

FORENSIC SCIENCE

Name & Signature of the Invigilator

PAPER – II

OMR Answer Sheet No. :

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CODE-27

Roll No. :

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(in figures as in Hall Ticket)

Roll Number in words :

270062

Question Booklet Sl. No.

Time : 2 Hours]

No. of Printed Pages : 16

[Maximum Marks : 200

Instructions for the Candidates

1. Write your Roll Number in the space provided on the top of this page.
2. This paper consists of **one hundred (100)** multiple choice type of questions. All questions are compulsory.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
 - (i) 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 and do not accept an open booklet.
 - (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
 - (iii) After this verification is over, the Test Booklet Number should be entered on the OMR Answer Sheet and the OMR Answer Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.

Example: (A) (B) (C) (D) where (B) is the correct response.
5. Your responses to the items are to be indicated on the OMR Answer Sheet under Paper – II only. If you mark your response at any place other than in the oval in the OMR Answer Sheet, it will not be evaluated.
6. Rough Work is to be done in the end of this booklet.
7. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer 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, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
8. You have to return the original OMR Answer 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 original question booklet and duplicate copy of OMR Answer Sheet on conclusion of examination.
9. Use only Blue/Black Ball point pen.
10. Use of any calculator or any electronic devices or log table etc., are prohibited.
11. There shall be no negative marking.

પરીક્ષાર્થીઓ માટે સૂચનાઓ

1. આ પાનાની ટોચ પર દર્શાવેલી જગ્યામાં તમારો રોલ નંબર લખો.
2. આ પ્રશ્નપત્રમાં બહુવિકલ્પિક ઉત્તરો ધરાવતા સૌ (100) પ્રશ્નો આપેલા છે. બધા જ પ્રશ્નો ફરજિયાત છે.
3. પરીક્ષાની શરૂઆતમાં આપને પ્રશ્નપુસ્તિકા આપવામાં આવશે. પ્રથમ પાંચ (૫) મિનિટ દરમિયાન તમારે પ્રશ્નપુસ્તિકા ખોલી અને ફરજિયાતપણે નીચે મુજબ પરીક્ષણ કરવું :
 - (i) પ્રશ્નપુસ્તિકાનો વપરાશ કરવા માટે આ કવર પૃષ્ઠની ધાર પર આપેલ સીલ સ્ટીકર ફાડી નાખો. કોઈપણ સંજોગોમાં સીલ સ્ટીકર વગરની કે ખુલ્લી પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં.
 - (ii) કવર પૃષ્ઠ પર છપાયેલ નિર્દેશાનુસાર પ્રશ્નપુસ્તિકાના પ્રશ્નો, પૃષ્ઠો અને સંખ્યાને બરાબર ચકાસી લો. ખામીયુક્ત પ્રશ્નપુસ્તિકા કે જેમાં પ્રશ્નો/ પૃષ્ઠો ઓછાં હોય, બે વાર છપાયા હોય, અનુક્રમમાં અથવા અન્ય કોઈ ફરક હોય અર્થાત કોઈપણ સંજોગોમાં ખામીયુક્ત પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં. અને જો ખામીયુક્ત પ્રશ્નપુસ્તિકા મળી હોય તો નિરીક્ષક પાસેથી તુરંત જ બીજી સારી પ્રશ્નપુસ્તિકા મેળવી લેવી. આ માટે ઉમેદવારને પાંચ (૫) મિનિટને સમયગાળો આપવામાં આવશે. પછીથી, પ્રશ્નપુસ્તિકા બદલવામાં આવશે નહીં કે કોઈ વધારાનો સમયગાળો આપવામાં આવશે નહીં.
 - (iii) આ ચકાસણી સમાપ્ત થાય પછી, પ્રશ્નપુસ્તિકાનો નંબર OMR જવાબ પત્રક પર લખવો અને OMR જવાબ પત્રકનો નંબર પ્રશ્નપુસ્તિકા પર લખવો.
4. પ્રત્યેક પ્રશ્ન માટે ચાર જવાબ વિકલ્પ (A), (B), (C) અને (D) આપવામાં આવેલ છે. તમારે સાચા જવાબના ઓવલ (oval) ને નીચે આપેલ ઉદાહરણ મુજબ પેનથી ભરીને સંપૂર્ણ કાઢી કરવાનું રહેશે.

ઉદાહરણ : (A) (B) (C) (D) કે જ્યાં (B) સાચો જવાબ છે.
5. આ પ્રશ્નપુસ્તિકાના પ્રશ્નોના જવાબ અલગથી આપવામાં આવેલ OMR જવાબ પત્રકમાં પેપર-11ભ્રેલ વિભાગમાં જ અંકિત કરવા. જો આપ OMR જવાબ પત્રકમાં આપેલ ઓવલ (oval) સિવાય અન્ય સ્થાને જવાબ અંકિત કરશો તો તે જવાબનું મૂલ્યાંકન કરવામાં આવશે નહીં.
6. કાચું કામ (Rough work) પ્રશ્નપુસ્તિકાના અંતિમ પૃષ્ઠ પર કરવું.
7. જો આપ OMR જવાબ પત્રક નિયત જગ્યા સિવાય અન્ય કોઈપણ સ્થાને, આપનું નામ, રોલ નંબર, ક્ષેત્ર નંબર અથવા એવું કોઈ ચિહ્ન જેનાથી તમારી ઓળખ થઈ શકે, અંકિત કરશો અથવા અલગ ભાષાનો પ્રયોગ કરો, અથવા અન્ય કોઈ અનુચિત સાધનોનો ઉપયોગ કરો, જેમકે અંકિત કરી દીધેલ જવાબ ભૂંસી નાખવો કે સફેદ શાહીનો ઉપયોગ કરી બદલશો તો આપને પરીક્ષા માટે અયોગ્ય જાહેર કરવામાં આવશે.
8. પરીક્ષા સમય પૂરો થઈ ગયા બાદ ઓરીજનલ OMR જવાબ પત્રક જે તે નિરીક્ષકને ફરજિયાત સોંપી દેવું અને કોઈ પણ સંજોગોમાં તે પરીક્ષા ખંડની બહાર લઈ જવું નહીં. પરીક્ષા પૂર્ણ થયા બાદ ઉમેદવાર ઓરીજનલ પ્રશ્નપુસ્તિકા અને OMR જવાબ પત્રકની ડુપ્લિકેટ કોપી પોતાની સાથે લઈ જઈ શકે છે.
9. માત્ર કાળી / ભૂરી બોલ પોઇન્ટ પેન વાપરવી.
10. કેલ્ક્યુલેટર, લોગ ટેબલ અને અન્ય ઇલેક્ટ્રોનિક યંત્રોનો ઉપયોગ કરવાની મનાઈ છે.
11. ખોટા જવાબ માટે નકારાત્મક ગુણાંકન પ્રથમ નથી.



DO NOT WRITE HERE





FORENSIC SCIENCE

Paper – II

- The following factors do not influence in the formation of a bruise
(A) Sex of a person (B) Force used
(C) Colour of a person (D) Age of a person
- Under which Section of Indian Law dowry deaths are booked ?
(A) 376 IPC (B) 375 IPC (C) 304 A IPC (D) 304 B IPC
- Which of the following sutures of the skull is last to fuse ?
(A) Lambdoid (B) Coronal
(C) Sagittal (D) Basi-occiput with Basi-sphenoid
- In an aircrash case, which survey method is more suitable ?
(A) Spiral method (B) Strip method (C) Wheel method (D) Zone method
- Salylation is used in
(A) MS (B) AAS (C) AES (D) GLC
- MCT detector is used in
(A) AAS (B) GC-MS
(C) LC-MS (D) FTIR spectrometry

7. Match the following :

List – I

- Arches
- Lateral pocket loop
- Twinned loop
- Central pocket loop

List – II

- Contains two loops opening on the same side
- Contains two loops opening on the opposite sides
- Contains one core and two delta
- Contains no delta

Codes :

- | | I | II | III | IV |
|-----|---|----|-----|----|
| (A) | 4 | 1 | 2 | 3 |
| (B) | 4 | 1 | 3 | 2 |
| (C) | 2 | 3 | 4 | 1 |
| (D) | 3 | 2 | 1 | 4 |



17. Most superior form of inquest is
(A) Police inquest (B) Medical examiners system
(C) Coroner's inquest (D) Magistrate's inquest
18. Soil sample when moistened with few drops of water and concentrated hydrochloric acid gives yellow colour due to the presence of
(A) Lime (B) Zinc (C) Iron (D) Aluminium
19. During gravimetric method of analysis of cement filtrate-D is used for calculation of
(A) Calcium oxide (B) Silica oxide
(C) Potassium permanganate (D) Iron oxide
20. Which amino acid is present in hair medullar protein that is usually not a component of proteins ?
(A) Proline (B) Cystine (C) Citrulline (D) Glycine
21. Family Silphidae insects belong to the order
(A) Coleoptera (B) Diptera (C) Lepidoptera (D) Hymenoptera
22. Cyanide inhibits the activity of which of the following enzyme ?
(A) Salivary amylase
(B) Pancreatic lipase
(C) Cytochrome oxidase
(D) Carboxylic esterase
23. Octane number indicates
(A) Viscosity (B) Anti-knocking quality
(C) Ignition quality (D) Storage quality
24. Which plant contain the toxalbumin – "Ricin" ?
(A) Castor (B) Croton (C) Marking nut (D) Calotropis
25. Which of the following plants is not a cardiac poison ?
(A) Aconite (B) Calotropis (C) Digitalis (D) Nicotine



26. Which of the following pairs is not matched correctly ?
- (A) Putri mortis : purification of the body
 - (B) Rigor mortis : stiffening of the body
 - (C) Livor mortis : bluish discoloration of the body
 - (D) Algor mortis : cooling of the body
27. In histological section of teeth, enamel shows incremental lines which are known as
- (A) Striae of Retzius
 - (B) Hunter Schreger bands
 - (C) Lines of Owen
 - (D) Gingival fiber striations
28. An explosion during a fire due to the mixing of fresh air in a compartment having inflammable, volatile pyrolysis product and low oxygen, is known as
- (A) Rollover
 - (B) Flashback
 - (C) Falmeover
 - (D) Dropdown
29. Which of the following physiological parameters is NOT assessed in polygraph testing ?
- (A) Blood pressure
 - (B) Skin conductivity
 - (C) Lung air volume
 - (D) Pulse rate
30. A tool having thin cutting edge, the spacing in between the striations shows change with
- (A) Angle of tilt
 - (B) Angle of progression
 - (C) Nature of surface acted upon
 - (D) Pressure applied
31. STR DNA analysis can help in determining which of the following ?
- (A) Height of an individual
 - (B) Age of an individual
 - (C) Race of an individual
 - (D) Sex of an individual
32. Which of the following test is used to determine the blood group from a blood stain ?
- (A) Kastle-Meyer test
 - (B) Lattes crust method
 - (C) Haemin crystal test
 - (D) Luminol spray test



33. Which of the following is NOT true for AES ?
- (A) It is used for metal analysis
 - (B) It is a quantitative technique
 - (C) It can distinguish the oxidation states of elements
 - (D) It is a destructive technique
34. Thin layer of which metal are coated to develop latent fingerprints using VMD method ?
- (A) Gold and Zinc
 - (B) Gold and Silver
 - (C) Gold and Lead
 - (D) Gold and Aluminium
35. Which of the following can be said as interlineation ?
- (A) Writing between two letters
 - (B) Writing between two words
 - (C) Writing between two lines
 - (D) Writing between two paras
36. Which of the following technique has NOT been routinely used in the forensic analysis of explosives ?
- (A) MS
 - (B) NMR
 - (C) FTIR
 - (D) TLC
37. An office of the government handwriting expert of Bengal was established in Calcutta in 1904 which was shifted to Shimla in which year ?
- (A) 1906
 - (B) 1907
 - (C) 1905
 - (D) 1910
38. A condition of prolonged transition from sleep to waking with partial alertness, disorientation, drowsiness, poor co-ordination and violent behaviour is known as
- (A) Fregola syndrome
 - (B) Fugue
 - (C) Somnambulism
 - (D) Somnolentia
39. Simon sign is seen in which of the following ?
- (A) Strangulation
 - (B) Gagging
 - (C) Hanging
 - (D) Traumatic asphyxia



40. In gas chromatography technique which of the following gas is NOT suitable ?
(A) Helium (B) Argon (C) Nitrogen (D) Oxygen
41. Photomultiplier tube is NOT suitable for the detection of
(A) Visible photons (B) Fluorescence
(C) IR photons (D) UV photons
42. Jaffe test used for examination of urine sample is a _____ method.
(A) Colorometric (B) Capillary
(C) UV (D) Both Colorometric and Capillary
43. Pyrolysis gas chromatography is useful technique for characterization of the following paint constituents
(A) Binder (B) Pigment
(C) Lacquer (D) Solvent
44. "Davidson Body" is present in
(A) Neutrophil (B) Monocyte (C) Lymphocyte (D) Basophil
45. At which angle of projection, the range of projectile is maximum ?
(A) 35 (B) 40 (C) 45 (D) 90
46. Musket is a
(A) Carbine
(B) Rifled firearm
(C) Muzzle loader
(D) A shoulder firearm with smooth barrel
47. The cutting of barrel length in shotgun causes
(A) Increase in dispersion of pellets
(B) Decrease in dispersion of pellets
(C) Distortion of pellets
(D) No change in dispersion of pellets



48. The diameter of SG pellet in 12 bore shotgun cartridge is
(A) 5.56 mm (B) 9 mm (C) 8.43 mm (D) 7.62 mm
49. As per IPC, emasculation is classified as
(A) Simple injury (B) Grievous injury
(C) Miscarriage (D) Assault
50. The homicide caused unintentionally by an act done in a good faith is
(A) Murder (B) Excusable
(C) Culpable homicide (D) All of the above
51. Forensic entomology helps in crime investigations in cases of
(A) Drug analysis
(B) Disturbance of crime scene
(C) Suspected death
(D) All of the above
52. These are the various types of mental deficiency, except
(A) Psychopath (B) Imbecile (C) Moron (D) Idiot
53. Dying declaration is to be preferably recorded by
(A) Doctor (B) Police (C) Magistrate (D) Jury Member
54. Police inquest is conducted under Section
(A) 174 CrPC (B) 174 IPC (C) 176 CrPC (D) 176 IPC
55. Faeces stains are identified from odour, presence of indigested matter, vegetable fibres and
(A) Stercobilin
(B) Rhombic crystals
(C) Dark brown crystals of choline iodide
(D) All of the above



56. For hardening of plaster of paris cast of foot prints, following substance is added
(A) Talcum powder (B) Sodium carbonate
(C) Sodium sulphate (D) Sodium chloride
57. The skid marks on the road in a vehicular accident may give an indication of
(A) Make of the vehicle (B) Weight of the vehicle
(C) Height of the vehicle (D) Speed of the vehicle
58. Scales are found on the following fibre
(A) Wool (B) Linen (C) Silk (D) Cotton
59. Fractures due to heat are
(A) Radial (B) Hackle marks (C) Wavy (D) Spiral
60. The sequence of post-mortem changes in a cadaver includes
(A) Rigor mortis, primary flaccidity, secondary flaccidity, marbling
(B) Marbling, secondary flaccidity, primary flaccidity, rigor mortis
(C) Primary flaccidity, secondary flaccidity, rigor mortis, marbling
(D) Primary flaccidity, rigor mortis, secondary flaccidity, marbling
61. Sodium-halide-bromide cell window are used in
(A) Atomic absorption spectrometry
(B) Raman spectrometry
(C) UV spectrometry
(D) IR spectrometry
62. Wet digestion method is used for the extraction of _____ poisons from viscera.
(A) Barbiturates (B) Toxic heavy metals
(C) Pesticides (D) Alkaloids
63. The trigger pull of service rifle is
(A) 6 – 7 lbs (B) 9 – 12 lbs (C) 12 – 15 lbs (D) 15 – 18 lbs



64. Chronograph is an instrument which measures the following in forensic ballistics
- (A) Angle of fire of a gun
 - (B) Trajectory of the projectile
 - (C) Velocity of the projectile
 - (D) Temperature inside the barrel of gun
65. Bullet that leaves a visible smoke mark on the flight is called
- (A) Fragile bullet
 - (B) Tracer bullet
 - (C) Jacketed bullet
 - (D) Hollow point bullet
66. The following method is non-destructive technique for ink identification
- (A) Videospectral analysis
 - (B) Thin layer chromatography
 - (C) UV-Vis spectrophotometer
 - (D) Solubility test
67. Skull photo superimposition technique was used for the first time in which of the following cases ?
- (A) Frye case
 - (B) Ted Bundy case
 - (C) Ruxton case
 - (D) Daubert case
68. Linea aspera is present on which of the following bone ?
- (A) Humerus
 - (B) Clavicle
 - (C) Ulna
 - (D) Femur
69. To visualise the latent fingerprints, ninhydrin reacts with which of the following ?
- (A) Amino acids
 - (B) Sodium chloride
 - (C) Fatty acids
 - (D) Urea
70. Split laceration resembles
- (A) Contusion
 - (B) Incised wound
 - (C) Stab wound
 - (D) Abrasion
71. The evidence of Expert in the Court of Law is recorded in the following order
- (A) Oath, Examination in chief, Cross examination, Questions by Judges
 - (B) Questions by Judges, Oath, Cross examination, Examination in chief
 - (C) Oath, Questions by Judges, Examination in chief, Cross examination
 - (D) Examination in chief, Cross examination, Oath, Questions by Judges



72. First Fingerprint Bureau was started at Kolkata in the year
(A) 1897 (B) 1906 (C) 1905 (D) 1913
73. The most reliable test for detection of semen in the absence of spermatozoa is
(A) Esterase (B) Prostate specific antigen
(C) Florence test (D) Acid phosphatase
74. Which of the following tests is not a catalytic colour test for blood stain ?
(A) Teichman's test (B) Adler's test
(C) Tetramethyl benzidine test (D) O-tolidine test
75. Who is credited for his practical interest in fingerprints as a means of identifying workers to detect duplicate payment of wages ?
(A) Henry Faulds (B) Francis Galton
(C) William Herschel (D) E. R. Henry
76. The time limit for exhumation in India is
(A) 10 years (B) 11 years (C) 12 years (D) No time limit
77. Singeing of hair around a wound of entry is seen at which range ?
(A) Long range (B) Intermediate range
(C) Close range (D) Contact
78. Match the various sections of Forensic Science Lab with the Physical Evidence they are examining

List – I

- a. Chemistry
- b. Physics
- c. Toxicology
- d. Ballistics

List – II

- i. Ricochet bullet
- ii. Insecticides
- iii. Ink
- iv. Skid marks

Codes :

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



79. Match the following :

List – I

- a. Cephalic index
- b. Carl Pearson's formula
- c. Gustafson's method
- d. Turner's syndrome

List – II

- i. Age
- ii. Disputed sex
- iii. Race
- iv. Stature

Codes :

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

80. Zeroing is

- (A) Distance adjustment to strike the bullet at Bull's eye of target
- (B) Sight adjustment so that the bullet strikes at Bull's eye of target
- (C) Distance and sight adjustment to strike the bullet at the target
- (D) Firing at the target without any adjustment

81. Match the following :

List – I

(Author)

- a. Soderman
- b. Paul L. Kirk
- c. O'Hara
- d. Rudolph Reise

List – II

(Name of the book)

- i. Fundamentals of Criminal Investigation
- ii. Judicial Photography
- iii. Modern Criminal Investigation
- iv. Crime Investigation

Codes :

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



82. Rocket Immuno-electrophoresis is also known as
(A) Ring test
(B) Laurell technique
(C) Crossed-over electrophoresis
(D) Immunodiffusion
83. Primary high explosives used in percussion cap of cartridge is
(A) PETN (B) RDX
(C) TNT (D) Lead azide
84. The following are the examples of cybercrime except
(A) Cyber defamation
(B) DDOS
(C) Cyber warfare
(D) Online gaming
85. Which one of the following is the example of behavioural biometric ?
(A) Thermogram (B) Lip motion (C) Retina (D) Skin reflectance
86. Which of the following program is run to examine network traffic ?
(A) TCP dump (B) Core dump
(C) Slack dump (D) Net dump
87. Which of the following type of images store graphic information in a grid of individual pixels ?
(A) Bitmap (B) Vector (C) Easter (D) Metafiles
88. Data can be retrieved from a mobile device by using which software ?
(A) Pass-analyser forensics (B) Q-pass-analyser
(C) Oxygen forensics (D) Doc-centre forensics
89. Beetle larva is known as
(A) Nymph (B) Grub (C) Maggot (D) Caterpillar
90. Multiplication factor for stature from femur is
(A) 4.4 (B) 3.6 (C) 5.8 (D) 6.4



91. Most of the chats and instant message conversions are stored in computer in
(A) Hard disk (B) RAM (C) Slack space (D) Wintax
92. Injury is legally defined under Section
(A) 320 IPC (B) 176 CrPC (C) 44 IPC (D) 302 IPC
93. In explosions, the damage is due to
(A) Shock waves and blast (B) Intense flame
(C) Missiles loaded in IED (D) All of the above
94. The first technique that was adopted for forensic DNA analysis was
(A) STR (B) PCR (C) RFLP (D) HLA DQAI
95. The consistency of paint is adjusted by which of the following ?
(A) Driers (B) Solvent (C) Extenders (D) Primer
96. An AK-47 Rifle can fire
(A) Only fully automatic (B) Only semi-automatic
(C) Both semi and fully automatic (D) Neither semi nor fully automatic
97. Which of the following is hepatotoxic poison ?
(A) Atropine (B) Alcohol (C) Amphetamine (D) Morphine
98. Which of the following is a complementary base-pairing in DNA ?
(A) T-A (B) G-A (C) C-T (D) C-A
99. Which of the following is a permitted explosive ?
(A) ANFO (B) TNT (C) PETN (D) RDX
100. Which of the following drug is known as "Date rape drug" ?
(A) Flunitrazepam (B) Temazepam
(C) Alprazolam (D) Diazepam
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Space for Rough Work

