

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

Test Booklet No. :

00465

TEST BOOKLET

EXPLOSIVES AND GENERAL STUDIES

Series



Time Allowed : 2 Hours

Full Marks : 200

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

1. The name of the Subject, Roll Number as mentioned in the Admission Certificate, Test Booklet No. and Series are to be written legibly and correctly in the space provided on the Answer-Sheet with Black/Blue ballpoint pen.
2. Answer-Sheet without marking Series as mentioned above in the space provided for in the Answer-Sheet shall not be evaluated.
3. All questions carry equal marks.

The Answer-Sheet should be submitted to the Invigilator.

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

Example :

Suppose the following question is asked :

The capital of Bangladesh is

- (A) Chennai
(B) London
(C) Dhaka
(D) Dhubri

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

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

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

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

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

4. Use of eraser, blade, chemical whitener fluid to rectify any response is prohibited.
5. Please ensure that the Test Booklet has the required number of pages (24) and 100 questions immediately after opening the Booklet. In case of any discrepancy, please report the same to the Invigilator.
6. No candidate shall be admitted to the Examination Hall/Room 20 minutes after the commencement of the examination.
7. No candidate shall leave the Examination Hall/Room without prior permission of the Supervisor/Invigilator. No candidate shall be permitted to hand over his/her Answer-Sheet and leave the Examination Hall/Room before expiry of the full time allotted for each paper.
8. No Mobile Phone, Electronic Communication Device, etc., are allowed to be carried inside the Examination Hall/Room by the candidates. Any Mobile Phone, Electronic Communication Device, etc., found in possession of the candidate inside the Examination Hall/Room, even if on off mode, shall be liable for confiscation.
9. No candidate shall have in his/her possession inside the Examination Hall/Room any book, notebook or loose paper, except his/her Admission Certificate and other connected papers permitted by the Commission.
10. Complete silence must be observed in the Examination Hall/Room. No candidate shall copy from the paper of any other candidate, or permit his/her own paper to be copied, or give, or attempt to give, or obtain, or attempt to obtain irregular assistance of any kind.
11. This Test Booklet can be carried with you after answering the questions in the prescribed Answer-Sheet.
12. Noncompliance with any of the above instructions will render a candidate liable to penalty as may be deemed fit.
13. No rough work is to be done on the OMR Answer-Sheet. You can do the rough work on the space provided in the Test Booklet.

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

/54-A

[No. of Questions : 100]

SEAL

1. The primary effect created by explosion is
 - (A) blast pressure
 - (B) thermal
 - (C) fragmentation
 - (D) All of the above

2. The higher shattering power of high explosives is called as
 - (A) deflagration
 - (B) detonation
 - (C) brisance
 - (D) All of the above

3. Carbon disulphide used for fire debris extraction is
 - (A) polar
 - (B) non-polar
 - (C) neutral
 - (D) None of the above

4. In explosive residue analysis by GC, the most widely and selectively used detector is
 - (A) FID
 - (B) NPD
 - (C) ECD
 - (D) TEA

5. The author of the book entitled *Forensic Investigation of Explosions* is
 - (A) A. S. Osborn
 - (B) Alexander Beveridge
 - (C) Ordway Hilton
 - (D) R. A. Huber

6. The instrument which can be used for the analysis of inorganic ions in explosive residue is
 - (A) capillary electrophoresis
 - (B) PAGE
 - (C) gel electrophoresis
 - (D) None of the above

7. The fuel oxidant ratio that permits the steady propagation of flame is called as
 - (A) flammable range
 - (B) combustion range
 - (C) Both (A) and (B)
 - (D) None of the above

8. Nitrolycerin has _____ oxygen balance.
 - (A) negative
 - (B) positive
 - (C) zero
 - (D) None of the above

9. An example of nitramine explosives is
- (A) RDX
 - (B) HMX
 - (C) Both (A) and (B)
 - (D) None of the above
10. The most common solvent system to separate maximum explosives is
- (A) toluene : ethyl acetate (9 : 1)
 - (B) chloroform : methanol (1 : 1)
 - (C) hexane : acetone (2 : 8)
 - (D) acetonitrile (100%)
11. The burning rate of black powder is controlled by
- (A) grain size
 - (B) configuration
 - (C) composition
 - (D) All of the above
12. Pyrodex can be analyzed by _____ technique.
- (A) FTIR
 - (B) HPLC
 - (C) GC-MS
 - (D) None of the above
13. ASTM stands for
- (A) American Society for Testing and Materials
 - (B) Australian Society of Testing Material
 - (C) African Society of Testing Material
 - (D) American Society of Testing Management
14. Golden powder, a substitute of black powder, contains potassium nitrate and
- (A) ascorbic acid
 - (B) sulphuric acid
 - (C) glacial acetic acid
 - (D) nitric acid
15. _____ bags are used for packaging detonators, electrical accessories.
- (A) Polythene
 - (B) Paper
 - (C) Cloth
 - (D) Antistatic
16. Firing mechanism of improvised explosive devices is
- (A) barometric
 - (B) acoustic
 - (C) IR type
 - (D) All of the above

17. ATR crystals are usually made of
- diamond
 - germanium
 - ZnS
 - All of the above
18. All smokeless powders contain
- nitrocellulose
 - nitroglycerine
 - nitroguanidine
 - black powder
19. The lowest temperature at which a liquid vaporizes sufficiently to permit combustion is known as its
- flash point
 - ignition point
 - decomposition point
 - fire point
20. The eruption of Krakatoa Volcano in 1893 is an example of _____ explosion.
- chemical
 - physical
 - atomic
 - electrical
21. EGDN is
- ethylene glycol dinitrate
 - ethylene glucose dinitrate
 - ether dinitrate
 - None of the above
22. Which explosive is called as magic marble of pardubice?
- Semtex
 - RDX
 - TNT
 - HMX
23. The minimum temperature at which vapor above a volatile combustible substance ignites in air when exposed to flame is termed as
- flash point
 - ignition point
 - melting point
 - decomposition point
24. The velocity of the shockwave in solid or liquid explosives is between _____ ms^{-1} .
- 1000–4000
 - 5000–7000
 - 600–9000
 - 1500–9000
25. The example of commercial secondary explosives is
- blasting dynamite
 - gelatine dynamite (60%)
 - guhr dynamite
 - All of the above

26. Primary explosives have high degree of sensitivity to initiation through
- (A) shock and friction
 - (B) heat and friction
 - (C) shock, friction, electric spark or high temperature
 - (D) None of the above
27. In ANFO, AN is having
- (A) 94%
 - (B) 54%
 - (C) 84%
 - (D) 34%
28. The composition of black powder is
- (A) charcoal, sulphur, potassium nitrate (15 : 10 : 75)
 - (B) charcoal, sulphur, potassium nitrate (10 : 15 : 75)
 - (C) charcoal, sulphur, potassium nitrate (15 : 45 : 10)
 - (D) charcoal, sulphur, potassium nitrate (10 : 15 : 45)
29. The extraction method used for the detection of fire debris is
- (A) liquid-liquid extraction
 - (B) solid-phase extraction
 - (C) solid-phase microextraction
 - (D) All of the above
30. In the language of science, the particular questions to be tested are called
- (A) suspected questions
 - (B) probable questions
 - (C) definite questions
 - (D) hypothesis
31. Evidence tending to establish a criminal defendant's innocence is called
- (A) exculpatory evidence
 - (B) probative evidence
 - (C) circumstantial evidence
 - (D) tainted evidence
32. A sketch should have following information :
- (A) Date, Time and Location
 - (B) Case identifier
 - (C) Both (A) and (B)
 - (D) None of the above
33. _____ is a functional group that does not itself absorb in the ultraviolet region.
- (A) Auxochrome
 - (B) Chromosome
 - (C) Bathochrome
 - (D) Hypochromia

34. The symmetric vibration in IR is
- (A) active
 - (B) inactive
 - (C) neutral
 - (D) All of the above
35. ____ lamp is the convenient source for near IR region.
- (A) Tungsten
 - (B) Hydrogen
 - (C) Sodium
 - (D) All of the above
36. An elution with a single solvent or a solvent mixture of constant composition is termed as
- (A) gradient
 - (B) isocratic
 - (C) electrokinetic force
 - (D) None of the above
37. The ____ from an eluate of GC column has been widely used for the quantitative.
- (A) peak area
 - (B) peak height
 - (C) Both (A) and (B)
 - (D) None of the above
38. The retention index was first proposed by ____ for identifying solutes from the chromatogram.
- (A) E. Kovats
 - (B) Suzanne Bell
 - (C) Lehninger
 - (D) Dr. Mathieu Orfila
39. Fire can be
- (A) natural
 - (B) accidental
 - (C) deliberate
 - (D) All of the above
40. The melting point of copper is ____ degree Celsius.
- (A) 1083
 - (B) 666
 - (C) 1288
 - (D) 450
41. ____ is the measure of energy required to raise the temperature of an object one degree of a unit mass.
- (A) Potential
 - (B) Heat capacity
 - (C) Kinetic
 - (D) None of the above

42. FTIR can be used for ____ analysis.
- (A) qualitative
 - (B) quantitative
 - (C) Both (A) and (B)
 - (D) None of the above
43. Plastic foams have low density and low
- (A) viscosity
 - (B) thermal conductivity
 - (C) mass
 - (D) inertia
44. Direct contact is mandatory in which mode of heat transfer?
- (A) Conduction
 - (B) Convection
 - (C) Radiation
 - (D) None of the above
45. ____ is the study of science, methodology and practice of temperature measurement.
- (A) Thermodynamics
 - (B) Thanatology
 - (C) Thermometry
 - (D) Meteorology
46. When an irreversible change occurs in either a solid or a liquid, it is referred to as
- (A) disintegration
 - (B) thermal decomposition
 - (C) evaporation
 - (D) decomposition
47. What is corpus delicti?
- (A) Body of crime
 - (B) Dead body
 - (C) Physical evidence
 - (D) None of the above
48. NFPA refers to
- (A) National Fire Protection Association
 - (B) National Forensic Protection Association
 - (C) National Forensic Prevention Association
 - (D) National Fire Prevention Accreditation
49. The seat of explosion is called as
- (A) crater
 - (B) blast
 - (C) decomposition
 - (D) IED
50. An example of improvised high explosive is
- (A) TATP
 - (B) RDX
 - (C) HMX
 - (D) TNT

51. Consider the following statements and select the correct answer from the codes given below :

- I. Punganur dwarf cattle originated from the Thar Desert region of Rajasthan.
- II. Punganur dwarf cattle originated from the Chittoor district of Andhra Pradesh.
- III. Punganur breed's milk is known for low-fat content.
- IV. Punganur breed's milk is known for high-fat content.

Codes :

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

52. Consider the following statements and select the correct answer from the codes given below :

- I. Under Article 352 of the Constitution of India, the Prime Minister of India can proclaim National Emergency.

II. Under Article 352 of the Constitution of India, the President of India can proclaim National Emergency.

III. Under Article 352 of the Constitution of India, National Emergency can be proclaimed when the security of India or of any part of the territory thereof is threatened, whether by war or external aggression or armed rebellion.

IV. Under Article 352 of the Constitution of India, National Emergency can be proclaimed when the security of India or of any part of the territory thereof is threatened, whether by war or external aggression or when the financial stability of India or any part of the territory thereof is threatened.

Codes :

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

53. Consider the following statements and select the correct answer from the codes given below :

- I. The voting age of elections to the Lok Sabha and to the Bidhan Sabhas of the States has been 18 years since the date of adoption of the Constitution of India.
- II. The voting age of elections to the Lok Sabha and to the Bidhan Sabhas of the States was 25 years when the Constitution of India was adopted.
- III. The voting age of elections to the Lok Sabha and to the Bidhan Sabhas of the States was reduced to 18 years from 25 years by the Sixty-first Amendment of the Constitution of India.
- IV. The voting age of elections to the Lok Sabha and to the Bidhan Sabhas of the States was reduced to 18 years from 21 years by the Sixty-first Amendment of the Constitution of India.

Codes :

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

54. Consider the following statements and select the correct answer from the codes given below :

- I. The Chakshu facility is recent addition in the National Health Portal of the Ministry of Health and Family Welfare, the Government of India.

II. The Chakshu facility is recent addition in the Sanchar Saathi Portal of the Department of Telecommunication, the Government of India.

III. The Chakshu facility in the National Health Portal deals with eye donations.

IV. The Chakshu facility on Sanchar Saathi Portal facilitates reporting of suspected fraud communications.

Codes :

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

55. Consider the following statements and select the correct answer from the codes given below :

I. The project iRASTE is an artificial intelligence powered project towards improving road safety.

II. The project iRASTE is a collaborative initiative among the government, industry and the academia.

III. The project iRASTE has been implemented in pilot basis in Nagpur and Telangana.

IV. India was awarded the eminent GovTech Prize instituted by the Government of UAE at the World Government Summit in February, 2024 in the category 'AI-Powered Government Services' for its innovative iRASTE Project.

Codes :

- (A) All statements are correct
- (B) I and II
- (C) I and III
- (D) I and IV

56. Consider the following statements and select the correct answer from the codes given below :

- I. Mission Divyastra refers to the first flight test of indigenously developed Agni—5 Missile with Multiple Independently Targetable Re-Entry Vehicle (MIRV) technology.
- II. Mission Divyastra has been an initiative of the Defence Research and Development Organization (DRDO).
- III. The Agni—5 Missile has a range up to 2500 km.
- IV. The Agni—5 Missile has a range of more than 5000 km.

Codes :

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

57. Consider the following statements and select the correct answer from the codes given below :

- I. The Kuroiler is a hybrid breed of chicken.
- II. The Kuroiler breed was introduced in early 1990s.

III. The Kuroiler breed was developed by the Keggfarms Group in Gurgaon, Haryana.

IV. The Kuroiler breed is a single-purposed breed producing eggs.

Codes :

- (A) All statements are correct
- (B) I and II
- (C) I, II and III
- (D) I, II and IV

58. Consider the following statements and select the correct answer from the codes given below :

- I. Vyommitra is a space-faring humanoid robot developed by the Indian Space Research Organization (ISRO).
- II. Vyommitra is a male-looking humanoid robot.
- III. Vyommitra is a female-looking humanoid robot.
- IV. Vyommitra was first unveiled in the year, 2020.

Codes :

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

59. Consider the following statements and select the correct answer from the codes given below :

- I. A 'Semiconductor Assembly and Test Facility' is coming up at Jagiroad in Morigaon district in Assam.
- II. The 'Semiconductor Assembly and Test Facility' at Jagiroad has an estimated project cost of ₹ 27,000 crore.
- III. The facility will produce chips for e-vehicles, laptops and mobile phones.
- IV. The 'Semiconductor Assembly and Test Facility' at Jagiroad is a joint venture of the Hitachi and the TATA Group.

Codes :

- (A) All statements are correct
- (B) I, II and III
- (C) I, II and IV
- (D) I and II

60. Consider the following statements and select the correct answer from the codes given below :

- I. Manipuri dance is one of the primary classical dance forms of India.
- II. Manipuri dance is anchored in the Vaishnava faith of the Meiteis of Manipur.

III. A Manipuri danseuse never establishes eye contact with the audience.

IV. The pung, a drum and a flute are the principal instruments used in Manipuri dance.

Codes :

- (A) All statements are correct
- (B) I, II and III
- (C) I, II and IV
- (D) I and II

61. Consider the following statements and select the correct answer from the codes given below :

- I. The Simon Commission arrived in the undivided India in the year, 1927.
- II. The Simon Commission was a group of seven British MPs under the Chairmanship of Lord John Simon.
- III. The mandate of Simon Commission was to study constitutional reforms in India under the British rule.
- IV. Clement Attlee who would later become the Prime Minister of the United Kingdom was a member of the Commission.

Codes :

- (A) I and II
- (B) II and III
- (C) III and IV
- (D) All statements are true

62. Consider the following statements and select the correct answer from the codes given below :

- I. The Dandi March took place in March–April, 1930.
- II. The Dandi March was a non-violent Civil Disobedience Movement led by Mahatma Gandhi.
- III. The Dandi March was started at Sabarmati Ashram and terminated at a coastal village Dandi in Gujarat 390 km away.
- IV. The Dandi March was in protest against the 1882 Salt Act of the British India.

Codes :

- (A) All statements are correct
- (B) I and II
- (C) I and III
- (D) I, II and III

63. Consider the following statements and select the correct answer from the codes given below :

- I. *Sushruta Samhita* is an ancient text in Pali on medicine and surgery.
- II. *Sushruta Samhita* is an ancient text in Sanskrit on medicine and surgery.

III. *Sushruta Samhita* is an ancient text in Prakrit on medicine and surgery.

IV. *Sushruta Samhita* is an ancient text in Tamil on medicine and surgery.

Codes :

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

64. Consider the following statements and select the correct answer from the codes given below :

I. Bhaskara I was an Indian mathematician and astronomer, who lived in the 7th century AD.

II. Bhaskara II was an Indian mathematician and astronomer, who lived in the 12th century AD.

III. *Siddhanta Shiromani* was written by Bhaskara I.

IV. *Siddhanta Shiromani* was written by Bhaskara II.

Codes :

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

65. Consider the following statements and select the correct answer from the codes given below :

- I. The State Bird of Assam is Deo Hah (white-winged wood duck).
- II. The State Tree of Assam is Hollong.
- III. The State Flower of Assam is Palash.
- IV. The State Bird of Assam is Hill Myna.

Codes :

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

66. Consider the following statements and select the correct answer from the codes given below :

- I. A feral horse is a free roaming horse which has descended from a domestical stock.
- II. The wild horses (janghali ghura) living in the Dibru Saikhowa National Park are feral horses.

III. In the USA, feral horses are called mustang.

IV. In Australia, feral horses are called brumby.

Codes :

- (A) I and II
- (B) I, II and III
- (C) I, II and IV
- (D) All statements are correct

67. Consider the following statements and select the correct answer from the codes given below :

I. Nilgiri tahr is a species of mountain goat.

II. Nilgiri tahr is a species of bird.

III. Nilgiri tahr is a species of coffee.

IV. Nilgiri tahr is a species of flower.

Codes :

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

68. Consider the following statements and select the correct answer from the codes given below :

- I. Lakshadweep is a tropical archipelago consisting of 16 islands.
- II. Lakshadweep is a tropical archipelago consisting of 26 islands.
- III. Lakshadweep is a tropical archipelago consisting of 36 islands.
- IV. The name Lakshadweep in Malayalam and Sanskrit means 'a hundred thousand islands'.

Codes :

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

69. Consider the following statements and select the correct answer from the codes given below :

- I. The Cheetah Reintroduction Project in India involved translocation of Cheetah from South Africa and Namibia to the Jim Corbett National Park, Uttarakhand.
- II. The Cheetah Reintroduction Project in India involved translocation of Cheetah from Kenya to the Kuno National Park, Uttar Pradesh.
- III. The Cheetah Reintroduction Project in India involved translocation of Cheetah from South Africa and Namibia to the Kuno National Park, Madhya Pradesh.

IV. The Cheetah Reintroduction Project in India involved translocation of Cheetah from Kenya to the Kuno National Park, Madhya Pradesh.

Codes :

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

70. Consider the following statements and select the correct answer from the codes given below :

- I. Rohtang Pass cuts through Pir Panjal Range of the Himalayas and connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh.
- II. Nathula Pass cuts through Pir Panjal Range of the Himalayas and connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh.
- III. Khardung Pass cuts through Pir Panjal Range of the Himalayas and connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh.
- IV. Sela Pass is a mountain pass located in Arunachal Pradesh.

Codes :

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

71. Consider the following statements and select the correct answer from the codes given below :

- I. Hydrogen is a colourless gas.
- II. Hydrogen is an efficient and climate-friendly energy carrier.
- III. Green hydrogen is produced by the process of electrolysis using electricity obtained from renewable sources.
- IV. Grey hydrogen is harmful for the environment.

Codes :

- (A) I only
- (B) I and II
- (C) I, II and III
- (D) All statements are true

72. Consider the following statements and select the correct answer from the codes given below :

- I. Botox is a brand of botulinum toxin created by the company Allergan in 1991.
- II. Botulinum toxin is produced by bacterium *Clostridium botulinum*.

III. Botox is used to reduce the face wrinkles.

IV. Botulism is caused by a toxin called botulinum toxin.

Codes :

- (A) I only
- (B) II only
- (C) I and III
- (D) All statements are correct

73. Consider the following statements and select the correct answer from the codes given below :

- I. Atmospheric rivers are narrow corridors of water vapour in the atmosphere.
- II. Atmospheric rivers are typically several kilometers long.
- III. Atmospheric rivers are typically several thousand kilometers long.
- IV. Atmospheric rivers carry water vapour from the arctic to the tropics.

Codes :

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

74. Consider the following statements and select the correct answer from the codes given below :

- I. German silver is an alloy that contains at least 10% pure silver.
- II. German silver is also known as the sterling silver.
- III. Sterling silver is an alloy of 92.5% pure silver and 7.5% of other metals, usually copper and zinc.
- IV. Sterling silver is an alloy of 50% pure silver and 50% of other metals, usually copper and zinc.

Codes :

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

75. Consider the following statements and select the correct answer from the codes given below :

- I. The full form of PFBR is prototype fast breeder reactor.
- II. The PFBR is a 500 MWe sodium cooled fast breeder reactor being constructed near Kalpakkam in Kerala.
- III. The PFBR is a 500 MWe sodium cooled fast breeder reactor being constructed near Kalpakkam in Tamil Nadu.
- IV. A breeder reactor generates more fissile material than it consumes.

Codes :

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

76. Consider the following statements and select the correct answer from the codes given below :

- I. DDoS is a term related to the Internet.
- II. DDoS is a term related to the banking service.
- III. The full form of DDoS is distributed denial-of-service.
- IV. DDoS is illegal in India.

Codes :

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

77. Consider the following statements and select the correct answer from the codes given below :

- I. In Internet terms, JPG and JPEG refer to two different file formats.
- II. In Internet terms, JPG and JPEG refer to the same file format.
- III. JPG and JPEG both stand for Joint Photographic Experts Group.
- IV. JPG stands for Joint Portable Graphics.

Codes :

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

78. Consider the following statements and select the correct answer from the codes given below :

- I. Polyvinyl chloride (PVC) is not a plastic.
- II. Polyvinyl chloride (PVC) is a synthetic polymer of plastic.
- III. The largest producer of PVC in the world is the Reliance Industries Limited.
- IV. The largest producer of PVC in the world is the Shintech Inc.

Codes :

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

79. Consider the following statements and select the correct answer from the codes given below :

- I. The maximum length of continuous silk thread (10 micrometres in diameter) that can be drawn from a single cocoon is 3 to 9 metres.
- II. The maximum length of continuous silk thread (10 micrometres in diameter) that can be drawn from a single cocoon is 30 to 90 metres.

III. The maximum length of continuous silk thread (10 micrometres in diameter) that can be drawn from a single cocoon is 300 to 900 metres.

IV. The maximum length of continuous silk thread (10 micrometres in diameter) that can be drawn from a single cocoon is 3000 to 9000 metres.

Codes :

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

80. Consider the following statements and select the correct answer from the codes given below :

I. A choke coil is used in an AC electrical circuit to regulate the current.

II. A choke coil is used in a DC electrical circuit to regulate the current.

III. A choke coil works on the principle of electrostatic induction.

IV. A choke coil works on the principle of electromagnetic induction.

Codes :

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

81. Consider the following statements and select the correct answer from the codes given below :

- I. The sparkling of diamonds is on account of dispersion of light.
- II. The sparkling of diamonds is on account of total internal reflection of light.
- III. The sparkling of diamonds is on account of interference of light.
- IV. The sparkling of diamonds is on account of refraction of light.

Codes :

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

82. Consider the following statements and select the correct answer from the codes given below :

- I. Aurora borealis is also known as the northern lights.
- II. Aurora australis is also known as the southern lights.
- III. Aurorae are predominantly visible in high latitude regions of the earth.
- IV. Aurorae are spectacular light display in the sky caused by the interaction of high energetic solar particles with the earth's atmosphere.

Codes :

- (A) I and II
- (B) I, II and III
- (C) I, II and IV
- (D) All statements are correct

83. Consider the following statements and select the correct answer from the codes given below :

- I. Juno is an European Space Agency probe orbiting round the planet Mars.
- II. Juno is an European Space Agency probe orbiting round the planet Venus.
- III. Juno is a NASA probe orbiting round the planet Mars.
- IV. Juno is a NASA probe orbiting round the planet Jupiter.

Codes :

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

84. Consider the following statements and select the correct answer from the codes given below :

- I. Buckminsterfullerene is a carbon allotrope consisting of 60 carbon atoms.
- II. Buckminsterfullerene is a carbon allotrope consisting of 120 carbon atoms.
- III. The carbon atoms in buckminsterfullerene are arranged in a geometry resembling a football.
- IV. The carbon atoms in buckminsterfullerene are arranged in a single helix.

Codes :

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

85. Consider the following statements and select the correct answer from the codes given below :

- I. The main component of biogas is butane.
- II. The main component of biogas is methane.
- III. The main component of biogas is propane.
- IV. None of the above statements is true.

Codes :

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

86. Consider the following statements and select the correct answer from the codes given below :

- I. The main constituent hydrocarbons in LPG (Liquefied Petroleum Gas) are butane and propane.
- II. LPG (Liquefied Petroleum Gas) is odourless, colourless and heavier than air.

III. LPG (Liquefied Petroleum Gas) is pungent smelling, colourless and lighter than air.

IV. Ethyl mercaptan is the odorant added to LPG (Liquefied Petroleum Gas) so that a gas leak may be detected.

Codes :

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

87. Consider the following statements and select the correct answer from the codes given below :

- I. Sulphuric acid is known as the oil of vitriol.
- II. Aqueous ammonia is known as the oil of vitriol.
- III. Sodium hydroxide is known as the oil of vitriol.
- IV. Oxalic acid is known as the oil of vitriol.

Codes :

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

88. Consider the following statements and select the correct answer from the codes given below :

- I. EyeDetect is the brand name of new lie detection technology.
- II. The technology of EyeDetect is based on an ocular-motor deception test (ODT).
- III. EyeDetect is the brand name of new cataract detection technology.
- IV. EyeDetect is the brand name of new defects of vision correction technology.

Codes :

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

89. Consider the following statements and select the correct answer from the codes given below :

- I. A geostationary satellite orbit must have an altitude of about 36000 km from the surface of the earth.
- II. A geostationary satellite orbit must have an altitude of about 3600 km from the surface of the earth.

III. A geostationary satellite orbit must have an altitude of about 360 km from the surface of the earth.

IV. The time period of revolution of a geostationary satellite in its orbit is same as that of rotation of the earth about its axis.

Codes :

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

90. Consider the following statements and select the correct answer from the codes given below :

I. The full form of MRI is Magnetic Resonance Imaging.

II. MRI is the medical application of Nuclear Magnetic Resonance (NMR).

III. MRI uses strong magnetic fields, magnetic field gradients and radio waves to produce images of the organs in the body.

IV. MRI uses strong magnetic fields, magnetic field gradients and ionising radiations to produce images of the organs in the body.

Codes :

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

91. A person who believes in the power of fate is
(A) pessimist
(B) nihilist
(C) fatalist
(D) optimist
92. A person who talks a lot is called
(A) speaker
(B) orator
(C) lecturer
(D) garrulous
93. Mohan lives by the river and he owns a boat, so he often _____ fishing.
(A) is going
(B) go
(C) goes
(D) has gone
94. She is expected to return _____ Guwahati for Bihu _____ 14th April.
(A) from, on
(B) to, at
(C) from, in
(D) back, in
95. This is strictly _____ but some changes are going to happen in the department in the near future.
(A) off the rails
(B) off the record
(C) off the mark
(D) off the key
96. Rita _____ for reaching home after midnight.
(A) faced the music
(B) left the music
(C) faced the tune
(D) danced to the music
97. Select the wrongly spelt word.
(A) Omision
(B) Commission
(C) Permission
(D) Mansion
98. Select the correctly spelt word.
(A) Inheirent
(B) Inhearit
(C) Inhaibit
(D) Inhibit
99. The antonym of 'irreverent' is
(A) relevant
(B) veneration
(C) variation
(D) inveterate
100. The synonym for 'indomitable' is
(A) justifiable
(B) invincible
(C) incredible
(D) accessible

SPACE FOR ROUGH WORK

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SEAL

SOFS/EXPL/24/54-A

24

24T—140×4