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2019

TEST BOOKLET

Paper-IV

Time allowed : 3 hours

Full marks : 200

Answer *all* the questions.

Questions are of equal value.

TEST BOOKLET SERIES



Serial No.

Roll No.:

Signature of the Candidate:

INSTRUCTIONS

Candidates should read the following instructions carefully before answering the questions:

1. This booklet consists of 24 pages including this front page. Verify the Page Nos. and Test Booklet Series on each page and bring at once to the Invigilator's notice any discrepancy.
2. Answers will have to be given in the Special Answer-Sheet supplied for the purpose.
3. Before you proceed to mark in the Answer-Sheet in response to various items in the Test Booklet, you have to fill in some particulars in the Answer-Sheet as per instructions sent to you in the Admit Card. **Do not fold the Answer-Sheet as this will result in error in your marks.**
4. All questions are of multiple-choice answer-type. You will find **four** probable answers (A), (B), (C) and (D) against each question. Find out which of the four answers appears to you to be correct or the best. Now darken the circle corresponding to the letter of the selected answer in the Answer-Sheet with **Black Ball Point Pen** as per instructions printed on the reverse of the Admit Card and in the Answer-Sheet.
5. One and only one circle is to be fully blackened for answer. Any spot in any other circle (multiple circle) or in wrong circle will be considered as wrong answer.
6. **There will be negative marking of $\frac{1}{3}$ mark for each wrong answer.**
7. There are blank pages at the end of this Booklet for Rough Work.
8. **The Special Answer-Sheet should be handed over to the Invigilator before leaving the Examination Hall. You are permitted to take away the used Test Booklet after completion of the examination.**

SEA

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1. World Health Organization has raised alarm over a 300 per cent increase in the case of which disease globally in the first quarter of 2019 compared with last year?
(A) Cancer
(B) Polio
(C) Diabetes
(D) AIDS
2. Defence Research and Development Organization on April 15, 2019 successfully test fired Nirbhay. What is Nirbhay?
(A) Pilotless aircraft
(B) Radar
(C) Missile launcher vessel
(D) Sub-sonic cruise missile
3. In which country the first ever home delivery drone service has been launched by Google Wing?
(A) Australia
(B) Canada
(C) France
(D) South Korea
4. Who has been named as the Wisden Almanack leading cricketer of the year 2018?
(A) Jos Buttler
(B) Sam Curran
(C) Virat Kohli
(D) Shakib Al Hasan
5. Which country's army ousted and arrested president Omar-Al-Bashir on April 11, 2019?
(A) Sudan
(B) South Sudan
(C) Somalia
(D) Egypt
6. Who has joined International Monetary Fund as its chief economist on January 8, 2019?
(A) Jayanto Ghosh
(B) Gita Gopinath
(C) Raghuram Rajan
(D) Indira Nooyi
7. What is 'Arribada'?
(A) Mass Nestling of Olive Ridley
(B) Setting up a habitat by Red Panda
(C) Colony formation by Penguin
(D) None of the above
8. Which three companies have launched the Ujjwala Sanitary Napkins?
(A) Indian Oil, Bharat Petroleum and Hindustan Petroleum
(B) Bharat Petroleum, ONGC and Indian Oil
(C) Indian Oil, Oil India Limited and Hindustan Petroleum
(D) ONGC, Oil India Limited and Bharat Petroleum
9. How many times Sheikh Hasina has been elected as Prime Minister of Bangladesh?
(A) Two Times
(B) Three Times
(C) Four Times
(D) Five Times
10. What was the profession Volodymyr Zelensky before elected as the President of Ukraine?
(A) Singer
(B) Comedian
(C) Doctor
(D) Soldier

11. Where is the shoal grassland found in India?
(A) Western Ghats
(B) Sundarban
(C) Andaman-Nicobar
(D) Himalayas
12. Which of the following two countries named the first and second best performing country after the Climate Change Performance Index, 2019?
(A) Norway and Iceland
(B) Sweden and Bhutan
(C) Bhutan and Finland
(D) Sweden and Morocco
13. Which of the following banks has launched the 'Bank on Wheels' service?
(A) State Bank of India
(B) Axix Bank
(C) ICICI Bank
(D) Indian Overseas Bank
14. Which of the following Ministry launched the Artisan Speak?
(A) Ministry of Culture
(B) Ministry of Tourism
(C) Ministry of Textiles
(D) Ministry of External Affairs
15. Where is the "Vivek Smarak" — the Swami Vivekananda Value Education and Cultural Centre located?
(A) Telengana
(B) West Bengal
(C) Karnataka
(D) Bihar
16. Which of the Indian Lake possess 20% of India's sea-grass distribution?
(A) Chilka Lake
(B) Loktak Lake
(C) Dal Lake
(D) Mansar Lake
17. In which of the following institutions, the first time ever in India, voting was held in the campus of an institution for mentally ill on April 18, 2019?
(A) Spandana Institute of Mental Health
(B) Institute of Mental Health, Hyderabad
(C) Institute of Mental Health, Ayanavaram
(D) Institute of Psychaitry, Kolkata
18. A book containing English translation of the 100 year old classic Punjabi poem about Jalianwala Bagh massacre, "Khooni Vaishakhi" has been released in Abu Dhabi. What is the name of Jalianwala Bagh survivor who wrote it after witnessing first-hand the events of April 13, 1919?
(A) Manmohan Singh
(B) Khuswant Singh
(C) Lal Singh Dil
(D) Nanak Singh
19. In which country India has rebuilt Kundeing Monestry?
(A) Thailand
(B) Sri Lanka
(C) Nepal
(D) Bhutan
20. Who has become the first Indian woman scientist to have been selected as Fellow of the Royal Society in the 359 year history of the prestigious scientific academy?
(A) Mangala Narlikar
(B) Gagandeep Kang
(C) Nandini Harinath
(D) Aditi Pant

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21. In which city India's first Tree Ambulance has recently been launched?

- (A) Bhopal
- (B) Chennai
- (C) Ahmedabad
- (D) Mumbai

22. The Elephanta Festival of Art and Culture is held in which city of India?

- (A) New Delhi
- (B) Thiruvananthapuram
- (C) Jaipur
- (D) Mumbai

23. Name the Indian who has been felicitated with Mexico's highest civilian award 'Order of the Aztec Eagle' in 2019?

- (A) Ram Nath Kovind
- (B) Pratibha Patil
- (C) Pranab Mukherjee
- (D) Sonia Gandhi

24. Who among the following has been appointed as the Deputy Executive Director of UN-Women on May 30, 2019?

- (A) Narayani Shastri
- (B) Anita Bhatia
- (C) Ritu Jhington
- (D) Lakshmi Puri

25. Which state government's Medical & Health Department has received the WHO's 'World No Tobacco Day Award, 2019'?

- (A) Rajasthan
- (B) Gujarat
- (C) Chattisgarh
- (D) West Bengal

26. Who scripted Gandhiji's favourite song "Vaishnav Jan to Tene Kahiye..."?

- (A) Rabindranath Tagore
- (B) Premanand
- (C) Meera Bai
- (D) Chunilal

27. Which one is the India's multi-purpose river valley?

- (A) Vakra Nangal
- (B) Damodar Valley
- (C) Tungabhadra
- (D) Nagarjuna Sagar

28. Who can declare financial emergency in India?

- (A) Governor of RBI
- (B) Prime Minister
- (C) President
- (D) Finance Minister

29. Which one is the world's wettest continent?

- (A) Asia
- (B) Africa
- (C) South America
- (D) Europe

30. What is the time difference between India and London?

- (A) 4 Hours 30 Minutes
- (B) 6 Hours
- (C) 8 Hours 30 Minutes
- (D) 12 Hours

31. Which Viceroy of India suggested the construction of Victoria Memorial in Kolkata?

- (A) Lord Curzon
- (B) Lord Dalhousie
- (C) Lord Ripon
- (D) Lord Hardinge

32. Which one is the State Animal of West Bengal?

- (A) Royal Bengal Tiger
- (B) Spotted Deer
- (C) Fishing Cat
- (D) One Horned Rhinoceros

33. The Poona pact was an agreement between

- (A) Gandhi and Ambedkar
- (B) Nehru and Ambedkar
- (C) Nehru and Gandhi
- (D) Ambedkar and Malviya

34. In which year Swami Vivekananda established Ramakrishna Mission?

- (A) 1892
- (B) 1897
- (C) 1902
- (D) 1904

35. The Constituent Assembly of India has started functioning from

- (A) November 26, 1946
- (B) December 9, 1946
- (C) January 26, 1947
- (D) April 21, 1947

36. What is the total number of seats in West Bengal Legislative Assembly?

- (A) 295
- (B) 308
- (C) 435
- (D) 543

37. Who was the first Chief Justice of the Calcutta High Court?

- (A) Sir Richard Couch
- (B) Sir Barnes Peacock
- (C) Sir George Ranking
- (D) Sir Harold Derbyshire

38. In which year Chandannagar was integrated into West Bengal?

- (A) 1947
- (B) 1948
- (C) 1950
- (D) 1954

39. In which year the Bengal famine happened?

- (A) 1876
- (B) 1936
- (C) 1943
- (D) 1976

40. Who was the first Sultan of Bengal?

- (A) Saifuddin Hamza Shah
- (B) Sikandar Shah
- (C) Samsuddin Ilyas Shah
- (D) Alibardi Khan

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41. Who named cyclone 'Foni'?
- (A) India
(B) Bangladesh
(C) Sri Lanka
(D) Myanmar
42. In which year Satyajit Ray's first film Pather Panchali was released?
- (A) 1951
(B) 1955
(C) 1958
(D) 1960
43. In which year Howrah Bridge was open for public?
- (A) 1941
(B) 1942
(C) 1943
(D) 1944
44. Which one is the first news paper published in Bengali language?
- (A) Digdarshan
(B) Samachar Darpan
(C) Tattobodhini
(D) Ananda Bazar
45. In which year the Princely State of Cooch Behar merged with West Bengal?
- (A) 1947
(B) 1948
(C) 1949
(D) 1950
46. Which sports has been included in 2022 Asian Games?
- (A) Cricket
(B) Football
(C) Paragliding
(D) Pencak Silat
47. India's first Rajdhani Express turned 50 on March 3, 2019. Which was the route of first Rajdhani Express?
- (A) Bombay-New Delhi
(B) Howrah-New Delhi
(C) Madras-New Delhi
(D) Amritsar-New Delhi
48. Which city bagged award for the cleanest city for third straight year in Swach Survekshan, 2019?
- (A) Pune
(B) Amaravati
(C) Indore
(D) Chandigarh
49. On which river has the central government approved 'Keery Hydro Power Project'?
- (A) Mahananda
(B) Chenab
(C) Teesta
(D) Jhelum
50. Binapani Devi was the matriarch of which community?
- (A) Mech
(B) Bauris
(C) Rabha
(D) Matua

51. What does 'CSIR' stand for?
(A) Council of Scientific and Industrial Research
(B) Center for Science and Industrial Research
(C) Center for Share and Investment Ratio
(D) Council for Scientific and Informational Research
52. Rajiv Gandhi Khel Ratna, 2018 was awarded to Mirabai Chanu for which discipline?
(A) Wrestling
(B) Weightlifting
(C) Boxing
(D) Archery
53. Along with Nanaji Deshmukh and Bhupen Hazarika, who was the recipients of Bharat Ratna of 2019?
(A) Atal Bihari Vajpayee
(B) Manmohan Singh
(C) Pranab Mukherjee
(D) None of the above
54. Who won 68th edition of Miss World Pageant?
(A) Karen Ibasco
(B) Manushi Chhillar
(C) Megan Young
(D) Vanessa Ponce
55. Who won Man Booker Prize, 2018?
(A) Anna Burns
(B) Daisy Johnson
(C) Rachel Kushner
(D) Richard Powers
56. Black holes were predicted by
(A) Copernicus
(B) Einstein
(C) Rutherford
(D) Satyen Bose
57. Which of the following is known as the city of eternal spring?
(A) Rome
(B) Quito
(C) Lhasa
(D) Venice
58. India House is situated in
(A) Delhi
(B) Singapore
(C) Rangoon
(D) London
59. Rohinton Baria Trophy is related to
(A) Inter School Hockey Competition
(B) Inter State Polo Championship
(C) Inter-University Cricket Competition
(D) Under 19 Table Tennis Competition
60. Deuce; Booster; Spikers; Service; Love are related to
(A) Badminton
(B) Volleyball
(C) Baseball
(D) Billiards

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✓ 61. The Head Quarters of ILO is located in

- (A) Geneva
- (B) The Hague
- (C) New York
- (D) Rome

✓ 62. The border line between Pakistan and Afghanistan is known as

- (A) McMahon Line
- (B) Radcliff Line
- (C) Durand Line
- (D) Maginot Line

63. Who is the most decorated Olympian?

- (A) Usain Bolt
- (B) Michael Phelps
- (C) Larisa Latinina
- (D) Carl Lewis

✓ 64. Which one of the following is the highest military decoration of Germany?

- (A) Victory Medal
- (B) Iron Cross
- (C) Military Cross
- (D) Croix de Guerra

65. Shura-e-Milli is the Parliament of which country?

- (A) Jordan
- (B) Iran
- (C) Afghanistan
- (D) Israel

66. Who Said, "Man is by nature a political animal"?

- (A) Socrates
- (B) Aristotle
- (C) Plato
- (D) Karl Marx

✓ 67. "Playing it my way" is the autobiography of

- (A) Brian Lara
- (B) Virat Kohli
- (C) Sachin Tendulkar
- (D) Steve Waugh

68. Who authored the book "Identity and Violence : The Illusion of Destiny"?

- (A) L. K. Advani
- (B) A. P. J. Abdul Kalam
- (C) Amartya Sen
- (D) Orphan Pamuk

✓ 69. The 2020 Summer Olympic will be held in

- (A) Tokyo
- (B) London
- (C) Athens
- (D) Atlanta

70. Which is the capital of Bulgaria?

- (A) Sofia
- (B) Bangui
- (C) Rabat
- (D) Lome

71. What is the currency of Myanmar?

- (A) Kyat
- (B) Ringgit
- (C) Peso
- (D) Baht

72. What is the currency of Italy?

- (A) Lira
- (B) Euro
- (C) Dollar
- (D) Pound

73. How many operational commands are there in Indian Army?

- (A) 5
- (B) 6
- (C) 7
- (D) 8

74. How many official languages are there in UNO?

- (A) 3
- (B) 4
- (C) 5
- (D) 6

75. What is the national aquatic animal of India?

- (A) River Dolphin
- (B) Green Sea Turtle
- (C) Seahorse
- (D) Dugong

76. The fresh water percentage of Earth is

- (A) 1%
- (B) 2.5%
- (C) 5%
- (D) 10%

77. The following is not a macronutrient:

- (A) Mg
- (B) Ca
- (C) Fe
- (D) K

78. The Disaster Management Act was enacted in

- (A) 2000
- (B) 2003
- (C) 2005
- (D) 2010

79. The operation 'Surya Hope' is related to

- (A) Uttarakhand flood
- (B) Kerala flood
- (C) Kashmir Flood
- (D) Assam Flood

80. Loss of water is maximum from

- (A) leaf surface
- (B) soil surface
- (C) root
- (D) stem surface

81. The maximum width of tropopause is
(A) 10 Km
(B) 15 Km
(C) 20 Km
(D) 25 Km
82. The Thermosphere starts from Earth's surface at a distance of
(A) 80 Km
(B) 85 Km
(C) 100 Km
(D) 125 Km
83. The following bacteria may be used to mitigate oil spill:
(A) *Bacillus*
(B) *Pseudomonas*
(C) *E. coli*
(D) *Nitrobacter*
84. The temperature of water for measuring BOD should be maintained at
(A) 20°C
(B) 30°C
(C) 35°C
(D) 40°C
85. Silent Valley became national park in the year
(A) 1980
(B) 1984
(C) 1988
(D) 1990
86. The pH for drinking water should be between
(A) 5 – 6
(B) 6 – 6.5
(C) 6.5 – 7.5
(D) 8 – 9
87. The following virus is water borne:
(A) Hepatitis A
(B) Hepatitis B
(C) Hepatitis C
(D) Hepatitis E
88. The following name is associated with rain water harvesting:
(A) Rajendra Singh
(B) Baba Amte
(C) S. C. Nair
(D) Medha Patkar
89. DDT does not contain
(A) C
(B) H
(C) P
(D) Cl
90. The following gas may be involved in stone cancer:
(A) N₂
(B) SO₂
(C) CO₂
(D) H₂S

91. The black foot disease primarily occurs due to toxicity of

- (A) Fluoride
- (B) Cadmium
- (C) Arsenic
- (D) Lead

92. Fluoride in environment primarily comes from

- (A) topaz
- (B) apatite
- (C) fluorite
- (D) phosphorite

93. The following is a sedentary cycle:

- (A) P cycle
- (B) N₂ cycle
- (C) C cycle
- (D) O₂ cycle

94. The following organism is an endosymbiont:

- (A) *Anabaena*
- (B) *Azotobacter*
- (C) *Clostridium*
- (D) *Nitrobacter*

95. Habitats resulting from lava flow is an example of

- (A) primary succession
- (B) secondary succession
- (C) autogenic succession
- (D) allogenic succession

96. Which is the first plant grown in the moon?

- (A) Cotton
- (B) Potatoes
- (C) Arabidopsis
- (D) Canola

97. The opening match of ICC World Cup, 2019 between England and South Africa was held in

- (A) Lord's
- (B) Oval
- (C) Trent Bridge
- (D) Cardiff

98. When did West Bengal become a state?

- (A) August 15, 1947
- (B) August 15, 1948
- (C) November 26, 1949
- (D) January 26, 1950

99. Where is Vikram Sarabhai Space Centre?

- (A) Bengaluru
- (B) Sriharikota
- (C) Baleswar
- (D) Thiruvananthapuram

100. Indira Gandhi Centre for Atomic Research is located in

- (A) Kolkata
- (B) Kalpakkam
- (C) Mumbai
- (D) Hyderabad

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101. Oxidation state of Oxygen in F_2O is
(A) -1
(B) +1
(C) +2
(D) -2
102. Which of the following does not have coordinate bond?
(A) SO_2
(B) HNO_2
(C) HNO_3
(D) H_2SO_3
103. The homologue of ethyne is
(A) C_2H_2
(B) C_2H_6
(C) C_3H_4
(D) C_3H_8
104. Which is used in alcoholic beverages?
(A) Ethanol
(B) Methanol
(C) Phenol
(D) Glycerol
105. Which of the following is the largest gland in an adult man?
(A) Thymus
(B) Liver
(C) Thyroid
(D) Pancreas
106. Indusium is found in
(A) algae
(B) moss
(C) ferns
(D) cycas
107. In plants, water supply is due to
(A) osmosis
(B) imbibition
(C) guttation
(D) adhesion force
108. In which form does the food transported in plants?
(A) Sucrose
(B) Fructose
(C) Glucose
(D) Lactose
109. Which of the following electromagnetic waves have the smallest wavelength?
(A) Infrared rays
(B) UV rays
(C) X-rays
(D) γ -rays
110. Which of the following configurations corresponds to element of highest ionisation energy?
(A) $1s^2, 2s^1$
(B) $1s^2, 2s^2, 2p^3$
(C) $1s^2, 2s^2, 2p^2$
(D) $1s^2, 2s^2, 2p^6, 3s^1$

✓ 111. Which is correctly matched?

- (A) Apiculture – Honey bee
- (B) Pisciculture – Silk moth
- (C) Sericulture – Fish
- (D) Aquaculture – Mosquito

✓ 112. In blood, CO₂ is transported majorly as

- (A) CO₂ as such
- (B) Sodium Carbonate
- (C) Bicarbonate
- (D) Carboxy haemoglobin

113. Kupffer cells are present in

- (A) Pancreas
- (B) Liver
- (C) Thyroid
- (D) Small intestine

✓ 114. The vitamin which is essential for blood clotting is

- (A) vitamin – A
- (B) vitamin – B
- (C) vitamin – C
- (D) vitamin – K

115. Which of the following is not vestigial in man?

- (A) Tail vertebrae
- (B) Nails
- (C) Nictitating membrane
- (D) Vermiform appendix

✓ 116. What is Incinerator?

- (A) Furnace used for burning solid waste.
- (B) Furnace used for treating liquid waste.
- (C) Both (A) and (B)
- (D) None of the above

✓ 117. What is Plankton?

- (A) Large plants in water.
- (B) Microscopic floating organisms- Plants and animals.
- (C) Bottom dwelling aquatic organisms
- (D) None of the above

✓ 118. Biotic environment includes

- (A) Consumers
- (B) Decomposers
- (C) Producers
- (D) All of the above

✓ 119. A genetically engineered form of brinjal, known as the Bt-brinjal, has been developed, the objective of this is

- (A) to improve its taste and nutritive qualities.
- (B) to make it pest-resistant.
- (C) to make it drought-resistant.
- (D) to make its shelf-life longer.

✓ 120. The function of heavy water in a nuclear reactor is to

- (A) cool down the reactor.
- (B) stop the nuclear reaction.
- (C) slow down the speed of neutrons.
- (D) increase the speed of neutrons.

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MSC(C)-8/19

121. The general molecular formula for disaccharide is

- (A) $C_{10}H_{20}O_{10}$
- (B) $C_{12}H_{22}O_{11}$
- (C) $C_{12}H_{20}O_{10}$
- (D) $C_{12}H_{22}O_{10}$

✓ 122. Proteins are composed of

- (A) vitamins
- (B) carbohydrates
- ✓ (C) α -amino acids
- (D) mineral salts

✓ 123. An ecosystem consists of

- (A) population.
- (B) a biotic community.
- (C) a population and its non-living elements.
- ✓ (D) a biotic community and its non-living elements.

✓ 124. Decomposers which specifically act on the fecal matter of other organisms are called

- ✓ (A) Coprophagic
- (B) Heterophagic
- (C) Allophagic
- (D) Paraphagic

✓ 125. Major cause of Ozone depletion is due to which chemical?

- ✓ (A) Chloro Fluoro Carbons
- (B) Polyphenols
- (C) Dioxins
- (D) Rayon

126. Which of them contains all the information required to fold the polypeptide chain in its 3-D structure?

- (A) DNA sequences
- (B) RNA
- (C) Histone protein
- (D) Amino acid sequences

✓ 127. Name the RNA molecules which is used to carry genetic information copied from DNA?

- (A) tRNA
- ✓ (B) mRNA
- (C) rRNA
- (D) snRNA

128. Name the disease caused by the deficiency of Niacin.

- (A) Pellagra
- (B) Rickets
- (C) Scurvy
- (D) Pernicious anemia

129. Which of the following vitamin serves as a hormone precursor?

- (A) Vitamin - C
- (B) Vitamin - A
- (C) Vitamin - K
- (D) Vitamin - D

✓ 130. Which of the following is not a component of the nucleus?

- (A) Chromosome
- (B) Nucleolus
- ✓ (C) Cytoplasm
- (D) Nuclear envelope

131. The value of the compressibility of an ideal fluid is

- (A) zero
- (B) unity
- (C) infinity
- (D) more than that of a real fluid

132. In electromagnetic theory, continuity equation relates _____.

- (A) volume conservation
- (B) mass conservation
- (C) charge conservation
- (D) energy conservation

133. Which is the cheapest device for measuring flow/discharge rate?

- (A) Venturimeter
- (B) Pitot tube
- (C) Orificemeter
- (D) None of the above

✓ 134. What is the shape of Earth's orbit?

- ✓ (A) Ellipse with high eccentricity
- (B) Ellipse with low eccentricity
- (C) Circle
- (D) None of the above

135. Below, which of the following pH in rain regarded as 'acid rain'?

- (A) 7
- (B) 7.3
- (C) 5.6
- (D) 6

136. Which of the following pollutant is the major contributor to photochemical smog?

- (A) Peroxynitrates
- ✓ (B) Hydroperoxides
- (C) Nitrogen dioxide
- (D) Ozone

137. What is the primary standard level for carbon monoxide for assuring air quality?

- (A) 10 ppm
- (B) 90 ppm
- (C) 1 ppm
- (D) 9 ppm

✓ 138. Which is the most abundant hydrocarbon in the atmosphere?

- ✓ (A) Methane
- (B) Carbonyl sulphide
- (C) Ethane
- (D) None of the above

✓ 139. Data transmitted for a given amount of time is called _____.

- (A) Noise
- (B) Power
- (C) Frequency
- ✓ (D) Bandwidth

✓ 140. In TV transmission, picture signal is _____ modulated.

- ✓ (A) DSB-SC
- (B) VSB
- (C) SSB-SC
- (D) Pulse

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141. Which is the most abundant greenhouse gas in the atmosphere?

- (A) Carbon dioxide
- (B) Water vapour
- (C) Methane
- (D) Nitrogen

142. Which of the following is the largest sink for carbon dioxide gas?

- (A) Forests
- (B) Oceans
- (C) Ice sheets
- (D) Grasslands

143. Which of the following is a liquid form of aerosol?

- (A) Fume
- (B) Dust
- (C) Mist
- (D) Smoke

144. X-ray films are a source of which of the following gas?

- (A) SO₂
- (B) CO₂
- (C) NO₂
- (D) SO₃

145. The solar sunspot cycle is

- (A) 3 years
- (B) 7 years
- (C) 11 years
- (D) 14 years

146. India's navigational satellite system is known as

- (A) GPS
- (B) GLONASS
- (C) BeiDou
- (D) IRNSS

147. Asteroid belt is situated between the orbit of

- (A) Mercury and Venus
- (B) Mars and Jupiter
- (C) Jupiter and Saturn
- (D) Uranus and Neptune

148. Formation of stars begin from the following two gases:

- (A) Hydrogen and Nitrogen
- (B) Nitrogen and Oxygen
- (C) Oxygen and Hydrogen
- (D) Hydrogen and Helium

149. What is the main energy generation process in the Sun?

- (A) Nuclear fission
- (B) Nuclear radioactive decay
- (C) Gravitational energy
- (D) Nuclear fusion

150. What property of Earth protects us from harmful radiation from the Sun?

- (A) Trees
- (B) Atmosphere
- (C) 70% water
- (D) Earth's motion around the Sun

151. The emission spectrum of hydrogen discovered first and the region of the electromagnetic spectrum in which it belongs, respectively are
- (A) Lyman, ultraviolet
 - (B) Lyman, visible
 - (C) Balmer, ultraviolet
 - (D) Balmer, visible
152. WAN hardware includes
- (A) Multiplexors and routers
 - (B) EDF
 - (C) Bridger and modems
 - (D) Removable disc
153. Which one is the first search engine in internet?
- (A) Google
 - (B) Archie
 - (C) Altavista
 - (D) WAIS
154. Which one programming language is exclusively used for artificial intelligence?
- (A) C
 - (B) Java
 - (C) J2EE
 - (D) Prolog
155. A dual layer Blue-ray disc can store data upto
- (A) 20 GB
 - (B) 30 GB
 - (C) 40 GB
 - (D) 50 GB
156. Who described the structure of DNA double helix?
- (A) Peter Mitchell
 - (B) Andre Jagendorf
 - (C) Ernest Uribe
 - (D) Watson and Crick
157. Which of these are used to measure optical activity?
- (A) Polarimeter
 - (B) Planometer
 - (C) Psychrometer
 - (D) Photometer
158. What is the wavelength of Super High Frequency (SHF) especially used in radar and satellite communication?
- (A) 1 m – 10 m
 - (B) 1 cm – 10 cm
 - (C) 10 cm – 1 m
 - (D) 0.1 cm – 1 cm
159. The device used by Banks to automatically read those special numbers on the bottom of the cheques is
- (A) MICR
 - (B) OMR
 - (C) UPC
 - (D) UDIC
160. Protein folding is a process in which a polypeptide folds in to _____.
- (A) 2-D structure
 - (B) Globular form
 - (C) 3-D structure
 - (D) Linear form

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161. If the bandgap between valence band and conduction band in a material is 5.0 eV, then the material is

- (A) semiconductor
- (B) good conductor
- (C) super conductor
- (D) insulator

162. During the emission of a positron from a nucleus, the mass number of the daughter element remains the same but the atomic number

- (A) is decreased by 1 unit
- (B) is decreased by 2 units
- (C) is increased by 1 unit
- (D) remains unchanged

163. A man of blood group-A marries a woman of blood group-AB, which type of progeny would indicate that man is heterozygous?

- (A) O
- (B) B
- (C) A
- (D) AB

164. The permanent decrease in population number occurs due to

- (A) Migration
- (B) Natality
- (C) Emigration
- (D) Mortality

165. Aspirin is a/an

- (A) antibiotic
- (B) antiseptic
- (C) antipyretic
- (D) None of the above

166. A body is floating in a liquid at rest. Incorrect statement about situation options:

- (A) Buoyancy is equal to weight of body.
- (B) Weight of liquid displaced by body is equal to buoyancy.
- (C) Force applied by body on liquid is buoyancy downward.
- (D) Weight will be greater than buoyancy.

167. A bullet on penetrating 30 cm into its target loses its velocity by 50%. What additional distance will it penetrate into the target before it comes to rest?

- (A) 30 cm
- (B) 20 cm
- (C) 10 cm
- (D) 5 cm

168. Water is flowing through a very narrow tube. The velocity of water below which the flow remains a streamline flow is known as

- (A) relative velocity
- (B) terminal velocity
- (C) critical velocity
- (D) particle velocity

169. An electric bulb marked as 50 W-200 V is connected across a 100 V supply. The present power of the bulb is

- (A) 37.5 W
- (B) 25 W
- (C) 12.5 W
- (D) 10 W

170. Which of the following vitamin is water soluble as well as an antioxidant?

- (A) Vitamin-B₁
- (B) Vitamin-A
- (C) Vitamin-D
- (D) Vitamin-C

171. Which one of the following is wrong about molecularity of a reaction?

- (A) It may be whole number or fractional.
- (B) It is calculated from reaction mechanism.
- (C) It is the number of molecules of the reactants taking part in a single step chemical reaction.
- (D) It is always equal to the order of elementary reaction.

172. In which of the following pairs, the two physical quantities have different dimensions?

- (A) Planck's constant and angular momentum
- (B) Impulse and linear momentum
- (C) Moment of inertia and moment of a force
- (D) Energy and torque

173. In which of the following phenomena, the heat waves travel along straight lines with the speed of light?

- (A) Thermal conduction
- (B) Forced convection
- (C) Natural convection
- (D) Thermal radiation

174. For the radioactive nuclei that undergo either α or β decay, which one of the following cannot occur?

- (A) Isobar of original nucleus is produced.
- (B) Isotope of the original nucleus is produced.
- (C) Nuclei with higher atomic number than that of the original nucleus is produced.
- (D) Nuclei with lower atomic number than that of the original nucleus is produced.

175. 'Adaptation' of eyes in dark due to

- (A) depletion of vision pigment in rods
- (B) depletion of vision pigment in cones
- (C) repletion of vision pigment in rods
- (D) repletion of vision pigment in cones

176. Roof top water harvesting is highest in

- (A) China
- (B) Brazil
- (C) Ghana
- (D) India

177. The noise level during plane take off is around

- (A) 100 dB
- (B) 150 dB
- (C) 200 dB
- (D) 250 dB

178. The Biodiversity Act was passed in

- (A) 2000
- (B) 2002
- (C) 2004
- (D) 2008

179. Bengal Smoke Nuisance Act came up for the first time in

- (A) 1900
- (B) 1905
- (C) 1950
- (D) 1978

180. The green bench in Kolkata High Court was established in

- (A) 1990
- (B) 1996
- (C) 1997
- (D) 1998

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181. The electric arc furnace is used for recycling of

- (A) Cu
- (B) Zn
- (C) Fe
- (D) Cr

182. CITES became effective from the year

- (A) 1970
- (B) 1975
- (C) 1980
- (D) 1985

183. The unit of radioactivity is

- (A) Co
- (B) Ci
- (C) Cr
- (D) Cq

184. The following waste comes under red category:

- (A) metal
- (B) drug
- (C) oil waste
- (D) food waste

185. The ideal temperature for composting is

- (A) 30°C – 40°C
- (B) 40°C – 50°C
- (C) 50°C – 60°C
- (D) 60°C – 70°C

✓ 186. The disinfection of drinking water by municipalities is mostly by

- (A) Chlorination
- (B) Bromination
- (C) Boiling
- (D) UV radiation

✓ 187. The temporary hardness of water is caused by

- (A) Oxides
- (B) Bicarbonates
- (C) Chlorides
- (D) Sulphates

188. The activated sludge treatment is carried out by

- (A) high temperature
- (B) acidification
- (C) microbes
- (D) moisture

189. The country where paper recycling was initiated in the world is

- (A) UK
- (B) USA
- (C) Germany
- (D) France

190. Mulching prevents the loss of

- (A) microbes
- (B) moisture
- (C) mineral
- (D) organic matter

191. Indian Board of Wildlife was established in
(A) 1932
(B) 1952
(C) 1962
(D) 1972
192. Bhagabatur project is for breeding
(A) Marsh Crocodile
(B) Tigers
(C) Black buck
(D) Dholes
193. Maximum energy consumption in Asia is by
(A) India
(B) China
(C) Japan
(D) Pakistan
194. The golden rice contains
(A) Vitamin A
(B) Vitamin C
(C) Vitamin E
(D) Vitamin D
195. The Bt cotton is a transgenic crop with gene transfer from
(A) virus
(B) bacteria
(C) fungi
(D) algae
196. SiO_2 is reacted with Sodium Carbonate. What is the gas liberated?
(A) CO_2
(B) CO
(C) O_2
(D) O_3
197. The potential energy of a molecule on the surface of a liquid compared to one inside the liquid is
(A) zero
(B) lesser
(C) equal
(D) greater
198. For a metallic wire, the ratio $\frac{V}{i}$ [V = applied potential difference and i = current flowing] is
(A) independent of temperature.
(B) increases as the temperature rises.
(C) decreases as the temperature rises.
(D) increases or decreases as the temperature rises depending upon the metal.
199. In gamma ray emission from a nucleus
(A) only proton number changes.
(B) only neutron number changes.
(C) there is no change in the proton number and neutron number.
(D) Both the proton number and the neutron number change.
200. In radioactive decay process, the negatively charged emitted β particles are
(A) the electrons present inside the nucleus.
(B) the electrons produced as a result of the decay of neutrons inside the nucleus.
(C) the electrons produced as a result of collisions between atoms.
(D) None of the above

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