

Test Booklet Code & Serial No.

प्रश्नपत्रिका कोड व क्रमांक

Paper-II

FORENSIC SCIENCE

B

Signature and Name of Invigilator

Seat No.

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1. (Signature)

(In figures as in Admit Card)

(Name)

Seat No.

(In words)

2. (Signature)

(Name)

OMR Sheet No.

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(To be filled by the Candidate)

APR - 39224

Time Allowed : 2 Hours]

[Maximum Marks : 200

Number of Pages in this Booklet : 20

Number of Questions in this Booklet : 100

Instructions for the Candidates

- Write your Seat No. and OMR Sheet No. in the space provided on the top of this page.
- This paper consists of **100** objective type questions. Each question will carry *two* marks. *All* questions of Paper II will be compulsory.
- At the commencement of examination, the question booklet will be given to the student. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as follows :
 - To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal or open booklet.
 - Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to missing pages/questions or questions repeated or not in serial order or any other discrepancy should not be accepted and correct booklet should be obtained from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given. The same may please be noted.
 - After this verification is over, the OMR Sheet Number should be entered on this Test Booklet.
- Each question has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.

Example : where (C) is the correct response.

(A) (B) (C) (D)
- Your responses to the items are to be indicated in the **OMR Sheet given inside the Booklet only**. If you mark at any place other than in the circle in the OMR Sheet, it will not be evaluated.
- Read instructions given inside carefully.
- Rough Work is to be done at the end of this booklet.
- If you write your Name, Seat Number, Phone Number or put any mark on any part of the OMR Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, you will render yourself liable to disqualification.
- You have to return original OMR Sheet to the invigilator at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. You are, however, allowed to carry the Test Booklet and duplicate copy of OMR Sheet on conclusion of examination.
- Use only Blue/Black Ball point pen.
- Use of any calculator or log table, etc., is prohibited.
- There is no negative marking for incorrect answers.

विद्यार्थ्यांसाठी महत्त्वाच्या सूचना

- परीक्षार्थींनी आपला आसन क्रमांक या पृष्ठावरील वरच्या कोपऱ्यात लिहावा. तसेच आपणांस दिलेल्या उत्तरपत्रिकेचा क्रमांक त्याखाली लिहावा.
- सदर प्रश्नपत्रिकेत **100** बहुपर्यायी प्रश्न आहेत. प्रत्येक प्रश्नास **दोन** गुण आहेत. या प्रश्नपत्रिकेतील **सर्व** प्रश्न सोडविणे अनिवार्य आहे.
- परीक्षा सुरु झाल्यावर विद्यार्थ्यांना प्रश्नपत्रिका दिली जाईल. सुरुवातीच्या 5 मिनिटांमध्ये आपण सदर प्रश्नपत्रिका उघडून खालील बाबी अवश्य तपासून घ्याव्यात.
 - प्रश्नपत्रिका उघडण्यासाठी प्रश्नपत्रिकेवर लावलेले सील उघडावे. सील नसलेली किंवा सील उघडलेली प्रश्नपत्रिका स्वीकारू नये.
 - पहिल्या पृष्ठावर नमूद केल्याप्रमाणे प्रश्नपत्रिकेची एकूण पृष्ठे तसेच प्रश्नपत्रिकेतील एकूण प्रश्नांची संख्या पडताळून घ्यावी. पृष्ठे कमी असलेली/कमी प्रश्न असलेली/प्रश्नांचा चुकीचा क्रम असलेली किंवा इतर त्रुटी असलेली सदोष प्रश्नपत्रिका सुरुवातीच्या 5 मिनिटातच पर्यवेक्षकाला परत देऊन दुसरी प्रश्नपत्रिका मागवून घ्यावी. त्यानंतर प्रश्नपत्रिका बदलून मिळणार नाही तसेच वेळही वाढवून मिळणार नाही याची कृपया विद्यार्थ्यांनी नोंद घ्यावी.
 - वरीलप्रमाणे सर्व पडताळून पाहिल्यानंतरच प्रश्नपत्रिकेवर ओ.एम.आर. उत्तरपत्रिकेचा नंबर लिहावा.
- प्रत्येक प्रश्नासाठी (A), (B), (C) आणि (D) अशी चार विकल्प उत्तरे दिली आहेत. त्यातील योग्य उत्तराचा रकाना खाली दर्शविल्याप्रमाणे ठळकपणे काळा/निळा करावा.

उदा. : जर (C) हे योग्य उत्तर असेल तर.

(A) (B) (C) (D)
- या प्रश्नपत्रिकेतील प्रश्नांची उत्तरे **ओ.एम.आर. उत्तरपत्रिकेतच दर्शवावीत**. इतर ठिकाणी लिहिलेली उत्तरे तपासली जाणार नाहीत.
- आत दिलेल्या सूचना काळजीपूर्वक वाचाव्यात.
- प्रश्नपत्रिकेच्या शेवटी जोडलेल्या कोऱ्या पानावरच कच्चे काम करावे.
- जर आपण ओ.एम.आर. वर नमूद केलेल्या ठिकाणाव्यतिरिक्त इतर कोठेही नाव, आसन क्रमांक, फोन नंबर किंवा ओळख पटेल अशी कोणतीही खूप केलेली आढळून आल्यास अथवा असभ्य भाषेचा वापर किंवा इतर गैरमार्गांचा अवलंब केल्यास विद्यार्थ्यांना परीक्षेस अपात्र ठरविण्यात येईल.
- परीक्षा संपल्यानंतर विद्यार्थ्यांनी मूळ ओ.एम.आर. उत्तरपत्रिका पर्यवेक्षकांकडे परत करणे आवश्यक आहे. तथापि, प्रश्नपत्रिका व ओ.एम.आर. उत्तरपत्रिकेची द्वितीय प्रत आपल्याबरोबर नेण्यास विद्यार्थ्यांना परवानगी आहे.
- फक्त निळ्या किंवा काळ्या बॉल पेनचाच वापर करावा.
- कॅलक्युलेटर किंवा लॉग टेबल वापरण्यास परवानगी नाही.
- चुकीच्या उत्तरासाठी गुण कपात केली जाणार नाही.

APR - 39224/II—B

Forensic Science
Paper II

Time Allowed : 120 Minutes]

[Maximum Marks : 200

Note : This paper contains **Hundred (100)** multiple choice questions. Each question carrying **Two (2)** marks. Attempt *All* questions.

- | | |
|--|---|
| <p>1. Which of the following is used to preserve DNA at room temperature ?</p> <p>(A) FTA Card</p> <p>(B) Chelex</p> <p>(C) DNAIQ</p> <p>(D) Whatman's paper</p> <p>2. In an individual lacking spermatozoa in the seminal stains, which test is most suitable for its identification among the following ?</p> <p>(A) Seminal acid phosphatase test</p> <p>(B) Choline test</p> <p>(C) Semen specific test</p> <p>(D) Barberio's test</p> | <p>3. Among the following which is more suitable to determine the species origin of blood stains ?</p> <p>(A) Precipitin tube technique</p> <p>(B) Crose-over electrophoresis</p> <p>(C) Latex agglutinins</p> <p>(D) Anti-globulin consumption test</p> <p>4. The scientific name of Chiru is :</p> <p>(A) <i>Antilope cervicapra</i></p> <p>(B) <i>Pantholops hodgsonii</i></p> <p>(C) <i>Capra aegagrus</i></p> <p>(D) <i>Vulpes bengalensis</i></p> |
|--|---|

5. Which part of the spermatozoa of human-being has the DNA ?
- (A) Acrosome
 - (B) Midpiece
 - (C) Tail
 - (D) End part of tail

6. Brentamine Fast Blue-B is used to test :
- (A) Seminal stains
 - (B) Vaginal stains
 - (C) Saliva stains
 - (D) Urine stains

7. Which of the following is a red cell blood group system ?
- (a) HLA
 - (b) ABO
 - (c) Kell
 - (d) Duffy

Choose the correct answer from the options given below :

- (A) (a), (b) and (c) only
- (B) (a), (b) and (d) only
- (C) (b), (c) and (d) only
- (D) (a), (c) and (d) only

8. The luminal reagent test with blood gives luminescence of which colour ?
- (A) Bright blue to yellow green
 - (B) Bright green to white
 - (C) Bright orange to black
 - (D) Bright violet to greyish

9. Which of the following is part of an amplification process ?
- (a) Addition of primers to ends of DNA strands
 - (b) Denaturation
 - (c) Addition of individual nucleotide
 - (d) Southern blotting

Choose the correct answer from the options given below :

- (A) (a), (b) and (c) only
- (B) (a), (b) and (d) only
- (C) (a), (c) and (d) only
- (D) (b), (c) and (d) only

10. In older times, guaiacum test was used for the preliminary identification of :

- (A) Saliva
- (B) Blood
- (C) Semen
- (D) Urine

11. Van Urk test is used as a preliminary test for which of the following drugs ?
- (A) Opium
 - (B) MDMA
 - (C) GHB
 - (D) LSD
12. Pure anthracene exhibit the fluorescence of which colour ?
- (A) Green
 - (B) Blue
 - (C) Yellow
 - (D) Orange
13. Chalcosis lentis is observed in the chronic poisoning of :
- (A) Copper
 - (B) Arsenic
 - (C) Cadmium
 - (D) Barium
14. Congress grass is :
- (A) Dermal irritant
 - (B) GIT irritant
 - (C) General irritant
 - (D) Sedatives
15. Which of the following is an example of systemic poison ?
- (A) DDT
 - (B) Hg
 - (C) Carbolic acid
 - (D) As
16. Which of the following is stupefying poison ?
- (A) Copper sulphate
 - (B) Oleander
 - (C) Dhatura
 - (D) Croton
17. Who is known as the father of Modern Toxicology ?
- (A) Mathieu Joseph Bonaventure Orfila
 - (B) Calvin Goddard
 - (C) E. Locard
 - (D) Hans Gross
18. Cannabis is an example of :
- (A) Hallucinogens
 - (B) Sedatives
 - (C) Hypnotics
 - (D) Stimulants

19. All the three countries constitute the golden triangle :
- (a) Thailand
 - (b) Myanmar
 - (c) Laos
 - (d) China
- Choose the correct answer from the options given below :
- (A) (a), (b) and (c) only
 - (B) (a), (c) and (d) only
 - (C) (b), (c) and (d) only
 - (D) (a), (b) and (d) only
20. Scott's test is used for the detection of :
- (A) Morphine
 - (B) Cocaine
 - (C) Codeine
 - (D) Heroine
21. In which of the following weapons, iron pyrite was used as ignitor ?
- (A) Percussion lock gun
 - (B) Flint lock gun
 - (C) Wheel lock gun
 - (D) Match lock gun
22. Which of the following tests is used to detect the presence of Nitrates in Gunshot Residue ?
- (A) Harrison-Gilroy test
 - (B) Scott test
 - (C) Dithiooxamide test
 - (D) Modified Griess test
23. A projectile designed to disintegrate upon impact with a hard surface in order to minimize ricochet is referred to as :
- (A) Incendiary bullet
 - (B) Matchlock bullet
 - (C) Jacketed bullet
 - (D) Frangible bullet
24. What is the full form of BDAS in relation to ballistics ?
- (A) Ballistic Data Acquiring System
 - (B) Ballistic Data Analysing System
 - (C) Ballistic Data Acquisition System
 - (D) Ballistic Data Advancement System

25. Which of the following methods will most effectively remove all the recoverable traces of the original serial number on an engine ?
- (A) Over-stamping
 (B) Filing
 (C) Welding
 (D) Peening
26. Magic bullet phenomenon is said to be related to which of the following ?
- (A) James Garfield assassination
 (B) Lee Harvey Oswald assassination
 (C) William McKinley assassination
 (D) John F. Kennedy assassination
27. A bullet fired from a gun is not released, it is ejected out with the subsequent shot. It is known as :
- (A) Dumdum bullet
 (B) Ricochet bullet
 (C) Tandem bullet
 (D) Rocketing bullet
28. Which of the following is the result of flame and hot gases and not by the hot projectiles as is commonly believed ?
- (A) Blackening
 (B) Tattooing
 (C) Scorching
 (D) Pink coloration
29. The formula for ballistic coefficient is :
- (A) $C = \frac{w}{id}$
 (B) $C = \frac{w}{id^2}$
 (C) $C = \frac{w}{i^2 \sqrt{d}}$
 (D) $C = \frac{id^2}{w}$
30. In which of the following primer cap types, anvil is part of the cartridge case in the form of a small pag in the primer pocket ?
- (A) Berdan Primer
 (B) Boxer Primer
 (C) Battery Cup Primer
 (D) Wheel Lock Primer

31. A secretive visual documentation of objects of importance to an investigation is known as :
- (A) 3D photography
 (B) High speed photography
 (C) Aerial photography
 (D) Surveillance photography
32. If you are shooting a photo and want to get a greater depth of field in the image, you would shoot at :
- (A) F2.8
 (B) F16
 (C) F7.1
 (D) F4
33. Cyclotol is the combination of :
- (A) PETN + TNT
 (B) RDX + TNT
 (C) PETN + RDX
 (D) Black powder + Nitrocellulose
34. The phenomenon that occurs when all the combustible fuels simultaneously ignites, engulfing the entire structure in flames is known as :
- (A) Backdraft fire
 (B) Pyrolysis
 (C) Flashover
 (D) Detonation
35. Which of the following are *o*-Nitration compounds ?
- (a) Nitrocellulose
 (b) Nitroglycerine
 (c) PETN
 (d) TNT
- Choose the correct answer from the options given below :
- (A) (a), (b) and (c) only
 (B) (a), (c) and (d) only
 (C) (b), (c) and (d) only
 (D) (a), (b) and (d) only
36. Which dye is used in Kerosene ?
- (A) Dialkyl amino anthroquinone dye
 (B) Phenyl azo 2-naphthol
 (C) Green dye
 (D) Methylene blue
37. The primary high explosives which is used in percussion cup of cartridge is :
- (A) Lead azide
 (B) TNT
 (C) PETN
 (D) RDX
38. What is the purpose of using tripod in Forensic Photography ?
- (A) To capture candid moments
 (B) To create motion blur
 (C) To experiment with different angles
 (D) To add stability and reduce camera shake

39. The most commonly used explosive in booster is :
- (A) Pentolite
 - (B) Dynamite
 - (C) ANFO
 - (D) Petrol
40. In a spot test, Diphenylamine develops the following colour when reacted with TATP :
- (A) Green
 - (B) Red
 - (C) Orange
 - (D) Blue
41. Which of the following are examples of red-coloured inorganic household paint pigments ?
- (a) BON maroon
 - (b) Brominated anthanthrone
 - (c) Cadmium mercury
 - (d) Cadmium selenide
- Choose the correct answer from the options given below :
- (A) (a) and (b) only
 - (B) (b) and (c) only
 - (C) (a) and (d) only
 - (D) (c) and (d) only
42. An infected computer, which acts as a slave after attack through botnet is better known as :
- (A) Zombie
 - (B) Serf
 - (C) Vassal
 - (D) Thrall
43. Unix systems maintain up to which of the following date-time stamps ?
- (A) Four
 - (B) Three
 - (C) Two
 - (D) One
44. Black Berry was first introduced in 1999 by which of the following companies ?
- (A) Research in Motion (RIM)
 - (B) Open Handset Alliance
 - (C) International Business Machine
 - (D) High Tech Computer Corporation

45. Which of the following ASTM guidelines are for examination of portland cement clinker ?
 (a) ASTM C 114-18
 (b) ASTM C 1356-07
 (c) ASTM C 1365-18
 (d) ASTM C 1872-1892
 Choose the correct answer from the options given below :
 (A) (a) and (b) only
 (B) (b) and (c) only
 (C) (c) and (d) only
 (D) (a) and (d) only
46. Among the following, select which is a regenerated fibre ?
 (A) Rayon
 (B) Sericin
 (C) Nylon
 (D) Second growth milk
47. Abnormal situations of hair growth where excessive growth of hair take place are :
 (a) Hirsutism
 (b) Alopecia
 (c) Hypertrichosis
 (d) Hypotrichosis
 Choose the correct answer from the options given below :
 (A) (a) and (b) only
 (B) (b) and (c) only
 (C) (a) and (c) only
 (D) (c) and (d) only
48. Which of the following constituent of borosilicate glass exists in the highest percentage ?
 (A) SiO_2
 (B) B_2O_3
 (C) Al_2O_3
 (D) CaO
49. The larger valve of frustule of a diatom is known as :
 (A) Hypertheca
 (B) Hypotheca
 (C) Epitheca
 (D) Cingulum
50. Pollen grains having only colpi is known as :
 (A) Porate
 (B) Colpate
 (C) Colporate
 (D) Colpitate
51. Solemate is the database related to :
 (A) Shoe impression
 (B) Handwriting
 (C) Bullet
 (D) Cartridge cases

52. On a tyre, the following marks were present : P 195/75 R 14. "14" indicates :

- (A) Aspect ratio
- (B) Rim diameter
- (C) Section width
- (D) Turning radius

53. Which of the following lifters is commonly chosen when a latent impression is on a irregularly shaped surface like doorknob ?

- (A) Lifting sheets
- (B) Rubber-gelatin lifters
- (C) Transparent tape lifters
- (D) Hinge lifters

54. Volar pads are transient swellings of which of the following tissue ?

- (A) Squamous
- (B) Mesenchyme
- (C) Ganglion
- (D) Autorhythmic

55. Among the following which constitutes the fundamental principles of fingerprints ?

- (a) Fingerprint is an individual characteristics
- (b) No two fingers have identical ridge characteristics
- (c) Fingerprints are permanent in nature
- (d) Fingerprint characteristics follow Mendel's law of inheritance

Choose the correct answer from the options given below :

- (A) (a), (b) and (c)
- (B) (a), (b) and (d)
- (C) (b), (c) and (d)
- (D) (a), (c) and (d)

56. Local binary pattern extracts which of the following features from the face image ?

- (A) Colour
- (B) Shape
- (C) Texture
- (D) Anthropometric landmarks

57. A low-resolution fingerprint image (say 250 dpi) can be more suitable for observing which of the following features ?
- (A) Singular points
 - (B) Ridge characteristics
 - (C) Edges of the ridges
 - (D) Sweat pores
58. A vocal mode in which the vocal folds vibrate at such a low frequency that the individual vibrations can be heard is better known as :
- (A) Creaky voice
 - (B) Continuant
 - (C) Cognate
 - (D) Sibilants
59. English lax vowels appear in which of the following words ?
- (A) Sit
 - (B) Soot
 - (C) Sir
 - (D) Soy
60. Computerized speech laboratory is used for the examination of :
- (A) Audio
 - (B) Video
 - (C) Image
 - (D) Document
61. Inkjet printer works on the principle of :
- (A) Osmosis
 - (B) Newton effect
 - (C) Coulomb effect
 - (D) Piezoelectric effect
62. ESDA stands for :
- (A) Electronic Static Detection Appliance
 - (B) Electrostatic Detection Apparatus
 - (C) Electric System for Detection of Alteration
 - (D) Electronic System for Detection of Alteration
63. Handwriting characteristics which is the combination of writing speed, skill, freedom of movement, execution rhythm and pen pressure is better known as :
- (A) Master pattern
 - (B) Copybook form
 - (C) Line quality
 - (D) Kerning

64. Which of the following often involves writing on media other than paper, such as walls, locker doors or mirrors ?

- (A) Cacography
- (B) Graffiti
- (C) Hieroglyphics
- (D) Arcograph

65. Bank notes are printed at which of the following places ?

- (a) Nashik, Maharashtra
- (b) Guntur, Andhra Pradesh
- (c) Salboni, West Bengal
- (d) Dewas, Madhya Pradesh

Choose the correct answer from the options given below :

- (A) (a), (b) and (c) only
- (B) (a), (b) and (d) only
- (C) (a), (c) and (d) only
- (D) (b), (c) and (d) only

66. The other name for invisible ink is :

- (A) Illegible ink
- (B) Sympathetic ink
- (C) Hidden ink
- (D) Concealed ink

67. **Statement I** : Simplification of letter forms is an indication of fast writing.

Statement II : Writing speed affects the appearance of the writing.

- (A) Both Statement-I and Statement-II are true
- (B) Statement-I is true, but Statement-II is false
- (C) Statement-I is false but Statement-II is true
- (D) Both Statement-I and Statement-II are false

68. Which of the following can be said as interlineation ?

- (A) Writing between two paras
- (B) Writing between two lines
- (C) Writing between two words
- (D) Writing between two letters

69. Which of the following are used as time tags ?
- (a) Rare earth metal
 - (b) Optical whitener
 - (c) Fluorescent tags
 - (d) Alcohol
- Choose the correct answer from the options given below :
- (A) (a), (b) and (c) only
 - (B) (b), (c) and (d) only
 - (C) (c), (d) and (a) only
 - (D) (a), (b) and (d) only
70. 'India Ink' was invented in which of the following countries ?
- (A) Egypt
 - (B) Syria
 - (C) China
 - (D) India
71. Which of the following autopsy utilizes radiological techniques ?
- (A) Laparoscopic autopsy
 - (B) Endoscopic autopsy
 - (C) Virtopsy
 - (D) Toxopsy
72. Basic unit of a muscle is known as :
- (A) Epimere
 - (B) Myomere
 - (C) Uromere
 - (D) Sarcomere
73. Common ways for the collection of maggots are :
- (a) Boiling water followed by 70% alcohol
 - (b) Line in a bottle
 - (c) Boiling water followed by ether
 - (d) Boiling water followed by acetone
- Choose the correct answer from the options given below :
- (A) (a) and (b) only
 - (B) (b) and (c) only
 - (C) (c) and (d) only
 - (D) (d) and (a) only
74. Teeth of dead body are used in Gustafson's method for the determination of :
- (A) Race
 - (B) Age
 - (C) Stature
 - (D) Sex
75. The ossification centre in upper end of fibula appears at the age of :
- (A) 16 years
 - (B) 10 years
 - (C) 4 years
 - (D) Birth

76. In rape case of a virgin, hymen tears are commonly found in which of the following position ?

- (A) 2 o'clock
- (B) 11 o'clock
- (C) 6 o'clock
- (D) 3 o'clock

77. Which of the following is a super-added tooth ?

- (A) Incisors
- (B) Molars
- (C) Premolars
- (D) Canines

78. **Statement I** : Serrated occlusal surfaces of tooth are found in carpenters, cobblers and women who open bobby pins with their teeth.

Statement II : These people often use their teeth to hold nails and pins.

- (A) Both Statement I and Statement II are true
- (B) Statement I is true but Statement II is false
- (C) Statement I is false but Statement II is true
- (D) Both Statement I and Statement II are false

79. Match the following :

Characteristic of Abrasion

- (a) Bright red scab
- (b) Scab is dark brown color
- (c) Scab dries and falls off
- (d) Reddish brown scab

Age of Abrasion

- (i) 1 day
- (ii) > 7 days
- (iii) 2-3 days
- (iv) 4-7 days

Choose the correct answer from the options given below :

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

80. Diatoms in bone marrow are seen in death due to :

- (A) Strangulation
- (B) Drowning
- (C) Electrocution
- (D) Asphyxia

81. The distance travelled by the Firearm discharge in chronological order is :

- (A) Charring, Blackening, Burning and Tattooing
- (B) Burning, Charring, Blackening and Tattooing
- (C) Blackening, Charring, Tattooing and Burning
- (D) Tattooing, Charring, Blackening and Burning

82. Match the following :

List I

- (a) Pneumograph
- (b) Sphygmograph
- (c) Plethysmograph
- (d) Galvanograph

List II

- (i) Blood pressure
- (ii) Blood pulse volume
- (iii) Sweat conductivity
- (iv) Respiration changes

Codes :

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

83. In Forensic Gait Analysis, which of the following are the temporal parameters ?

- (i) Step or stride width
- (ii) Foot angle
- (iii) Step time
- (iv) Stance duration
- (v) Swing/stance ratio
- (vi) Gait line

Codes :

- (A) (i), (ii), (vi)
- (B) (i), (v), (vi)
- (C) (iii), (iv), (v)
- (D) (ii), (iv), (vi)

84. What is the full form of "SICAR" ?

- (A) Shoeprint Imaging Capture and Recovery
- (B) Shoeprint Imaging Capture and Retrieval
- (C) Shoeprint Image Capture and Retrieval
- (D) Shoeprint Image Capture and Recovery

85. Venous blood collected as a reference blood sample should be collected in :

- (A) Pink-topped vacutainer EDTA tubes
- (B) Purple-topped vacutainer EDTA tubes
- (C) Green-topped vacutainer EDTA tubes
- (D) Yellow-topped vacutainer EDTA tubes

86. Why is a scale included in forensic photographs ?

- (A) To add visual interest to the photo
- (B) To indicate the time the photo was taken
- (C) To enhance the composition of the image
- (D) To show the size of objects in the photo

87. Which of the following are criminal courts ?

- (a) Executive magistrate court
- (b) Judicial magistrate of first class court
- (c) Metropolitan magistrate court
- (d) Munsif court

Choose the correct answer from the options given below :

- (A) (a), (b) and (c) only
- (B) (a), (c) and (d) only
- (C) (a), (b) and (d) only
- (D) (b), (c) and (d) only

88. Match the following :

List I

- (a) Article 14 (Constitution of India)
- (b) Article 15 (Constitution of India)
- (c) Article 16 (Constitution of India)
- (d) Article 17 (Constitution of India)

List II

- (i) Prohibition of discrimination on grounds of religion, race, caste, sex
- (ii) Equality before law
- (iii) Abolition of untouchability
- (iv) Equality of opportunity in matters of public employment

Codes :

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

89. The first forensic science laboratory in Maharashtra was established in Mumbai in the year :

- (A) 1952
- (B) 1958
- (C) 1962
- (D) 1968

90. The footprint section under CID, Government of Bengal was first established in :
- (A) 1920
 - (B) 1915
 - (C) 1910
 - (D) 1905
91. Which of the following are size exclusion methods ?
- (a) Gel adsorption
 - (b) Gel filtration
 - (c) Gel diffusion
 - (d) Gel permeation
- Choose the correct answer from the options given below :
- (A) (a) and (b) only
 - (B) (a) and (c) only
 - (C) (c) and (d) only
 - (D) (b) and (d) only
92. Which of the following chromatographic mobile phase has the highest refractive index ?
- (A) Water
 - (B) Ethanol
 - (C) Chloroform
 - (D) Toluene
93. Which of the following gases are used as carrier gas in GLC ?
- (a) Hydrogen
 - (b) Acetylene
 - (c) Nitrogen
 - (d) Nitrous oxide
- Choose the correct answer from the options given below :
- (A) (a) and (c) only
 - (B) (a) and (b) only
 - (C) (c) and (d) only
 - (D) (b) and (d) only
94. Performance of mass analyser is measured in terms of its :
- (A) Separation coefficient
 - (B) Retardation factor
 - (C) Retention factor
 - (D) Resolving power
95. Silicon drifted detector is which of the following types of X-ray transducer ?
- (A) Ionization chambers
 - (B) Geiger tube
 - (C) Semiconductor transducer
 - (D) Scintillation tube

96. Which of the following elements have greater sensitivity in fast-neutron activation analysis than that of the thermal neutron ?

- (a) Cl
- (b) Ni
- (c) O
- (d) Si

Choose the correct answer from the options given below :

- (A) (a) and (b) only
- (B) (b) and (d) only
- (C) (c) and (d) only
- (D) (a) and (c) only

97. ICP is used to analyse samples in which of the following states ?

- (A) Solids
- (B) Liquids
- (C) Gases
- (D) Solids and liquids both

98. Mercury Cadmium Telluride (MCT) detectors are used in :

- (A) FTIR spectrometry
- (B) AAS
- (C) GC-MS
- (D) LC-MS

99. Bertrand lens is commonly a part of the following microscope :

- (a) Stereomicroscope
- (b) Comparison microscope
- (c) Polarising microscope
- (d) Fluorescence microscope

Choose the correct answer from the options given below :

- (A) (a), (b) and (c) only
- (B) (a), (b) and (d) only
- (C) (a), (c) and (d) only
- (D) (b), (c) and (d) only

100. The commonly used light source in a fluorescence microscope is :

- (a) Xenon arc lamp
- (b) Mercury arc lamp
- (c) Ruby laser
- (d) Diode laser

Choose the correct answer from the options given below :

- (A) (a) and (b) only
- (B) (b) and (c) only
- (C) (c) and (d) only
- (D) (d) and (a) only

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ROUGH WORK