

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

2019

TEST BOOKLET

Paper-IV

Time allowed : 3 hours

Full marks : 200

Answer *all* the questions.

Questions are of equal value.

TEST BOOKLET SERIES



08517

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.*

1. 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

2. 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 Jhingan
- (D) Lakshmi Puri

3. 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

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

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

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

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

6. Which of the following banks has launched the 'Bank on Wheels' service?

- (A) State Bank of India
- (B) Axis Bank
- (C) ICICI Bank
- (D) Indian Overseas Bank

7. 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

8. Where is the "Vivek Smarak" — the Swami Vivekananda Value Education and Cultural Centre located?

- (A) Telengana
- (B) West Bengal
- (C) Karnataka
- (D) Bihar

9. 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

10. 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 Psychiatry, Kolkata



11. 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

12. In which country India has rebuilt Kundeing Monestry?

- (A) Thailand
- (B) Sri Lanka
- (C) Nepal
- (D) Bhutan

13. 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

14. 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

15. 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

16. 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

17. Who has been named as the Wisden Almanack leading cricketer of the year 2018?

- (A) Jos Buttler
- (B) Sam Curren
- (C) Virat Kohli
- (D) Shakib Al Hasan

18. Which country's army ousted and arrested president Omar-Al-Bashir on April 11, 2019?

- (A) Sudan
- (B) South Sudan
- (C) Somalia
- (D) Egypt

19. 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

20. 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

21. Where is the shoal grassland found in India?  
(A) Western Ghats  
(B) Sundarban  
(C) Andaman-Nicobar  
(D) Himalayas
22. What was the profession Volodymyr Zelensky before elected as the President of Ukraine?  
(A) Singer  
(B) Comedian  
(C) Doctor  
(D) Soldier
23. 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
24. 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
25. 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
26. Binapani Devi was the matriarch of which community?  
(A) Mech  
(B) Bauris  
(C) Rabha  
(D) Matua
27. On which river has the central government approved 'Keery Hydro Power Project'?  
(A) Mahananda  
(B) Chenab  
(C) Teesta  
(D) Jhelum
28. Which city bagged award for the cleanest city for third straight year in Swach Survekshan, 2019?  
(A) Pune  
(B) Amaravati  
(C) Indore  
(D) Chandigarh
29. 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
30. Which sports has been included in 2022 Asian Games?  
(A) Cricket  
(B) Football  
(C) Paragliding  
(D) Pencak Silat



31. Who named cyclone 'Foni'?
- (A) India
  - (B) Bangladesh
  - (C) Sri Lanka
  - (D) Myanmar
32. In which year Satyajit Ray's first film Pather Panchali was released?
- (A) 1951
  - (B) 1955
  - (C) 1958
  - (D) 1960
33. In which year Howrah Bridge was open for public?
- (A) 1941
  - (B) 1942
  - (C) 1943
  - (D) 1944
34. Which one is the first news paper published in Bengali language?
- (A) Digdarshan
  - (B) Samachar Darpan
  - (C) Tattobodhini
  - (D) Ananda Bazar
35. In which year the Princely State of Cooch Behar merged with West Bengal?
- (A) 1947
  - (B) 1948
  - (C) 1949
  - (D) 1950
36. Who was the first Sultan of Bengal?
- (A) Saifuddin Hamza Shah
  - (B) Sikandar Shah
  - (C) Samsuddin Ilyas Shah
  - (D) Alibardi Khan
37. In which year the Bengal famine happened?
- (A) 1876
  - (B) 1936
  - (C) 1943
  - (D) 1976
38. In which year Chandannagar was integrated into West Bengal?
- (A) 1947
  - (B) 1948
  - (C) 1950
  - (D) 1954
39. Who was the first Chief Justice of the Calcutta High Court?
- (A) Sir Rechard Couch
  - (B) Sir Barnes Peacock
  - (C) Sir George Ranking
  - (D) Sir Harold Derbyshire
40. What is the total number of seats in West Bengal Legislative Assembly?
- (A) 295
  - (B) 308
  - (C) 435
  - (D) 543

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

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

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

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

43. The Poona pact was an agreement between

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

44. In which year Swami Vivekananda established Ramakrishna Mission?

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

45. 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

46. 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

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

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

48. Who can declare financial emergency in India?

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

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

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

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

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



51. The 2020 Summer Olympic will be held in  
(A) Tokyo  
(B) London  
(C) Athens  
(D) Atlanta
52. 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
53. "Playing it my way" is the autobiography of  
(A) Brian Lara  
(B) Virat Kohli  
(C) Sachin Tendulkar  
(D) Steve Waugh
54. Who Said, "Man is by nature a political animal"?  
(A) Socrates  
(B) Aristotle  
(C) Plato  
(D) Karl Marx
55. What is the National aquatic animal of India?  
(A) River Dolphin  
(B) Green Sea Turtle  
(C) Seahorse  
(D) Dugong
56. How many official languages are there in UNO?  
(A) 3  
(B) 4  
(C) 5  
(D) 6
57. How many operational commands are there in Indian Army?  
(A) 5  
(B) 6  
(C) 7  
(D) 8
58. What is the currency of Italy?  
(A) Lira  
(B) Euro  
(C) Dollar  
(D) Pound
59. What is the currency of Myanmar?  
(A) Kyat  
(B) Ringgit  
(C) Peso  
(D) Baht
60. Which is the capital of Bulgaria?  
(A) Sofia  
(B) Bangui  
(C) Rabat  
(D) Lome

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

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

62. 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

63. Who is the most decorated Olympian?

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

64. The border line between Pakistan and Afghanistan is known as

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

65. The Head Quarters of ILO is located in

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

66. Black holes were predicted by

- (A) Copernicus
- (B) Einstein
- (C) Rutherford
- (D) Satyen Bose

67. Which of the following is known as the city of eternal spring?

- (A) Rome
- (B) Quito
- (C) Lhasa
- (D) Venice

68. India House is situated in

- (A) Delhi
- (B) Singapore
- (C) Rangoon
- (D) London

69. 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

70. Deuce; Booster; Spikers; Service; Love are related to

- (A) Badminton
- (B) Volleyball
- (C) Baseball
- (D) Billiards



71. Who won Man Booker Prize, 2018?
- (A) Anna Burns
  - (B) Daisy Johnson
  - (C) Rachel Kushner
  - (D) Richard Powers
72. Who won 68th edition of Miss World Pageant?
- (A) Karen Ibasco
  - (B) Manushi Chhillar
  - (C) Megan Young
  - (D) Vanessa Ponce
73. 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
74. Rajiv Gandhi Khel Ratna, 2018 was awarded to Mirabai Chanu for which discipline?
- (A) Wrestling
  - (B) Weightlifting
  - (C) Boxing
  - (D) Archery
75. 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
76. Indira Gandhi Centre for Atomic Research is located in
- (A) Kolkata
  - (B) Kalpakkam
  - (C) Mumbai
  - (D) Hyderabad
77. Where is Vikram Sarabhai Space Centre?
- (A) Bengaluru
  - (B) Sriharikota
  - (C) Baleswar
  - (D) Thiruvananthapuram
78. When did West Bengal become a state?
- (A) August 15, 1947
  - (B) August 15, 1948
  - (C) November 26, 1949
  - (D) January 26, 1950
79. 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
80. Which is the first plant grown in the moon?
- (A) Cotton
  - (B) Potatoes
  - (C) Arabidopsis
  - (D) Canola

81. Habitats resulting from lava flow is an example of

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

82. The following organism is an endosymbiont:

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

83. The following is a sedentary cycle:

- (A) P cycle
- (B)  $N_2$  cycle
- (C) C cycle
- (D)  $O_2$  cycle

84. Fluoride in environment primarily comes from

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

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

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

86. The fresh water percentage of Earth is

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

87. The following is not a macronutrient:

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

88. The Disaster Management Act was enacted in

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

89. The operation 'Surya Hope' is related to

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

90. Loss of water is maximum from

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



91. The maximum width of tropopause is  
(A) 10 Km  
(B) 15 Km  
(C) 20 Km  
(D) 25 Km
92. The Thermosphere starts from Earth's surface at a distance of  
(A) 80 Km  
(B) 85 Km  
(C) 100 Km  
(D) 125 Km
93. The following bacteria may be used to mitigate oil spill:  
(A) *Bacillus*  
(B) *Pseudomonas*  
(C) *E. coli*  
(D) *Nitrobacter*
94. The following gas may be involved in stone cancer:  
(A)  $N_2$   
(B)  $SO_2$   
(C)  $CO_2$   
(D)  $H_2S$
95. DDT does not contain  
(A) C  
(B) H  
(C) P  
(D) Cl
96. The following name is associated with rain water harvesting:  
(A) Rajendra Singh  
(B) Baba Amte  
(C) S. C. Nair  
(D) Medha Patkar
97. The following virus is water borne:  
(A) Hepatitis A  
(B) Hepatitis B  
(C) Hepatitis C  
(D) Hepatitis E
98. The pH for drinking water should be between  
(A) 5 – 6  
(B) 6 – 6.5  
(C) 6.5 – 7.5  
(D) 8 – 9
99. Silent Valley became national park in the year  
(A) 1980  
(B) 1984  
(C) 1988  
(D) 1990
100. The temperature of water for measuring BOD should be maintained at  
(A) 20°C  
(B) 30°C  
(C) 35°C  
(D) 40°C

101. Roof top water harvesting is highest in

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

102. The noise level during plane take off is around

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

103. The Biodiversity Act was passed in

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

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

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

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

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

106. The unit of radioactivity is

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

107. The following waste comes under red category:

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

108. 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

109. The disinfection of drinking water by municipalities is mostly by

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

110. The temporary hardness of water is caused by

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



111. The activated sludge treatment is carried out by

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

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

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

113. The electric arc furnace is used for recycling of

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

114. CITES became effective from the year

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

115. Mulching prevents the loss of

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

116. Indian Board of Wildlife was established in

- (A) 1932
- (B) 1952
- (C) 1962
- (D) 1972

117. Bhagabatpur project is for breeding

- (A) Marsh Crocodile
- (B) Tigers
- (C) Black buck
- (D) Dholes

118. Maximum energy consumption in Asia is by

- (A) India
- (B) China
- (C) Japan
- (D) Pakistan

119. The golden rice contains

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

120. The Bt cotton is a transgenic crop with gene transfer from

- (A) virus
- (B) bacteria
- (C) fungi
- (D) algae

Please Turn Over

121. In radioactive decay process, the negatively charged emitted  $\beta$  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

122. 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.

123. 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.

124. 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

125.  $\text{SiO}_2$  is reacted with Sodium Carbonate. What is the gas liberated?

- (A)  $\text{CO}_2$
- (B)  $\text{CO}$
- (C)  $\text{O}_2$
- (D)  $\text{O}_3$

126. Oxidation state of Oxygen in  $\text{F}_2\text{O}$  is

- (A) -1
- (B) +1
- (C) +2
- (D) -2

127. Which of the following does not have coordinate bond?

- (A)  $\text{SO}_2$
- (B)  $\text{HNO}_2$
- (C)  $\text{HNO}_3$
- (D)  $\text{H}_2\text{SO}_3$

128. The homologue of ethyne is

- (A)  $\text{C}_2\text{H}_2$
- (B)  $\text{C}_2\text{H}_6$
- (C)  $\text{C}_3\text{H}_4$
- (D)  $\text{C}_3\text{H}_8$

129. Which is used in alcoholic beverages?

- (A) Ethanol
- (B) Methanol
- (C) Phenol
- (D) Glycerol

130. Which of the following is the largest gland in an adult man?

- (A) Thymus
- (B) Liver
- (C) Thyroid
- (D) Pancreas



131. Which is correctly matched?

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

132. In blood,  $\text{CO}_2$  is transported majorly as

- (A)  $\text{CO}_2$  as such
- (B) Sodium Carbonate
- (C) Bicarbonate
- (D) Carboxy haemoglobin

133. Kupffer cells are present in

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

134. The vitamin which is essential for blood clotting is

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

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

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

136. Indusium is found in

- (A) algae
- (B) moss
- (C) ferns
- (D) cycas

137. In plants, water supply is due to

- (A) osmosis
- (B) imbibition
- (C) guttation
- (D) adhesion force

138. In which form does the food transported in plants?

- (A) Sucrose
- (B) Fructose
- (C) Glucose
- (D) Lactose

139. Which of the following electromagnetic waves have the smallest wavelength?

- (A) Infrared rays
- (B) UV rays
- (C) X-rays
- (D)  $\gamma$ -rays

140. 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)  $1s^2, 2s^2, 2p^6, 3s^1$

141. 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)  $C_{12}H_{22}O_{10}$

142. Proteins are composed of

- (A) vitamins
- (B) carbohydrates
- (C)  $\alpha$ -amino acids
- (D) mineral salts

143. 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.

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

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

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

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

146. 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

147. 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

148. Biotic environment includes

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

149. 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.

150. 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.



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

- (A) Vitamin-B<sub>1</sub>
- (B) Vitamin-A
- (C) Vitamin-D
- (D) Vitamin-C

152. '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

153. 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

154. The permanent decrease in population number occurs due to

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

155. Aspirin is a/an

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

156. 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.

157. 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

158. 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

159. 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

160. 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.

Please Turn Over

**161.** 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

**162.** 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

**163.** For the radioactive nuclei that undergo either  $\alpha$  or  $\beta$  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.

**164.** 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

**165.** 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

**166.** 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

**167.** WAN hardware includes

- (A) Multiplexors and routers
- (B) EDF
- (C) Bridger and modems
- (D) Removable disc

**168.** Which one is the first search engine in internet?

- (A) Google
- (B) Archie
- (C) Altavista
- (D) WAIS

**169.** Which one programming language is exclusively used for artificial intelligence?

- (A) C
- (B) Java
- (C) J2EE
- (D) Prolog

**170.** A dual layer Blue-ray disc can store data upto

- (A) 20 GB
- (B) 30 GB
- (C) 40 GB
- (D) 50 GB



171. 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

172. 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

173. Which of these are used to measure optical activity?

- (A) Polarimeter
- (B) Planometer
- (C) Psychrometer
- (D) Photometer

174. Who described the structure of DNA double helix?

- (A) Peter Mitchell
- (B) Andre Jagendorf
- (C) Ernest Uribe
- (D) Watson and Crick

175. Protein folding is a process in which a polypeptide folds into \_\_\_\_\_.

- (A) 2-D structure
- (B) Globular form
- (C) 3-D structure
- (D) Linear form

176. 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

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

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

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

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

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

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

180. Which of the following is not a component of the nucleus?

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

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

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

182. In electromagnetic theory, continuity equation relates \_\_\_\_\_

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

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

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

184. Data transmitted for a given amount of time is called \_\_\_\_\_.

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

185. In TV transmission, picture signal is \_\_\_\_\_ modulated.

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

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

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

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

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

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

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

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

- (A)  $\text{SO}_2$
- (B)  $\text{CO}_2$
- (C)  $\text{NO}_2$
- (D)  $\text{SO}_3$

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

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



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

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

**192.** 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

**193.** Which is the most abundant hydrocarbon in the atmosphere?

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

**194.** 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

**195.** The solar sunspot cycle is

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

**196.** 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

**197.** What is the main energy generation process in the Sun?

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

**198.** 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

**199.** Asteroid belt is situated between the orbit of

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

**200.** India's navigational satellite system is known as

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