

Test Booklet No.

प्रश्नपत्रिका क्र.

F

## Paper-II

### FORENSIC SCIENCE

Signature and Name of Invigilator

1. (Signature) .....

(Name) .....

2. (Signature) .....

(Name) .....

Seat No.

(In figures as in Admit Card)

Seat No. ....

(In words)

OMR Sheet No.

(To be filled by the Candidate)

AUG - 39215

Time Allowed : 1¼ Hours]

[Maximum Marks : 100

Number of Pages in this Booklet : 16

Number of Questions in this Booklet : 50

#### 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 50 objective type questions. Each question will carry two marks. All questions of Paper-II will be compulsory, covering entire syllabus (including all electives, without options).
- 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)
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- 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 महत्वाच्या सूचना

- परिक्षार्थीनी आपला आसन क्रमांक या पृष्ठावरील वरच्या कोपऱ्यात लिहावा. तसेच आपणांस दिलेल्या उत्तरपत्रिकेचा क्रमांक त्याखाली लिहावा.
- सदर प्रश्नपत्रिकेत 50 बहुपर्यायी प्रश्न आहेत. प्रत्येक प्रश्नास दोन गुण आहेत. या प्रश्नपत्रिकेतील सर्व प्रश्न सोडविणे अनिवार्य आहे. सदरचे प्रश्न हे या विषयाच्या संपूर्ण अभ्यासक्रमावर आधारित आहेत.
- परीक्षा सुरु झाल्यावर विद्यार्थ्यांला प्रश्नपत्रिका दिली जाईल. सुरुवातीच्या 5 मिनीटांमध्ये आपण सदर प्रश्नपत्रिका उघडून खालील बाबी अवश्य तपासून घ्याव्यात.
  - प्रश्नपत्रिका उघडण्यासाठी प्रश्नपत्रिकेवर लावलेले सील उघडावे. सील नसलेली किंवा सील उघडलेली प्रश्नपत्रिका स्विकारू 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 वेळी वाढवून मिळणार नाही याची कृपया विद्यार्थ्यांनी नोंद घ्यावी.
  - वरीलप्रमाणे सर्व पडताळून पहिल्यानंतरच 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 काळ/निळ्या करावा.  
**उदा. :** जर (C) हे योग्य उत्तर असेल तर.  

(A)	(B)	(C)	(D)
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- 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 ठिकाणा व्यतिरीक्त इतर कोठेही नाव, आसन क्रमांक, फोन नंबर किंवा ओळख पटले अशी कोणतीही खूप केलेली आढळून आल्यास अथवा असभ्य भाषेचा वापर किंवा इतर गैरमागाचा अवलंब केल्यास विद्यार्थ्यांला परीक्षेस अपात्र ठरविण्यात येईल.
- परीक्षा संपल्यानंतर विद्यार्थ्यांनि मूळ ओ.एम.आर. उत्तरपत्रिका पर्यवेक्षकांकडे परत करणे आवश्यक आहे. तथापी, 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.**

**AUG - 39215/II**

**Forensic Science**  
**Paper II**

**Time Allowed : 75 Minutes]**

**[Maximum Marks : 100**

**Note :** This Paper contains **Fifty (50)** multiple choice questions. Each question carries **Two (2)** marks. Attempt *All* questions.

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1. Which of the following courts is an appellate court ?

- (A) Court of 1st Class Magistrate
- (B) Court of 2nd Class Magistrate
- (C) District and Session Courts
- (D) High Court

2. Pioneer of Science of Forensic Toxicology was :

- (A) Mathieu Joseph Orfila
- (B) Mathieu Henry Orfila
- (C) James Marsh
- (D) Mathieu Marsh

3. The pioneer of Science of Forensic Ballistics was :

- (A) Henry Perkins Goddard
- (B) Calvin Hooker Goddard
- (C) Edmond Locard
- (D) Miachel Thomas

4. Causing disappearance of evidence by a Forensic Scientist is punishable under :

- (A) Sec.-201, IPC
- (B) Sec.-302, IPC
- (C) Sec.-253, IPC
- (D) Sec.-274, IPC

5. Evidence that can be traced to a common source with an extremely high degree of probability is said to possess :

- (A) Class characteristics
- (B) Individual characteristics
- (C) Common characteristics
- (D) Evidential characteristics

6. Universal detector used in HPLC is :

- (A) UV
- (B) ED
- (C) Fluorescence
- (D) MS

7. Which of the following has highest wavelength ?

- (A) Microwave rays
- (B) X-rays
- (C) Gamma rays
- (D) Radio waves

8. In GC-MS, a process in which an inert gas is bubbled through the water is known as :

- (A) Eluting
- (B) Mixing
- (C) Purging
- (D) Trapping

9. Process of converting analyte into free atoms is known as :

- (A) Derivatization
- (B) Atomization
- (C) Sputtering
- (D) Alkylation

10. Forensic NAA unit is situated at :

- (A) BARC, Trombay
- (B) TIFR, Mumbai
- (C) PRL, Ahmedabad
- (D) RRL, Jammu

11. Differential extraction is most suitable for the extraction of DNA from :

- (A) Mixed samples
- (B) Blood
- (C) Urine
- (D) Milk

12. Which of the following performs better for testing an aged blood stain ?

- (A) Kastle Crust assay
- (B) Absorption elution assay
- (C) Absorption inhibition assay
- (D) Mixed agglutination

13. After removal of which of the following, the clear fluid portion of the plasma is called serum ?

- (A) Fibrinogen
- (B) Gamma-globulin
- (C) Agglutinins
- (D) Agglutinogens

14. Antigens of blood group substances of human blood are :

- (A) Mucopolysaccharides
- (B) Gamma-globulins
- (C) Albumin
- (D) Monosaccharides

15. The persons with AB blood groups have in their plasma :

- (A) Anti-A
- (B) Anti-B
- (C) Both Anti-A and Anti-B
- (D) Neither Anti-A nor Anti-B

16. Octane number signifies :

- (A) Performance of fuel
- (B) Composition of fuel
- (C) Strength of fuel
- (D) Ignition temperature of fuel

17. Range of alcohol in wine is :

- (A) 3 to 10%
- (B) 15 to 20%
- (C) 10 to 14%
- (D) 40 to 50%

18. Harry, Horse, Smack and Junk are the common street names for :

- (A) Diazepam
- (B) Charas
- (C) Heroine
- (D) Cocaine

19. A substance that reduces pain and has no psycho-active property is known as :

- (A) Hypnotic
- (B) Anti-depressant
- (C) Analgesic
- (D) Narcotic

20. Stass-Otto method is used for the extraction of :

- (A) Alkaloids
- (B) Pesticides
- (C) Metallic poisons
- (D) Benzo dizipines

21. Which of the following is a class characteristic of a fired bullet or a cartridge case ?

- (A) Number of lands and grooves
- (B) Ejector markings
- (C) Breach block markings
- (D) Both (B) and (C)

22. Who invented dynamite ?

- (A) Newton
- (B) Alfred Noble
- (C) Habber
- (D) Einstein

23. The initiation action in the detonation of HE-36 grenade is :

- (A) Pull
- (B) Pressure
- (C) Pressure release
- (D) Tension release

24. Ricochet of bullet means :

- (A) Tampered bullet
- (B) Unfired bullet
- (C) Deflection of bullet
- (D) Blunting of bullet

25. Direction of fire in case of arson can be ascertained from all of the following, *except* :

- (A) Fire patterns
- (B) Broken window glasses
- (C) Smoke and soot pattern
- (D) Accelerant container

26. Eumelanin gives which colour to the hair ?

- (A) Red
- (B) White
- (C) Grey
- (D) Black



27. Normally fibers possess :

- (A) Class characteristics
- (B) Individual characteristics
- (C) Class and individual characteristics
- (D) Specific characteristics

28. Bilirubin in fecal stains can be detected using :

- (A) Edelman's test
- (B) Starch iodide test
- (C) Kastle-Meyer test
- (D) Takayama's test

29. Mulberry silk is produced by :

- (A) *Bombyx mori*
- (B) *Anther pernyi*
- (C) *Antheraea proylei J.*
- (D) *Antheraea assamensis*

30. Club formation takes place during which growth phase of hair ?

- (A) Anagen
- (B) Catagen
- (C) Telogen
- (D) Pre-anagen

31. The speed and size of a vehicle can be determined by :

- (A) Skid marks
- (B) Vehicular soil
- (C) Splashing of blood
- (D) Tyre marks

32. Dried paint *cannot* be tested for the presence of :

- (A) Binder
- (B) Solvent
- (C) Pigment
- (D) Additive

33. Which of the following techniques may be used to characterize binder type in automotive paints ?

- (A) Pyrolysis gas chromatography
- (B) Atomic absorption spectrometry
- (C) Atomic emission spectrometry
- (D) X-ray fluorescence spectrometry

34. Out of the following bones, which will provide a more accurate estimation of stature ?

- (A) Clavicle
- (B) Radius
- (C) Metacarpals
- (D) Femur

35. Dentine is :

- (A) Harder than enamel
- (B) Softer than enamel
- (C) Neither hard nor soft than enamel
- (D) Softer than ligament

36. Which of the following is one of the key element of Forensic Anthropology ?

- (A) Examining animal bones
- (B) Diagnosing bone disease in living humans
- (C) Examining bones for the legal purposes
- (D) Performing autopsis on soft tissues

37. Patella belongs to the category of :

- (A) Irregular bones
- (B) Pneumatic bones
- (C) Sesamoid bones
- (D) Short bones

38. Skull photo superimposition was first applied by :

- (A) Glaister and Brash
- (B) Henry Lee
- (C) Kenton J. Moody
- (D) Suzaane Bell

39. Disguise is :

- (A) Duplicate another's writing
- (B) Deliberate effort to alter the discriminating elements of ones own writing
- (C) Simulation of another's writing
- (D) Copying of another's writing

40. Two inks having similar shades in visible light may be differentiated by using :

- (A) VSC
- (B) Comparison microscope
- (C) Stereozoom microscope
- (D) Scanning electron microscope

41. The security thread in a genuine currency note is :

- (A) Line made by printing
- (B) Aluminium foil inserted in a paper
- (C) Impressed by a roller in a pulpy state
- (D) Silver foil inserted in a paper

42. Fragile documents can be preserved in :

- (A) Citric acid
- (B) Formalin
- (C) Polypropylene
- (D) Polyvinyl acetate

43. Which one is *not* a sizing agent for paper ?

- (A) Starch
- (B) Gum arabic
- (C) Animal gelatin
- (D) Aluminium hydroxide

44. Deliberate killing of a child within four weeks of its birth is called :

- (A) Foeticide
- (B) Filicide
- (C) Neonaticide
- (D) Abortion

45. Hydrochloric acid is best suited as a solvent test for which fiber ?

- (A) Nylon
- (B) Wool
- (C) Silk
- (D) Cotton

46. GRIM stands for :

- (A) Glass Refractive Index Management
- (B) Glass Ratio Intensity Measurement
- (C) Glass Refractive Index Measurement
- (D) Glass Refractive Index Matching

47. While conducting Luminol test, luminol reacts with hydrogen salt and forms :

- (A) Di-anion
- (B) Cation
- (C) Anion
- (D) All of the above

48. Which of the following types of biological evidence contains haploid cells ?

- (A) Hair
- (B) Blood
- (C) Sperm
- (D) Saliva

49. The Phadebas test is utilized to detect :

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

50. Blood group specific substances (antigens) are present on which of the following ?

- (A) Erythrocytes
- (B) Thrombocytes
- (C) Leucocytes
- (D) Plasma

AUG - 39215/II

**ROUGH WORK**

**AUG - 39215/II**

**ROUGH WORK**