillation
39.	Lindlar's catalyst is (1) Pt in ethanol (2) Pd + $BaSO_4$ (3) Ni in quinolone (4) Na in liquid NH_3
40.	The reaction between Fe(II) and ferrozine is catalyzed by : (1) Short-wave UV light (2) Long-wave UV light (3) Short-wave X-rays (4) Long-wave X-rays

Question No.	Questions
41.	Which of the following compounds cannot be stored in glass vessels ? (1) XeF_6 (2) XeO_3 (3) XeF_2 (4) XeF_4
42.	Clathrates are (1) normal salts (2) interstitial compounds (3) complex compounds (4) non-stoichiometric compounds
43.	Which is thermodynamically most stable form of carbon ? (1) Graphite (2) Diamond (3) Coal (4) Coke
44.	What is oil dag ? (1) Silicone oil (2) Suspension of graphite in oil (3) Distillation products of paraffin oil (4) Colloidal solution of graphite

Question No.	Questions
45.	The alkane that gives only one mono-chloro product on chlorination with Cl_2 in the presence of diffused sunlight is : (1) 2, 2-dimethylbutane (2) n-pentane (3) neopentane (4) Isopentane
46.	The element used in high temperature thermometers is (1) Na (2) Ga (3) Tl (4) Hg
47.	Which of the following is not a Lewis acid ? (1) $AlCl_3$ (2) $Al(OH)_3$ (3) BF_3 (4) $B(OH)_3$
48.	What is 'X' in the following reaction ? $MgCl_2 + 2H_2O \rightarrow X + 2HCl + H_2O$ (1) MgO (2) Mg (3) $Mg(OH)_2$ (4) Mg(OH)Cl
49.	A compound 'X' upon reaction with H_2O produces a colorless gas 'Y' with rotten fish smell. Gas 'Y' is absorbed in a solution of $CuSO_4$ to give Cu_3P_2 as one of the products. Predict the compound 'X' (1) Ca_3P_2 (2) NH_4Cl (3) As_2O_3 (4) $Ca_3(PO_4)_2$

Question No.	Questions
50.	When neutral or faintly alkaline $KMnO_4$ is treated with potassium iodide, iodide ion is converted into 'X'. 'X' is (1) I_2 (2) IO_4^- (3) IO_3^- (4) IO^-
51.	The low density of ice compared to water is due to (1) hydrogen bonding interactions (2) dipole-dipole interactions (3) dipole induced dipole interactions (4) induced dipole induced dipole interactions
52.	Calgon is (1) $Na_2[Na_4(PO_3)_6]$ (2) $Na_4[Na_2(PO_3)]_6$ (3) $Na_2[Na_3(PO_4)]_6$ (4) $Na_3[Na_2(PO_4)_6]$
53.	The maximum amount of $BaSO_4$ precipitated on mixing 20 ml of 0.5M $BaCl_2$ with 20 ml of 1M H_2SO_4 is (1) 0.25 mole (2) 0.5 mole (3) 1 mole (4) 0.01 mole
54.	Kinetic Energy of one mole of He at 0 °C is (1) 819.0 cal (2) 84.43 cal (3) 8.143 cal (4) None of these

Question No.	Questions
55.	The number of hydrogen bonded water molecule(s) associated with $CuSO_4.5H_2O$ is (1) 3 (2) 1 (3) 2 (4) 5
56.	Vascular bundles in Pinus stem are : (1) Radial (2) Collateral and closed (3) Collateral and open (4) Bicollateral
57.	Which one of the following gymnosperms is said to have double fertilization ? (1) Ginkgo (2) Ephedra (3) Cycas (4) Pinus
58.	In Bougainvillea thorns are the modifications of : (1) Adventitious root (2) Leaf (3) Stem (4) Stipules
59.	Spores of fern are : (1) Haploid (2) Diploid (3) Triploid (4) Polyploid

Question No.	Questions
60.	Chlorenchyma is known to develop in : (1) Pollen tube of Pinus (2) Cytoplasm of Chlorella (3) Spore capsule of a moss (4) Mycelium of a green mould
61.	Sex organs in Funaria develop : (1) In the protonema (2) Inside the capsule (3) In the axils of leaves (4) At the tip of gametophore
62.	Nitrogen fixers in Azolla are : (1) Nostoc (2) Anabaena (3) Aulosira (4) Azospirillum
63.	The cell wall of Spirogyra is made up of : (1) Cellulose (2) Pectin (3) Lignin (4) Chitin

Question No.	Questions
64.	A group of fungi with septate mycelium in which sexual reproduction is either unknown or lacking is classified under : (1) Phycomycetes (2) Deuteromycetes (3) Ascomycetes (4) Basidiomycetes
65.	The fungus without mycelium is : (1) Puccinia (2) Phylophihora (3) Rhizopus (4) Saccharomyces
66.	The nucleic acid in Tobacco Mosaic Virus is (1) Single stranded DNA (2) Single stranded RNA (3) Double stranded DNA (4) Double stranded RNA
67.	Pneumatophores occur in (1) Halophytes (2) Free-floating hydrophytes (3) Carnivorous plants (4) Submerged hydrophytes
68.	Double fertilization is (1) Fusion of two male gametes of a pollen tube with two different eggs (2) Fusion of one male gemete with two polar nuclei (3) Fusion of two male gametes with one egg (4) Syngamy and triple fusion

Question No.	Questions
69.	Which of the following elements is responsible for maintaining turgor in cells ? (1) Magnesium (2) Potassium (3) Sodium (4) Calcium
70.	The vascular cambium normally gives rise to : (1) Primary phloem (2) Secondary xylem (3) Periderm (4) Phelloderm
71.	The Tetradon is commonly known as (1) Cow fish (2) Devil fish (3) Globe fish (Puffer) (4) Cave fish
72.	Which one of the following is correctly matched ? (1) Epiceratodus - double lung (2) Protopterus - single lung (3) Lepidosiren - single lung (4) Polypterus - no lung
73.	Bone marrow is absent in (1) fishes (2) birds (3) amphibians (4) reptiles

Question No.	Questions
74.	Ultrafiltration occurs in a glomerulus when (1) hydrostatic pressure exceeds osmotic pressure (2) osmotic pressure exceeds hydrostatic pressure (3) capsular hydrostatic pressure exceeds glomerular hydrostatic pressure (4) colloidal osmotic pressure plus the capsular pressure remain less than glomerular hydrostatic pressure
75.	Study of interaction of antigen and antibody in blood is termed (1) serology (2) cryobiology (3) angiology (4) haematology
76.	Addison's disease results from (1) Hyposecretion of adrenal cortex (2) Hypersecretion of adrenal cortex (3) Hypertrophy of gonads (4) Hyperactivity of cells of Leydig

Question No.	Questions
77.	A cricket player is fast chasing a ball in the field. Which one of the following groups of bones are directly contributing in this movement ? (1) Pelvis, ulna, patella, tarsals (2) Sternum, femur, tibia, fibula (3) Tarsals, femur, metatarsals, tibia (4) Femur, malleus, tibia, metatarsals
78.	Industrial melanism is an example of (1) drug resistance (2) protective resemblance with the surroundings (3) darkening of skin due to smoke from industries (4) defensive adaptation of skin against ultraviolet radiations
79.	Stomata in grass leaf are (1) Dumb-bell shaped (2) Kidney shaped (3) Rectangular (4) Barrel shaped
80.	The Golgi complex participates in (1) Fatty acid breakdown (2) Formation of secretory vesicles (3) Respiration in bacteria (4) Activation of amino acid

Question No.	Questions
81.	Sensory epithelial cells are modified (1) Nerve cells (2) Columnar cells (3) Glandular cells (4) None of these
82.	Which of the following hormones can play a significant role in osteoporosis ? (1) Aldosterone and Prolactin (2) Progesterone and Aldosterone (3) Estrogen and Parathyroid hormone (4) Parathyroid hormone and Prolactin
83.	Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system. (1) Amphibia (2) Aves (3) Reptilia (4) Osteichthyes
84.	The hepatic portal vein drains blood to liver from : (1) Stomach (2) Kidneys (3) Intestine (4) Heart

Question No.	Questions
85.	A disease caused by an autosomal primary non-disjunction is : (1) Klinefelter's Syndrome (2) Turner's Syndrome (3) Sickel Cell Anemia (4) Down's Syndrome
86.	y-component of velocity is 20 and x-component of velocity is 10. The direction of motion of the body with the horizontal at this instant is (1) $\tan^{-1}(2)$ (2) 45° (3) $\tan^{-1}(1/2)$ (4) 0°
87.	A bullet is fired horizontally towards North with a velocity 500m/s at a place where angle of latitude is 30°. Its displacement when bullet strikes the tangent placed at a distance of 250 m. If the mass of bullet is 100gm, then the coriolis force acting on the bullet is (1) 1×10^{-2} N (2) 4.4×10^{-3} N (3) 3.64×10^{-3} N (4) 5×10^{-2} N
88.	If the radioactive decay constant of radium is 4.28×10^{-4} per year, its half-life period is approximately (1) 2000 yr (2) 2260 yr (3) 1620 yr (4) 1240 yr

Question No.	Questions
89.	Light of wavelength 3500 Å is incident on two metals A of work function 4.2 eV and B of work function 1.19 eV. The photoelectrons will be emitted by (1) Metal A (2) Both metal A and B (3) Metal B (4) Neither metal A nor metal B
90.	A string 1m long is drawn by a 300Hz vibrator attached to its end. The string vibrates in three segments. The speed of transverse waves in the string is equal to : (1) 100 ms^{-1} (2) 200 ms^{-1} (3) 300 ms^{-1} (4) 400 ms^{-1}
91.	Two particles execute S.H.M. of the same amplitude and frequency along the same straight line. Then pass one another travelling in opposite directions, whenever their displacement is half their amplitude. The phase-difference between the two is : (1) $2\pi/3$ (2) $\pi/6$ (3) π (4) $\pi/3$

Question No.	Questions
92.	A water wave is an example of : (1) A longitudinal wave motion (2) Stationary wave (3) Transverse wave motion (4) None of the above
93.	The conductivity of intrinsic Ge at 300°K is equal to (1) 0.0224 s/cm (2) 0.0234 s/cm (3) 0.0244 s/cm (4) 0.0254 s/cm
94.	The primary function of a bias circuit is to (1) hold the circuit stable at V_{CC} (2) hold the circuit stable at V_{in} (3) ensure proper gain is achieved (4) hold the circuit stable at designed Q-point
95.	An ion with a charge of $+3.2\times10^{-19}$ C is in a region where a uniform electric field of 5×10^{4} V/m is perpendicular to a uniform magnetic field of 0.8T. If its acceleration is zero then its speed must be : (1) 1.6×10^{4} m/s (2) 4.0×10^{4} m/s (3) 6.3×10^{4} m/s (4) 0

Question No.	Questions
96.	A triangle with vertices (4, 0), (–1, –1), (3, 5) is : (1) Isosceles and right angled (2) Isosceles but not right angled (3) Right angled but not isosceles (4) Neither right angled nor isosceles
97.	Which of the following is true ? (1) Mode = 2Median – Mean (2) Mode = 3Median + 2Mean (3) Mode = 3Median – 2Mean (4) None of these
98.	Which of the following can not be determined graphically : (1) Mean (2) Median (3) Mode (4) Standard deviation
99.	From a group of 3 men and 2 women, two persons are selected at random. Find the probability that at least one woman is selected. (1) $\frac{1}{5}$ (2) $\frac{7}{10}$ (3) $\frac{2}{5}$ (4) None of these

Question No.	Questions
100.	If the roots of the quadratic equation $x^2 + px + q = 0$ are tan300 and tan150, then the value of $2 + q - p$ is (1) 1 (2) 2 (3) 3 (4) 0

SET–"Y"

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Code B

FORENSIC SCIENCE

Sr. No. 10002

Time : 1¼ Hours **Total Questions : 100** **Max. Marks : 100**

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Set-Y
Code–B

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3.	A and B are friends. They decide to meet between 1 PM and 2 PM on a given day. There is a conditions that whoever arrives first will not wait for the other for more than 15 minutes. The probability that they will meet on that days is (1) 1/4 (2) 1/16 (3) 7/16 (4) 9/16
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23.	Bone marrow is absent in (1) fishes (2) birds (3) amphibians (4) reptiles
24.	Ultrafiltration occurs in a glomerulus when (1) hydrostatic pressure exceeds osmotic pressure (2) osmotic pressure exceeds hydrostatic pressure (3) capsular hydrostatic pressure exceeds glomerular hydrostatic pressure (4) colloidal osmotic pressure plus the capsular pressure remain less than glomerular hydrostatic pressure

Question No.	Questions
25.	Study of interaction of antigen and antibody in blood is termed (1) serology (2) cryobiology (3) angiology (4) haematology
26.	Addison's disease results from (1) Hyposecretion of adrenal cortex (2) Hypersecretion of adrenal cortex (3) Hypertrophy of gonads (4) Hyperactivity of cells of Leydig
27.	A cricket player is fast chasing a ball in the field. Which one of the following groups of bones are directly contributing in this movement ? (1) Pelvis, ulna, patella, tarsals (2) Sternum, femur, tibia, fibula (3) Tarsals, femur, metatarsals, tibia (4) Femur, malleus, tibia, metatarsals

Question No.	Questions
28.	Industrial melanism is an example of (1) drug resistance (2) protective resemblance with the surroundings (3) darkening of skin due to smoke from industries (4) defensive adaptation of skin against ultraviolet radiations
29.	Stomata in grass leaf are (1) Dumb-bell-shaped (2) Kidney shaped (3) Rectangular (4) Barrel shaped
30.	The Golgi complex participates in (1) Fatty acid breakdown (2) Formation of secretory vesicles (3) Respiration in bacteria (4) Activation of amino acid
31.	The low density of ice compared to water is due to (1) hydrogen bonding interactions (2) dipole-dipole interactions (3) dipole induced dipole interactions (4) induced dipole induced dipole interactions

Question No.	Questions
32.	Calgon is (1) $Na_2[Na_4(PO_3)_6]$ (2) $Na_4[Na_2(PO_3)]_6$ (3) $Na_2[Na_3(PO_4)]_6$ (4) $Na_3[Na_2(PO_4)_6]$
33.	The maximum amount of $BaSO_4$ precipitated on mixing 20 ml of 0.5M $BaCl_2$ with 20 ml of 1M H_2SO_4 is (1) 0.25 mole (2) 0.5 mole (3) 1 mole (4) 0.01 mole
34.	Kinetic Energy of one mole of He at 0°C is (1) 819.0 cal (2) 84.43 cal (3) 8.143 cal (4) None of these
35.	The number of hydrogen bonded water molecule(s) associated with $CuSO_4.5H_2O$ is (1) 3 (2) 1 (3) 2 (4) 5
36.	Vascular bundles in Pinus stem are : (1) Radial (2) Collateral and closed (3) Collateral and open (4) Bicollateral

Question No.	Questions
37.	Which one of the following gymnosperms is said to have double fertilization ? (1) Ginkgo (2) Ephedra (3) Cycas (4) Pinus
38.	In Bougainvillea thorns are the modifications of : (1) Adventitious root (2) Leaf (3) Stem (4) Stipules
39.	Spores of fern are : (1) Haploid (2) Diploid (3) Triploid (4) Polyploid
40.	Chlorenchyma is known to develop in : (1) Pollen tube of Pinus (2) Cytoplasm of Chlorella (3) Spore capsule of a moss (4) Mycelium of a green mould
41.	1°, 2°, 3° and 4° carbon atoms are present in (1) 2, 2, 3-trimethylpentane (2) 2, 3, 4-trimethylpentane (3) 2, 4-dimethylpentane (4) 3, 3-dimethylpentane

Question No.	Questions
42.	The distance between two adjacent carbon atoms is longest in (1) ethene (2) benzene (3) ethyne (4) ethane
43.	The correct structure of ethanoyl chloride is (1) CH_3CH_2Cl (2) CH_3COCl (3) CCl_3CHO (4) $CH_2ClCOOH$
44.	Among the given compounds the most susceptive to nucleophile attack at the carbonyl group is (1) $MeCOCl$ (2) MeCHO (3) $MeCO_2Me$ (4) $MeCO_2COMe$
45.	Benzyl carbonium ion is highly stabilized because (1) there is extended delocalization of π electrons (2) it is a 1° carbonium ion (3) it has electron releasing groups (4) all of the above
46.	The percentage of s-character of the hybrid orbital of carbon in ethane, ethene and ethyne respectively are (1) 25, 33, 50 (2) 20, 50, 33 (3) 25, 50, 75 (4) 33, 66, 99

Question No.	Questions
47.	Which of the following statement is incorrect ? (1) The rate of S_N2 reaction is increased in aprotic solvent. (2) The rate of S_N1 reaction is independent of the concentration of nucleophile. (3) An S_N1 reaction proceeds with inversion of configuration (4) An S_N2 reaction proceeds with stereo chemical inversion.
48.	Purification of petroleum is carried out by (1) fractional distillation (2) steam distillation (3) vacuum distillation (4) simple distillation
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50.	The reaction between Fe(II) and ferrozine is catalyzed by : (1) Short-wave UV light (2) Long-wave UV light (3) Short-wave X-rays (4) Long-wave X-rays

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51.	Charred document is stabilized by (1) Poly vinyl acetate (2) Super Glue (3) EDTA (4) Starch Solution
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53.	'Stass-Otto' process is used for (1) Extraction of poisons (2) Extraction of DNA (3) Extraction of antigens (4) Isolation of compliments
54.	Amatol contains (1) TNT and RDX (2) TNT and Tetryl (3) TNT and PETN (4) TNT and Ammonium Nitrate
55.	The Algorithm associated with the speed determination of vehicle is (1) Optical flow Algorithm (2) Dijkstra's Algorithm (3) Floyd Warshall Algorithm (4) Kruskal's Algorithm

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56.	After bomb scene debris has been examined microscopically, the next step is to (1) Examine explosive using AAS (2) Identify the detonating material with SEM-EDX (3) Rinse the recovered debris with acetone to separate the debris from explosive material (4) Utilize H1-NMR to fingerprint the explosive residue
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58.	Hampi denomination is present in which Indian currency : (1) 2000 (2) 200 (3) 10 (4) 50
59.	The melting point of Vicara fiber is : (1) 245-260°C (2) 265-275°C (3) 192-210°C (4) 288-300°C
60.	The database designed for collection, restoration and comparing of tool images is (1) AFTE (2) TRAX (3) NBTRD (4) NIST

Question No.	Questions
61.	Which of the following compounds cannot be stored in glass vessels ? (1) XeF_6 (2) XeO_3 (3) XeF_2 (4) XeF_4
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69.	A compound 'X' upon reaction with H_2O produces a colorless gas 'Y' with rotten fish smell. Gas 'Y' is absorbed in a solution of $CuSO_4$ to give Cu_3P_2 as one of the products. Predict the compound 'X' (1) Ca_3P_2 (2) NH_4Cl (3) As_2O_3 (4) $Ca_3(PO_4)_2$

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82.	HTML stands for (1) Hyper Text Makeup Lineage (2) Hyper Text Makeup Language (3) Hyper Text Markup Language (4) Hyper Text Markup Lineage

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84.	Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different. (1) 11 : 119 (2) 12 : 135 (3) 21 : 440 (4) 15 : 228
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90.	Platelets initiate blood clotting by releasing a substance is called : (1) Prothrombin (2) Thrombin (3) Thromboplastin (4) Fibrinogen
91.	Sensory epithelial cells are modified (1) Nerve cells (2) Columnar cells (3) Glandular cells (4) None of these

Question No.	Questions
92.	Which of the following hormones can play a significant role in osteoporosis? (1) Aldosterone and Prolactin (2) Progesterone and Aldosterone (3) Estrogen and Parathyroid hormone (4) Parathyroid hormone and Prolactin
93.	Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system. (1) Amphibia (2) Aves (3) Reptilia (4) Osteichthyes
94.	The hepatic portal vein drains blood to liver from : (1) Stomach (2) Kidneys (3) Intestine (4) Heart
95.	A disease caused by an autosomal primary non-disjunction is : (1) Klinefelter's Syndrome (2) Turner's Syndrome (3) Sickel Cell Anemia (4) Down's Syndrome

Question No.	Questions
96.	y-component of velocity is 20 and x-component of velocity is 10. The direction of motion of the body with the horizontal at this instant is (1) $\tan^{-1}(2)$ (2) 45° (3) $\tan^{-1}(1/2)$ (4) 0°
97.	A bullet is fired horizontally towards North with a velocity 500m/s at a place where angle of latitude is 30°. Its displacement when bullet strikes the tangent placed at a distance of 250 m. If the mass of bullet is 100gm, then the coriolis force acting on the bullet is (1) 1×10^{-2} N (2) 4.4×10^{-3} N (3) 3.64×10^{-3} N (4) 5×10^{-2} N
98.	If the radioactive decay constant of radium is 4.28×10^{-4} per year, its half-life period is approximately (1) 2000 yr (2) 2260 yr (3) 1620 yr (4) 1240 yr
99.	Light of wavelength 3500 Å is incident on two metals A of work function 4.2 eV and B of work function 1.19 eV. The photoelectrons will be emitted by (1) Metal A (2) Both metal A and B (3) Metal B (4) Neither metal A nor metal B

Question No.	Questions
100.	A string 1m long is drawn by a 300Hz vibrator attached to its end. The string vibrates in three segments. The speed of transverse waves in the string is equal to : (1) $100\ ms^{-1}$ (2) $200\ ms^{-1}$ (3) $300\ ms^{-1}$ (4) $400\ ms^{-1}$

SET–"Y"

(Total No. of Printed Pages : 24)

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(PG–EE–JUNE-2023)

Code **C**

FORENSIC SCIENCE

Sr. No. ~~10007~~

Time : 1¼ Hours | Total Questions : ~~100~~ | Max. Marks : 100

Roll No. _____ (in figure) _____ (in words)

Name : _____ Date of Birth : _____

Father's Name : _____ Mother's Name : _____

Date of Examination : _____

(Signature of the candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/ INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. **All questions are compulsory.**
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along-with answer key of all the A,B,C and D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint in any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case will be considered.
5. The candidate MUST NOT do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answer MUST NOT be ticked in the Question booklet.
6. **There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.**
7. Use only Black or Blue <u>BALL POINT PEN</u> of good quality in the OMR Answer-Sheet.
8. BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.

Set-Y
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31.	Two particles execute S.H.M. of the same amplitude and frequency along the same straight line. Then pass one another travelling in opposite directions, whenever their displacement is half their amplitude. The phase-difference between the two is : (1) $2\pi/3$ (2) $\pi/6$ (3) π (4) $\pi/3$

Question No.	Questions
32.	A water wave is an example of : (1) A longitudinal wave motion (2) Stationary wave (3) Transverse wave motion (4) None of the above
33.	The conductivity of intrinsic Ge at 300°K is equal to (1) 0.0224 s/cm (2) 0.0234 s/cm (3) 0.0244 s/cm (4) 0.0254 s/cm
34.	The primary function of a bias circuit is to (1) hold the circuit stable at V_{CC} (2) hold the circuit stable at V_{in} (3) ensure proper gain is achieved (4) hold the circuit stable at designed Q-point
35.	An ion with a charge of $+3.2\times10^{-19}$ C is in a region where a uniform electric field of 5×10^{4} V/m is perpendicular to a uniform magnetic field of 0.8T. If its acceleration is zero then its speed must be : (1) 1.6×10^{4} m/s (2) 4.0×10^{4} m/s (3) 6.3×10^{4} m/s (4) 0

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36.	A triangle with vertices (4, 0), (–1, –1), (3, 5) is : (1) Isosceles and right angled (2) Isosceles but not right angled (3) Right angled but not isosceles (4) Neither right angled nor isosceles
37.	Which of the following is true ? (1) Mode = 2Median – Mean (2) Mode = 3Median + 2Mean (3) Mode = 3Median – 2Mean (4) None of these
38.	Which of the following can not be determined graphically : (1) Mean (2) Median (3) Mode (4) Standard deviation
39.	From a group of 3 men and 2 women, two persons are selected at random. Find the probability that at least one woman is selected. (1) $\frac{1}{5}$ (2) $\frac{7}{10}$ (3) $\frac{2}{5}$ (4) None of these

Question No.	Questions
40.	If the roots of the quadratic equation $x^2 + px + q = 0$ are tan300 and tan150, then the value of $2 + q - p$ is (1) 1 (2) 2 (3) 3 (4) 0
41.	Sex organs in Funaria develop : (1) In the protonema (2) Inside the capsule (3) In the axils of leaves (4) At the tip of gametophore
42.	Nitrogen fixers in Azolla are : (1) Nostoc (2) Anabaena (3) Aulosira (4) Azospirillum
43.	The cell wall of Spirogyra is made up of : (1) Cellulose (2) Pectin (3) Lignin (4) Chitin

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51.	1°, 2°, 3° and 4° carbon atoms are present in (1) 2, 2, 3-trimethylpentane (2) 2, 3, 4-trimethylpentane (3) 2, 4-dimethylpentane (4) 3, 3-dimethylpentane
52.	The distance between two adjacent carbon atoms is longest in (1) ethene (2) benzene (3) ethyne (4) ethane
53.	The correct structure of ethanoyl chloride is (1) CH_3CH_2Cl (2) CH_3COCl (3) CCl_3CHO (4) $CH_2ClCOOH$

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54.	Among the given compounds the most susceptive to nucleophile attack at the carbonyl group is (1) MeCOCl (2) MeCHO (3) $MeCO_2Me$ (4) $MeCO_2COMe$
55.	Benzyl carbonium ion is highly stabilized because (1) there is extended delocalization of π electrons (2) it is a 1° carbonium ion (3) it has electron releasing groups (4) all of the above
56.	The percentage of s-character of the hybrid orbital of carbon in ethane, ethene and ethyne respectively are (1) 25, 33, 50 (2) 20, 50, 33 (3) 25, 50, 75 (4) 33, 66, 99
57.	Which of the following statement is incorrect ? (1) The rate of S_N2 reaction is increased in aprotic solvent. (2) The rate of S_N1 reaction is independent of the concentration of nucleophile. (3) An S_N1 reaction proceeds with inversion of configuration (4) An S_N2 reaction proceeds with stereo chemical inversion.

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60.	The reaction between Fe(II) and ferrozine is catalyzed by : (1) Short-wave UV light (2) Long-wave UV light (3) Short-wave X-rays (4) Long-wave X-rays
61.	The Tetradon is commonly known as (1) Cow fish (2) Devil fish (3) Globe fish (Puffer) (4) Cave fish

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62.	Which one of the following is correctly matched ? (1) Epiceratodus - double lung (2) Protopterus - single lung (3) Lepidosiren - single lung (4) Polypterus - no lung
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71.	Sensory epithelial cells are modified (1) Nerve cells (2) Columnar cells (3) Glandular cells (4) None of these
72.	Which of the following hormones can play a significant role in osteoporosis ? (1) Aldosterone and Prolactin (2) Progesterone and Aldosterone (3) Estrogen and Parathyroid hormone (4) Parathyroid hormone and Prolactin

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73.	Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system. (1) Amphibia (2) Aves (3) Reptilia (4) Osteichthyes
74.	The hepatic portal vein drains blood to liver from : (1) Stomach (2) Kidneys (3) Intestine (4) Heart
75.	A disease caused by an autosomal primary non-disjunction is : (1) Klinefelter's Syndrome (2) Turner's Syndrome (3) Sickel Cell Anemia (4) Down's Syndrome
76.	y-component of velocity is 20 and x-component of velocity is 10. The direction of motion of the body with the horizontal at this instant is (1) $\tan^{-1}(2)$ (2) 45° (3) $\tan^{-1}(1/2)$ (4) 0°

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78.	If the radioactive decay constant of radium is 4.28×10^{-4} per year, its half-life period is approximately (1) 2000 yr (2) 2260 yr (3) 1620 yr (4) 1240 yr
79.	Light of wavelength 3500 Å is incident on two metals A of work function 4.2 eV and B of work function 1.19 eV. The photoelectrons will be emitted by (1) Metal A (2) Both metal A and B (3) Metal B (4) Neither metal A nor metal B

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81.	Choose the word from the options given below that is most opposite in meaning to the given word : Frequency (1) periodicity (2) rarity (3) gradualness (4) persistency
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86.	Dental formula of deciduous teeth is (1) 2123/2123 (2) 2130/2130 (3) 2120/2120 (4) 2023/2023
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91.	The low density of ice compared to water is due to (1) hydrogen bonding interactions (2) dipole-dipole interactions (3) dipole induced dipole interactions (4) induced dipole induced dipole interactions
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93.	The maximum amount of $BaSO_4$ precipitated on mixing 20 ml of 0.5M $BaCl_2$ with 20 ml of 1M H_2SO_4 is (1) 0.25 mole (2) 0.5 mole (3) 1 mole (4) 0.01 mole
94.	Kinetic Energy of one mole of He at 0°C is (1) 819.0 cal (2) 84.43 cal (3) 8.143 cal (4) None of these
95.	The number of hydrogen bonded water molecule(s) associated with $CuSO_4.5H_2O$ is (1) 3 (2) 1 (3) 2 (4) 5
96.	Vascular bundles in Pinus stem are : (1) Radial (2) Collateral and closed (3) Collateral and open (4) Bicollateral
97.	Which one of the following gymnosperms is said to have double fertilization ? (1) Ginkgo (2) Ephedra (3) Cycas (4) Pinus

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98.	In Bougainvillea thorns are the modifications of : (1) Adventitious root (2) Leaf (3) Stem (4) Stipules
99.	Spores of fern are : (1) Haploid (2) Diploid (3) Triploid (4) Polyploid
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SET–"Y"

(Total No. of Printed Pages : 24)

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(PG–EE–JUNE–2023)

FORENSIC SCIENCE

Code **D**

Sr. No. 10012

Time : 1¼ Hours | Total Questions : 100 | Max. Marks : 100

Roll No. _____ (in figure) _____ (in words)

Name : _____ Date of Birth : _____

Father's Name : _____ Mother's Name : _____

Date of Examination : _____

(Signature of the candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/ INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. **All questions are compulsory.**
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along-with answer key of all the A,B,C and D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint in any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case will be considered.
5. The candidate MUST NOT do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answer MUST NOT be ticked in the Question booklet.
6. **There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.**
7. Use only Black or Blue <u>BALL POINT PEN</u> of good quality in the OMR Answer-Sheet.
8. BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.

Set-Y
Code–D

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21.	1°, 2°, 3° and 4° carbon atoms are present in (1) 2, 2, 3-trimethylpentane (2) 2, 3, 4-trimethylpentane (3) 2, 4-dimethylpentane (4) 3, 3-dimethylpentane
22.	The distance between two adjacent carbon atoms is longest in (1) ethene (2) benzene (3) ethyne (4) ethane
23.	The correct structure of ethanoyl chloride is (1) CH_3CH_2Cl (2) CH_3COCl (3) CCl_3CHO (4) $CH_2ClCOOH$
24.	Among the given compounds the most susceptive to nucleophile attack at the carbonyl group is (1) MeCOCl (2) MeCHO (3) $MeCO_2Me$ (4) $MeCO_2COMe$
25.	Benzyl carbonium ion is highly stabilized because (1) there is extended delocalization of π electrons (2) it is a 1° carbonium ion (3) it has electron releasing groups (4) all of the above

Question No.	Questions
26.	The percentage of s-character of the hybrid orbital of carbon in ethane, ethene and ethyne respectively are (1) 25, 33, 50 (2) 20, 50, 33 (3) 25, 50, 75 (4) 33, 66, 99
27.	Which of the following statement is incorrect ? (1) The rate of S_N2 reaction is increased in aprotic solvent. (2) The rate of S_N1 reaction is independent of the concentration of nucleophile. (3) An S_N1 reaction proceeds with inversion of configuration (4) An S_N2 reaction proceeds with stereo chemical inversion.
28.	Purification of petroleum is carried out by (1) fractional distillation (2) steam distillation (3) vacuum distillation (4) simple distillation
29.	Lindlar's catalyst is (1) Pt in ethanol (2) $Pd + BaSO_4$ (3) Ni in quinolone (4) Na in liquid NH_3

Question No.	Questions
30.	The reaction between Fe(II) and ferrozine is catalyzed by : (1) Short-wave UV light (2) Long-wave UV light (3) Short-wave X-rays (4) Long-wave X-rays
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41.	Two particles execute S.H.M. of the same amplitude and frequency along the same straight line. Then pass one another travelling in opposite directions, whenever their displacement is half their amplitude. The phase-difference between the two is : (1) $2\pi/3$ (2) $\pi/6$ (3) π (4) $\pi/3$

Question No.	Questions
42.	A water wave is an example of : (1) A longitudinal wave motion (2) Stationary wave (3) Transverse wave motion (4) None of the above
43.	The conductivity of intrinsic Ge at 300°K is equal to (1) 0.0224 s/cm (2) 0.0234 s/cm (3) 0.0244 s/cm (4) 0.0254 s/cm
44.	The primary function of a bias circuit is to (1) hold the circuit stable at V_{CC} (2) hold the circuit stable at V_{in} (3) ensure proper gain is achieved (4) hold the circuit stable at designed Q-point
45.	An ion with a charge of $+3.2\times10^{-19}$ C is in a region where a uniform electric field of 5×10^{4} V/m is perpendicular to a uniform magnetic field of 0.8T. If its acceleration is zero then its speed must be : (1) 1.6×10^{4} m/s (2) 4.0×10^{4} m/s (3) 6.3×10^{4} m/s (4) 0

Question No.	Questions
46.	A triangle with vertices (4, 0), (–1, –1), (3, 5) is : (1) Isosceles and right angled (2) Isosceles but not right angled (3) Right angled but not isosceles (4) Neither right angled nor isosceles
47.	Which of the following is true ? (1) Mode = 2Median – Mean (2) Mode = 3Median + 2Mean (3) Mode = 3Median – 2Mean (4) None of these
48.	Which of the following can not be determined graphically : (1) Mean (2) Median (3) Mode (4) Standard deviation
49.	From a group of 3 men and 2 women, two persons are selected at random. Find the probability that at least one woman is selected. (1) $\frac{1}{5}$ (2) $\frac{7}{10}$ (3) $\frac{2}{5}$ (4) None of these

Question No.	Questions
50.	If the roots of the quadratic equation $x^2 + px + q = 0$ are tan300 and tan150, then the value of $2 + q - p$ is (1) 1 (2) 2 (3) 3 (4) 0
51.	Sex organs in Funaria develop : (1) In the protonema (2) Inside the capsule (3) In the axils of leaves (4) At the tip of gametophore
52.	Nitrogen fixers in Azolla are : (1) Nostoc (2) Anabaena (3) Aulosira (4) Azospirillum
53.	The cell wall of Spirogyra is made up of : (1) Cellulose (2) Pectin (3) Lignin (4) Chitin

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54.	A group of fungi with septate mycelium in which sexual reproduction is either unknown or lacking is classified under : (1) Phycomycetes (2) Deuteromycetes (3) Ascomycetes (4) Basidiomycetes
55.	The fungus without mycelium is : (1) Puccinia (2) Phylophihora (3) Rhizopus (4) Saccharomyces
56.	The nucleic acid in Tobacco Mosaic Virus is (1) Single stranded DNA (2) Single stranded RNA (3) Double stranded DNA (4) Double stranded RNA
57.	Pneumatophores occur in (1) Halophytes (2) Free-floating hydrophytes (3) Carnivorous plants (4) Submerged hydrophytes
58.	Double fertilization is (1) Fusion of two male gametes of a pollen tube with two different eggs (2) Fusion of one male gemete with two polar nuclei (3) Fusion of two male gametes with one egg (4) Syngamy and triple fusion

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59.	Which of the following elements is responsible for maintaining turgor in cells ? (1) Magnesium (2) Potassium (3) Sodium (4) Calcium
60.	The vascular cambium normally gives rise to : (1) Primary phloem (2) Secondary xylem (3) Periderm (4) Phelloderm
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71.	Which of the following compounds cannot be stored in glass vessels ? (1) XeF_6 (2) XeO_3 (3) XeF_2 (4) XeF_4
72.	Clathrates are (1) normal salts (2) interstitial compounds (3) complex compounds (4) non-stoichiometric compounds
73.	Which is thermodynamically most stable form of carbon ? (1) Graphite (2) Diamond (3) Coal (4) Coke

Question No.	Questions
74.	What is oil dag ? (1) Silicone oil (2) Suspension of graphite in oil (3) Distillation products of paraffin oil (4) Colloidal solution of graphite
75.	The alkane that gives only one mono-chloro product on chlorination with Cl_2 in the presence of diffused sunlight is : (1) 2, 2-dimethylbutane (2) n-pentane (3) neopentane (4) Isopentane
76.	The element used in high temperature thermometers is (1) Na (2) Ga (3) Tl (4) Hg
77.	Which of the following is not a Lewis acid ? (1) $AlCl_3$ (2) $Al(OH)_3$ (3) BF_3 (4) $B(OH)_3$
78.	What is 'X' in the following reaction ? $MgCl_2 + 2H_2O \rightarrow X + 2HCl + H_2O$ (1) MgO (2) Mg (3) $Mg(OH)_2$ (4) Mg(OH)Cl

Question No.	Questions
79.	A compound 'X' upon reaction with H_2O produces a colorless gas 'Y' with rotten fish smell. Gas 'Y' is absorbed in a solution of $CuSO_4$ to give Cu_3P_2 as one of the products. Predict the compound 'X' (1) Ca_3P_2 (2) NH_4Cl (3) As_2O_3 (4) $Ca_3(PO_4)_2$
80.	When neutral or faintly alkaline $KMnO_4$ is treated with potassium iodide, iodide ion is converted into 'X'. 'X' is (1) I_2 (2) IO_4^- (3) IO_3^- (4) IO^-
81.	Charred document is stabilized by (1) Poly vinyl acetate (2) Super Glue (3) EDTA (4) Starch Solution
82.	Vitreous humor is particularly examined for checking (1) Poisoning cases (2) Metabolic (3) Alcohol level (4) Exhumed
83.	'Stass-Otto' process is used for (1) Extraction of poisons (2) Extraction of DNA (3) Extraction of antigens (4) Isolation of compliments

Question No.	Questions
84.	Amatol contains (1) TNT and RDX (2) TNT and Tetryl (3) TNT and PETN (4) TNT and Ammonium Nitrate
85.	The Algorithm associated with the speed determination of vehicle is (1) Optical flow Algorithm (2) Dijkstra's Algorithm (3) Floyd Warshall Algorithm (4) Kruskal's Algorithm
86.	After bomb scene debris has been examined microscopically, the next step is to (1) Examine explosive using AAS (2) Identify the detonating material with SEM-EDX (3) Rinse the recovered debris with acetone to separate the debris from explosive material (4) Utilize H1-NMR to fingerprint the explosive residue
87.	The analysis of variance can be considered as an extension of (1) T-test (2) F-test (3) One-tailed test (4) Z-test

Question No.	Questions
88.	Hampi denomination is present in which Indian currency : (1) 2000 (2) 200 (3) 10 (4) 50
89.	The melting point of Vicara fiber is : (1) 245-260 °C (2) 265-275 °C (3) 192-210 °C (4) 288-300 °C
90.	The database designed for collection, restoration and comparing of tool images is (1) AFTE (2) TRAX (3) NBTRD (4) NIST
91.	A tent is in the form of a cylinder of diameter 8 m and height 2 m, surmounted by a cone of equal base and height 3 m. The canvas used for making the tent is equal to (1) $36\pi m^2$ (2) $28\pi m^2$ (3) $24\pi m^2$ (4) $32\pi m^2$
92.	HTML stands for (1) Hyper Text Makeup Lineage (2) Hyper Text Makeup Language (3) Hyper Text Markup Language (4) Hyper Text Markup Lineage

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93.	Select the option in which the numbers are related in the same way as are the numbers of the following set : (7, 63, 79) (1) (5, 35, 47) (2) (6, 30, 44) (3) (7, 34, 48) (4) (8, 72, 96)
94.	Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different. (1) 11 : 119 (2) 12 : 135 (3) 21 : 440 (4) 15 : 228
95.	5 years ago, my friend's age was 5 times of my age, now it is 3 times only. What is my friend's present age (in years) ? (1) 30 (2) 25 (3) 20 (4) 15
96.	Select the correct combination of mathematical signs that can sequentially replace the signs balance the given equations 65 * 5 * 45 * 2 * 30 * 73 (1) ÷, ×, +, –, = (2) +, ÷, ×, =, – (3) ÷, +, ×, =, – (4) ÷, +, ×, –, =

Question No.	Questions
97.	Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different. (1) Obstacle (2) Interference (3) Progress (4) Hindrance
98.	Maximum diffraction in a given system happen for (1) Visible rays (2) UV rays (3) IR rays (4) Radio wave
99.	Study of life in outer space is known as (1) Endobiology (2) Exobiology (3) Enterobiology (4) Neobiology
100.	Platelets initiate blood clotting by releasing a substance is called : (1) Prothrombin (2) Thrombin (3) Thromboplastin (4) Fibrinogen

ANSWER KEYS OF FORENSIC SCIENCE PG COURSE FOR SESSION 2023-24				
Q. NO.	A	B	C	D
1	1	2	3	3
2	3	4	4	4
3	1	3	1	2
4	2	1	2	4
5	1	4	3	1
6	4	3	2	1
7	3	3	2	3
8	4	4	1	2
9	2	1	1	1
10	3	4	3	2
11	2	1	1	3
12	4	3	3	1
13	3	1	1	4
14	1	4	4	1
15	4	3	1	2
16	3	1	3	3
17	3	3	2	2
18	4	1	4	3
19	1	2	2	1
20	4	3	2	3
21	1	3	1	2
22	3	4	3	4
23	1	2	1	2
24	4	4	2	2
25	1	1	1	1
26	3	1	4	1
27	2	3	3	3
28	4	2	4	1
29	2	1	2	2
30	2	2	3	1
31	2	3	1	2
32	4	1	3	4
33	2	4	1	3
34	2	1	4	1
35	1	2	3	4
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37	3	2	3	3
38	1	3	1	4
39	2	1	2	1
40	1	3	3	4
41	3	2	4	1
42	4	4	2	3
43	1	2	1	1
44	2	2	2	4
45	3	1	4	3
46	2	1	2	1
47	2	3	1	3
48	1	1	4	1
49	1	2	2	2
50	3	1	2	3

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ANSWER KEYS OF FORENSIC SCIENCE PG COURSE FOR SESSION 2023-24				
Q. NO.	A	B	C	D
51	3	1	2	4
52	1	3	4	2
53	4	1	2	1
54	1	4	2	2
55	2	1	1	4
56	3	3	1	2
57	2	2	3	1
58	3	4	1	4
59	1	2	2	2
60	3	2	1	2
61	4	3	3	2
62	2	4	4	3
63	1	1	2	2
64	2	2	4	3
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68	4	1	2	3
69	2	1	1	1
70	2	3	2	2
71	3	4	2	3
72	4	2	3	4
73	2	1	2	1
74	4	2	3	2
75	1	4	4	3
76	1	2	1	2
77	3	1	3	2
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79	1	2	1	1
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92	3	3	1	3
93	1	2	4	1
94	4	3	1	2
95	3	4	2	1
96	1	1	3	4
97	3	3	2	3
98	1	3	3	4
99	2	1	1	2
100	3	2	3	3

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