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Previous Year Paper Mains 2017 GS II



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2017

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 be correct or the best. Now darken the oval 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. If more than one oval is encoded for a particular answer, it will be treated as a 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.**

[Please Turn Over]

1. Where would the Commonwealth Games be held in 2022?
- (A) Johannesburg
(B) Gauteng
(C) Durban
(D) Pretoria
2. What is the name of Australia's first woman Prime Minister?
- (A) Jane Simpson
(B) Helen Opten
(C) Julia Gillard
(D) Audra Philton
3. When was India's first scientific expedition to the South Pole launched?
- (A) February, 2010
(B) May, 2016
(C) July, 2010
(D) June, 2014
4. What is the rank of India in 2010 in the Global Peace Index?
- (A) Seventy
(B) Eighty
(C) Hundred
(D) Hundred Twenty-eight
5. What, among the following, is India's first Anti-submarine warfare corvette?
- (A) INS Kamorta
(B) Naval version of Light Combat Aircraft (LCA)
(C) INS Shivalik
(D) INS Shakti
6. Why was Ajmal Kasab sentenced to death?
- (A) Attack on Indian Parliament
(B) Mumbai terror attacks
(C) Kashmir attacks
(D) Delhi Metro attacks
7. Who headed the Telangana Issue Committee?
- (A) A. N. Rao
(B) B. Baradarajan
(C) U. Burman
(D) B. N. Srikrishna
8. Where were Gandhiji's Ashes immersed in 2010?
- (A) The Prayag in Allahabad
(B) The Arabian Sea near Gujarat
(C) The Indian Ocean
(D) The river Jamuna
9. The UPA-II 'Report to the People' was released by
- (A) Sonia Gandhi
(B) Manmohan Singh
(C) Pranab Mukherjee
(D) None of the above
10. When was PSLV-C 15 launched successfully?
- (A) January 30, 2011
(B) June 5, 2011
(C) July 12, 2010
(D) May 10, 2010

11. By which Constitutional Amendment Act the recognition of the rulers of the former Indian States was abolished?

- (A) 20th
- (B) 26th
- (C) 27th
- (D) 29th

12. The Union Public Service Commission may act for the State with the approval of

- (A) Government of the State
- (B) Union Government
- (C) Governor of the State
- (D) President of India

13. Article 51A of the Indian Constitution is included in

- (A) Part III
- (B) Part IV
- (C) Part IVA
- (D) Part V

14. The sobriquet 'Cockpit of Europe' is given to

- (A) Rome
- (B) Belgium
- (C) Kent in England
- (D) Norway

15. The sobriquet 'Man of Destiny' stands for:

- (A) Benito Mussolini
- (B) Napoleon Bonaparte
- (C) Adolf Hitler
- (D) Lord Mountbatten

16. 'Virgin Islands' is a dependency of:

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

17. Find out the correct match:

- (A) Computation of National Income in India : Ministry of Finance
- (B) Nature of usual status unemployment : Disguised unemployment
- (C) Percentage of India's population to world population : 16 per cent
- (D) Private Participation in Infrastructure : Narasimham Committee

18. The order of a superior court commanding a person or a public authority to do something in the nature of public duty is called

- (A) Habeas Corpus
- (B) Mandamus
- (C) Prohibition
- (D) Certiorari

19. Find the incorrect match:

- (A) Balwant Rai Mehta Committee Report : 1957
- (B) Ashok Mehta Committee Report : 1977
- (C) GVK Rao Committee Report : 1986
- (D) LM Singhvi Committee Report : 1987

20. With reference to Lok Adalats which of the following statements is correct?

- (A) Lok Adalat deals with pre-litigative cases and not those pending before any court.
- (B) Lok Adalat deals only with civil cases.
- (C) Lok Adalat consists only with serving or retired judicial officers.
- (D) None of the above

21. The Indian Constitution is described to have been adopted and enacted by the
- (A) Constituent Assembly
 - (B) People of India
 - (C) Indian Parliament
 - (D) British Parliament
22. Who is the writer of "Satyarth Prakash"?
- (A) Dayanand Saraswati
 - (B) Aurobindo Ghosh
 - (C) Swami Vivekananda
 - (D) Raja Rammohan Ray
23. The Sangeet Natak Akademi was established in
- (A) 1951
 - (B) 1953
 - (C) 1954
 - (D) 1956
24. Who among the following is associated with 'Tabla'?
- (A) Ali Akbar Khan
 - (B) Vilayat Khan
 - (C) Bismillah Khan
 - (D) Ahmad Jan Thirkuwa
25. Which one of the following originated in Tamil Nadu?
- (A) Kathakali
 - (B) Kathak
 - (C) Odissi
 - (D) Bharatanatyam
26. Who won the 2015 Wimbledon Women's Singles title?
- (A) Garbine Muguruza
 - (B) Petra Kvitova
 - (C) Serena Williams
 - (D) Maria Sharapova
27. The city named by UNESCO under creative cities Network for city of music is
- (A) Kolkata
 - (B) Varanasi
 - (C) Jaipur
 - (D) Lucknow
28. Which biosphere reserve in India has been included in UNESCO list in March, 2016?
- (A) Agasthyamala biosphere reserve
 - (B) Simlipal biosphere reserve
 - (C) Sundarbans biosphere reserve
 - (D) Nanda Debi biosphere reserve
29. The Ganga River Cleaning Programme has been collaborating with Germany, because Germany has been known for cleaning its river
- (A) Danube
 - (B) Rur
 - (C) Rhine
 - (D) All of the above
30. Recently Qora was in news, it related to which sector?
- (A) Health
 - (B) Finance
 - (C) Infrastructure
 - (D) Internet and social networking

31. Which, among the following, isolated US most from its European allies during the past three months or so?

- (A) USA's criticism of refugee policy of the European states.
- ✓ (B) USA pulling out of Paris Accord.
- (C) USA's disformal reception to German Chancellor when she visited that country.
- (D) USA's unpredictable foreign policy moves.

32. Which is the highest judicial authority in the settlement of disputes in European Union?

- (A) European Court of Justice
- (B) European Tribunal of Arbitration
- (C) Inter-European States of Justice
- ✓ (D) European Court of Law ✓

33. In which state of India Gomti river project scam unearthed in June, 2017?

- (A) Bihar
- (B) Uttar Pradesh
- (C) Gujarat
- (D) Madhya Pradesh

34. Unorganised sector depending on cash transaction accounts for

- (A) 50 pc of total employment in India in 2016.
- (B) 60 pc of total employment in India in 2016.
- (C) 70 pc of total employment in India in 2016.
- ✓ (D) 80 pc of total employment in India in 2016. ✓

35. The Arab Spring (2010) withered away slowly excepting

- (A) Morocco ✗
- (B) Egypt ✗
- (C) Tunisia ✓
- (D) Yemen

36. The Supreme Court of India bans the use of caste and religion during election campaign on

- (A) 10.02.2014
- (B) 09.02.2015
- (C) 12.04.2016
- (D) 20.01.2017

37. NAFTA was set up by

- (A) George Bush ✗
- ✓ (B) Bill Clinton ✓
- (C) Barack Obama ✗
- (D) Donald Trump ✗

38. Which team, among the following, won Women's World Cup in Hockey in 2017?

- ✓ (A) India ✓
- (B) England
- (C) Bangladesh
- (D) Pakistan

39. Which team, among the following, won ICC Champion's Trophy in 2017?

- (A) India
- (B) Bangladesh
- ✓ (C) Pakistan ✓
- (D) Sri Lanka

40. Who among the following won Men's Singles in the French Open in 2017?

- (A) Roger Federar
- ✓ (B) Rafael Nadal ✓
- (C) Andy Murray
- (D) Novak Djokovic

41. To stitch a majority in Parliament Theresa May decided to tie up with
- (A) Labour Party
 - (B) Unionist Party of Northern Ireland
 - (C) Democratic Ulster Unionist Party (DUP) of Northern Ireland
 - (D) Sinn Fein Party of Northern Ireland
42. Choose the correct statement about WTO.
- (A) Afghanistan became the 164th member of WTO.
 - (B) General Robert Azevedo is WTO Director.
 - (C) WTO ministers met at Nairobi in Kenya for its last meeting.
 - (D) All of the above
43. Which state was declared on January 18, 2016 as the first organic farming state of India?
- (A) Kerala
 - (B) Goa
 - (C) Sikkim
 - (D) Telangana
44. Narendra Modi launched 'Gramoday se Bharat Uday' campaign on the occasion of 'Rashtriya Panchayati Raj Diwas' in
- (A) Jharkhand
 - (B) Bihar
 - (C) Madhya Pradesh
 - (D) Chattisgarh
45. Which of the following countries changed their stance totally in 2017 from that of 2015-16 on the issue of the Chinese claim over the South China Sea?
- (A) Vietnam
 - (B) Philippines
 - (C) Singapore
 - (D) Indonesia
46. Who organised India Health Report : Nutrition 2015 and Global Nutrition Report?
- (A) Public Health Foundation of India
 - (B) International Food Policy Research Institute
 - (C) Both of the above
 - (D) None of the above
47. Who won the 14th season of Vijay Hazare Cricket Trophy for 2015-2016?
- (A) Delhi
 - (B) Gujarat
 - (C) Bangalore
 - (D) Odisha
48. Who is the deity of the temple where worshipping and entering of women was lifted in April, 2016?
- (A) Vishnu
 - (B) Kartikeya
 - (C) Shani
 - (D) Shankar/Mahadev
49. Tech Mahindra has launched the electronic wallet named
- (A) Mobile Money
 - (B) Mobo Money
 - (C) Smart Money
 - (D) E-Money
50. Who was conferred 'Padma Vibhusan' honour at his residence on December 13, 2015?
- (A) Dilip Kumar
 - (B) Devika Rani
 - (C) Himangshu Rai
 - (D) None of the above

51. An internal combustion engine runs on the principle of
- (A) Otto cycle
 - (B) Diesel cycle
 - (C) Carnot cycle
 - (D) Ranking cycle
52. Who presented first the experimental value of G?
- (A) Newton
 - (B) Cavendish
 - (C) Galileo
 - (D) None of the above
53. A geostationary satellite has an orbital period of
- (A) 2 hours
 - (B) 6 hours
 - (C) 12 hours
 - (D) 24 hours
54. When the milk is churned vigorously, the cream is separated due to
- (A) Frictional force
 - (B) Centrifugal force
 - (C) Centripetal force
 - (D) Gravitational force
55. Weber is the unit of
- (A) Intensity of magnetization
 - (B) Permeability
 - (C) Magnetic flux
 - (D) Magnetic susceptibility
56. One nanometer is equal to
- (A) 10^{-15} m
 - (B) 10^{-9} m
 - (C) 10^{-18} m
 - (D) 10^{-12} m
57. Fly ash solid waste is the by-product of
- (A) Hydro-electric Power Stations
 - (B) Iron and steel plant
 - (C) Thermal Power Plants
 - (D) Nuclear Power Plants
58. Which is the second longest National Highway (NH) in India?
- (A) NH-6
 - (B) NH-5
 - (C) NH-2
 - (D) NH-7
59. The least populated state in India is
- (A) Arunachal Pradesh
 - (B) Sikkim
 - (C) Mizoram
 - (D) Uttarakhand
60. Which of the following was the earliest plantation crop introduced in India?
- (A) Tea
 - (B) Rubber
 - (C) Indigo
 - (D) Coffee

61. An atomic power station is located in
(A) Hyderabad
(B) Bengaluru
 (C) Kalpakkam
(D) Trivandrum
62. Crude petroleum is converted to number of hydrocarbon products by
(A) Fractional distillation
 (B) Thermal cracking
(C) Steam distillation
(D) None of the above
63. Which of the following states is the largest producer of coal?
 (A) Tamil Nadu
(B) Bihar
(C) West Bengal
(D) Rajasthan
64. The lower layer Ionosphere is known as
(A) Troposphere
(B) Stratosphere
 (C) Ozonosphere
(D) Thermosphere
65. The Redox indicator used in volumetric titration of
(A) Bromophynol Blue
(B) Methyl Orange
(C) Barium diphenyl amine sulphonate
(D) Solochrome black-T
66. Humidity is the result of
(A) Evaporation
(B) Transpiration
(C) Presence of heat
 (D) Moisture content in the air
67. Union Cabinet recently passed in-principle approval for disinvestment in
(A) Air India
 (B) Hindustan Antibiotics
(C) BSNL
(D) ONGC
68. Which company recently delivered the first tranche of modern bullet-proff helmets of Indian Army?
(A) Ordnance clothing
(B) ISRO
(C) MKU Limited
(D) BHEL
69. Who has been appointed as the new President of International Economic Association?
(A) Kaushik Basu
(B) Arvind Virman
(C) Ashok K Lahiri
(D) Rakesh Mohan
70. US is selling C-17 transport aircraft to India at an estimated cost of \$366.2 million. The aircraft has been manufactured by
(A) Lockheed Martin
(B) Northrop Grumman
(C) Boeing
(D) Safran Group

71. Who received Jnanpith Award in 2016?
- (A) Raghubir Chaudhuri
 - (B) Shankha Ghosh
 - (C) Amar Patnaik
 - (D) Amrinder Singh
72. The recent controversy on the role of the West Bengal Governor is related to
- (A) Article 154
 - (B) Article 162
 - (C) Article 163
 - (D) Article 167
73. M. F. Hussain left India and was conferred nationality of
- (A) Saudi Arabia
 - (B) UAE
 - (C) Qatar
 - (D) Bahrain
74. Who is the writer of Solo?
- (A) Rana Dasgupta
 - (B) Upamanyu Chatterjee
 - (C) Shobhaa De
 - (D) Rahul Mehta
75. Who authored 'The God Man Jesus and the Scoundrel Christ'?
- (A) Kitty Kelley
 - (B) Javier Moro
 - (C) Philip Pullman
 - (D) Aamer Hussein
76. Sarnath is associated with which aspect of Buddha's life?
- (A) Residence
 - (B) Death
 - (C) First sermon
 - (D) None of the above
77. Which of the following agencies of the UN existed since World War I?
- (A) ILO
 - (B) WHO
 - (C) FAO
 - (D) UNESCO
78. Which organ of the UN has ceased to be functional?
- (A) Trusteeship Council
 - (B) Secretariat
 - (C) International Court of Justice
 - (D) Economic and Social Council
79. Who wrote the book "Utopia"?
- (A) Machiavelli
 - (B) Erasmus
 - (C) Thomas More
 - (D) Cervantes
80. The first newspaper in the world was started in
- (A) Japan
 - (B) China
 - (C) USA
 - (D) India

81. Who among the following lived after others?

- (A) Aristotle
- (B) Confucious
- (C) Gautama Buddha
- (D) Jesus Christ

82. World War II began when Germany invaded

- (A) Russia
- (B) Austria
- (C) France
- (D) Poland

83. Battle of Waterloo was fought in the year

- (A) 1800
- (B) 1805
- (C) 1807
- (D) 1815

84. Who was the President of America during the Civil War?

- (A) Abraham Lincoln
- (B) George Washington
- (C) Andrew Jackson
- (D) James Madison

85. The Meiji Revolution in Japan resulted in the

- (A) division of the nation between the European powers.
- (B) modernisation of the nation's industry.
- (C) abolition of the position of the emperor.
- (D) government being controlled by the Samurai.

86. Who among the following was member of the Lok Sabha during his Prime Ministership?

- (A) Deve Gowda
- (B) I.K. Gujral
- (C) Chandrasekhar
- (D) Manmohan Singh

87. Which of the following calls itself as the 'Land of 10000 lakes' in North America?

- (A) North Dakota
- (B) Washington
- (C) Montana
- (D) Minnesota

88. Which of the following pair is not true?

- (A) Christmas : Birth of Jesus Christ
- (B) Good Friday : Crucifixion of Jesus
- (C) Easter : Rebirth of Jesus
- (D) Ascension Day : Ascension of Father Saint Paul

89. With which one of the following is the Tennis Court Oath associated?

- (A) English Revolution
- (B) American Revolution
- (C) French Revolution
- (D) Russian Revolution

90. The Tiananmen Square massacre in China was a reaction to

- (A) Deng Xiaoping's plan to revive the Cultural Revolution
- (B) Student demands for individual rights
- (C) China's invitation to western investors
- (D) China's attempt to introduce 'market socialism'

91. Which one of the following is the major constituent of the Indian Foreign Exchange Reserve?
- (A) Gold
(B) SDRs
 (C) Foreign Currency Assets
(D) Reserve Tranche Position of India in IMF
92. Which one of the following ports is a major port of India?
- (A) Port Blair Port
(B) Ennore
(C) Paradeep
(D) None of the above
93. Which kind of the power accounts for the largest share of power generation in India?
- (A) Nuclear
(B) Hydro-electricity
 (C) Thermal
(D) Solar
94. How much percentage of the cost incurred in the Indira Awas Yojana Scheme for rural housing is shared between union and states?
- (A) 50 : 50
(B) 65 : 35
(C) 75 : 25
 (D) 90 : 10
95. Which one of the following export items of India has the highest share in the world in the last five years?
- (A) Diamonds
(B) Oil-cake and other solid residues
(C) Ferro-alloys
(D) Footwear with outer soles of rubber, plastic and leather
96. Which Commission recommended the partition of Punjab into two states of Punjab and Haryana?
- (A) Dhar Commission
(B) Dass Commission
(C) Shah Commission
(D) Mahajan Commission
97. Which article of the Constitution of India is the 'heart and soul of the Constitution', according to Dr. B.R. Ambedkar?
- (A) Article 21
(B) Article 226
(C) Article 14
 (D) Article 32
98. The Cabinet Mission Plan for India envisaged:
- (A) Federation
(B) Confederation
(C) Unitary form of government
 (D) Union of states
99. Gas released during Bhopal tragedy was:
- (A) Sodium isothiocyanate
(B) Ethyl isothiocyanate
(C) Potassium isothiocyanate
 (D) Methyl isothiocyanate
100. The article which ensures environment protection in the Constitution of India is
- (A) 38A
(B) 48A
 (C) 51A
(D) 61A

101. Natural rubber is a polymer of
(A) Isoprene
(B) Styrene
(C) Vinyl acetate
(D) Butadiene
102. Tollen's reagent is
(A) Alkaline mercuric chloride
(B) Alkaline potassium permanganate
(C) Ammoniacal silver nitrate
(D) Ammonium citrate
103. Paraffin wax is
(A) Ester
(B) Alcohol
(C) unsaturated hydrocarbons
(D) saturated hydrocarbons
104. Which one of the following gas is used for artificial ripening of fruits?
(A) Methane
(B) Acetylene
(C) Ethylene
(D) Propane
105. Which one of the following materials does not show piezoelectric behavior?
(A) Quartz
(B) Rochelle salt
(C) Rutile
(D) Barium titanate
106. The melting point of silica is
(A) 1723° C
(B) 2050° C
(C) 2300° C
(D) 1810° C
107. The BET study is performed to measure
(A) particle size distribution.
(B) specific surface area.
(C) dielectric constant.
(D) specific gravity.
108. The potash feldspar is known as
(A) Orthoclase
(B) Albite
(C) Anorthite
(D) Dickite
109. The acid employed for etching of glass is
(A) HCl
(B) HNO₃
(C) Aqua-regia
(D) HF
110. Which one of the following remains in solid state at room temperature?
(A) Cl₂
(B) F₂
(C) I₂
(D) Br₂

111. Marsh gas contains

- (A) CO_2
- (B) CH_4
- (C) N_2
- (D) C_2H_6

112. Which one of following constitutes the common glass composition?

- (A) Sodium Silicate
- (B) Calcium Silicate
- (C) Calcium and Sodium Silicate
- (D) Lead Silicate

113. Stainless steel contains

- (A) Fe + Cr + Ni ✓
- (B) Fe + Ni + Cu ✗
- (C) Fe + Mn + Cr
- (D) Fe + Co + Ni

114. Iron loses its magnetic property at

- (A) Melting point
- (B) Curie point
- (C) 1000°C
- (D) Boiling point

115. Bell metal is an alloy of

- (A) Cu + Sn
- (B) Cu + Zn
- (C) Cu + Ni
- (D) Cu + Mn

116. Which element has the greatest ductility property?

- (A) Cu
- (B) Ag
- (C) Au
- (D) Pt

117. Aluminum is extracted from bauxite by

- (A) Bayer's process
- (B) Downs process
- (C) Solvay process
- (D) Oswald process

118. The main radioactive element of pitch blende ore is

- (A) Ra
- (B) Th
- (C) U
- (D) Po

119. The maximum consumption of refractories involves in

- (A) Glass Industries
- (B) Iron and Steel Plants
- (C) Cement Plants
- (D) Petroleum Industries

120. The most common element in the universe is

- (A) Fe
- (B) Ca
- (C) Al
- (D) Si

121. The process of zone refining is used for ultra-purification of

- (A) Silicon
- (B) Germanium
- (C) Gallium
- (D) All of the above

122. The base composition of whiteware body contains

- (A) Clay, Quartz and Talc
- (B) Quartz, Clay and Feldspar
- (C) Talc, Bauxite and Wollastonite
- (D) Clay, Gypsum and Feldspar

123. Which of the following metals do not form amalgam?

- (A) Iron
- (B) Sodium
- (C) Zinc
- (D) Magnesium

124. Jam-jelly can be preserved by adding small percentage of

- (A) HCHO
- (B) EDTA
- (C) sodium benzoate
- (D) CH_3COOH

125. Reverse of swelling of gel is known as

- (A) Syneresis
- (B) Intestine
- (C) Adrenal gland
- (D) Blood

126. Federation Cup is associated with

- (A) Cricket
- (B) Football
- (C) Tennis
- (D) Hockey

127. India won its first Olympic hockey gold in

- (A) 1918
- (B) 1928
- (C) 1936
- (D) 1932

128. Most hazardous metal pollutant of automobile battery is

- (A) Mercury
- (B) Cadmium
- (C) Lead
- (D) Copper

129. Domestic waste causes

- (A) Air pollution
- (B) Effluents
- (C) Biodegradable pollution
- (D) Non-biodegradable pollution

130. Major aerosol pollutant in jet plane emission is

- (A) Sulphur dioxide
- (B) Carbon monoxide
- (C) Methane
- (D) Fluorocarbon

131. In ecosystem, which one shows one way passage?

- (A) Free energy
- (B) Nitrogen
- (C) Carbon
- (D) Potassium

132. Main source of water and soil pollution is

- (A) Agro industry
- (B) Thermal power plant
- (C) Industrial effluents
- (D) All of the above

133. Which one of the following clay has the highest cation exchange capacity (CEC)?

- (A) Bentonite
- (B) Halloysite
- (C) Ball clay
- (D) China clay

134. The diameter of a human hair is about

- (A) 50 μm
- (B) 50 nm
- (C) 100 μm
- (D) 100 nm

135. Young of cockroaches is called

- (A) Ephyra
- (B) Nymph
- (C) Maggot
- (D) Juvenile

136. The study of the microscopic structure of tissues, is called

- (A) Orology
- (B) Osteology
- (C) Histology
- (D) Seromology

137. Ornithology is the study of

- (A) Mammal
- (B) Bat
- (C) Fishes
- (D) Birds

138. Leaf spot disease of rice is caused by

- (A) Fungus
- (B) Bacteria
- (C) Virus
- (D) None of the above

139. Black heart of potato is due to

- (A) deficiency of copper.
- (B) deficiency of boron.
- (C) deficiency of oxygen.
- (D) deficiency of potassium.

140. The cell wall of xylem cells is rich in

- (A) Starch
- (B) Protein
- (C) Lipid
- (D) Lignin

141. Growth movement in plant due to light is called
(A) Thigmotropism ✗
(B) Phototropism ✓
(C) Geotropism ✗
(D) Hydrotropism ✗
142. Which of the following is used as bio-fertilizer?
(A) Azola
(B) Urea ✗
(C) Bagasse
(D) Clostridium ✗
143. Red colour of red sea is due to
(A) Moss
(B) Bacteria
(C) Fungi
(D) Algae ✓
144. Bacteria was discovered first by
(A) Leeuwenhoek ✓
(B) Louis Pasteur
(C) Robert Hook
(D) Robert Koch
145. Who is known as father of taxonomy?
(A) Angler
(B) Aristotle ✗
(C) Linnaeus ✓
(D) Charles Darwin
146. Spermology is the study of
(A) Leaf ✗
(B) Pollen grain ✓
(C) Fruit ✗
(D) Seed ✗
147. Which one is responsible for white lung cancer?
(A) Asbestos ✓
(B) Lead
(C) Mercury
(D) None of the above
148. Which is not a pollutant?
(A) Mercury
(B) Arsenic
(C) Lead
(D) Alumina ✓
149. Mercury is emitted into air by
(A) burning coal
(B) burning garbage ✓
(C) steam boiler
(D) diesel engine
150. Vitamin B₁₂ is also known as
(A) Pyridoxine
(B) Ascorbic acid
(C) Riboflavin ✓
(D) None of the above

151. Which one of the following is not peroxide?
(A) BaO_2
(B) Na_2O_2
(C) H_2O_2
 (D) MnO_2
152. Atomic packing density in FCC lattice is
(A) 0.47
(B) 0.68
(C) 0.74
(D) 1.0
153. Water attains maximum density at
(A) 0°C
(B) 4°F
(C) 4 K
 (D) 4°C
154. If two bulbs of 25 W and 100 W rated at 220 V, are connected in series across 440 V supply
 (A) 25 W bulb will fuse.
(B) 100 W bulb will fuse.
(C) None of these will fuse.
(D) Both will fuse.
155. 4.4 g of CO_2 occupies how many litres of CO_2 at STP?
(A) 2.4
 (B) 2.24
(C) 44
(D) 22.4
156. If the lengths and two diagonals of a rectangle are each increased by 6%, find % increase in its breadth.
(A) 5%
(B) 6%
(C) 7%
(D) 8%
157. The aspect ratio is the ratio of
(A) x axis : y axis
(B) $\sin\theta : \cos\theta$
(C) Length : Width
(D) None of the above
158. Refractive index of a medium is defined by
(A) the ratio of the cosine of the angles of incidence and refraction of light is constant when it passes between two given media.
 (B) the ratio of the sine of the angles of refraction and incidence of light is constant when it passes between two given media.
 (C) the ratio of the sine of the angles of incidence and refraction of light is constant when it passes between two given media.
(D) None of the above
159. The contact angle of Hg on glass
 (A) $= 90^\circ$
(B) $> 90^\circ$
(C) $< 90^\circ$
(D) None of the above
160. Forward chemical reactions happened only if
(A) $\Delta G = 0$
 (B) $\Delta G > 0$
(C) $\Delta G < 0$
(D) None of the above

161. The gases responsible for green house effect are

- (A) O_2
- (B) CO_2
- (C) N_2
- (D) SO_2

162. Electronic polarization in dielectric materials occurred in frequency around

- (A) kHz
- (B) MHz
- (C) GHz
- (D) None of the above

163. Diamond has the Moh's scale hardness number of

- (A) 5
- (B) 7
- (C) 10
- (D) 9

164. Bakelite is the product of

- (A) addition polymerization
- (B) condensation polymerization
- (C) co-polymerization
- (D) None of the above

165. High polymerization of ethylene is done by using

- (A) Zeolite catalyst
- (B) V_2O_5 catalyst
- (C) Zeiglar-Natta catalyst
- (D) Pt-Mo catalyst

166. The isotope used for cancer therapy

- (A) I^{80}
- (B) Co^{60}
- (C) C^{14}
- (D) Ra^{223}

167. Chemical used as insecticide is

- (A) γ -BHC
- (B) Methyl salicylate
- (C) Iodoform
- (D) TNT

168. Number of unpaired electrons present in Cu^{2+}

- (A) 3
- (B) 5
- (C) 2
- (D) 7

169. Which one of these is not a transitional metal?

- (A) Ti
- (B) Cr
- (C) Ni
- (D) Zn

170. Pasteurization of milk in Dairy farm is conducted by

- (A) Ozone
- (B) UV rays
- (C) Chlorine
- (D) Microwave

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171. Diazo-coupling reaction between diazonium salt and naphthol produces
- (A) Green dye
 - (B) Yellow dye
 - (C) Red dye
 - (D) Blue dye
172. Chemical formula of Grignard reagent is
- (A) R-Mg-X
 - (B) R-Ca-X
 - (C) R-Sr-X
 - (D) None of the above
173. The Crown glass is an
- (A) Optical glass
 - (B) Radiation shield glass
 - (C) Safety glass
 - (D) Toughened glass
174. An intrinsic semiconductor has forbidden gap of
- (A) 2eV
 - (B) > 2eV
 - (C) < 2eV
 - (D) None of the above
175. The term 'chukker' is used in
- (A) Rifle shooting
 - (B) Horse racing
 - (C) Wrestling
 - (D) Polo
176. The structure of α -alumina is
- (A) Trigonal
 - (B) Orthorhombic
 - (C) Hexagonal
 - (D) Cubic
177. The specific gravity of β -quartz is
- (A) 2.32g/cc
 - (B) 2.63g/cc
 - (C) 2.53g/cc
 - (D) 2.2g/cc
178. Which of the following behaves as chemically most active non-metal?
- (A) F_2
 - (B) He
 - (C) N_2
 - (D) O_2
179. A mixture of carbon monoxide and hydrogen is called
- (A) natural gas
 - (B) water gas
 - (C) producer gas
 - (D) None of the above
180. Which fuel has the maximum calorific value?
- (A) Charcoal
 - (B) Kerosene
 - (C) Wood
 - (D) LPG

181. The hydrolysis of cane sugar is catalyzed by
(A) H^+
(B) Enzymes
(C) Mineral acid
(D) All of the above
182. The catalyst used in the hydrogenation of oils is
(A) V_2O_5
(B) Ni
(C) Fe
(D) Pt
183. Hydrochloric acid is also known as
(A) Chloric acid
(B) Muriatic acid
(C) Galic acid
(D) Picric acid
184. Which one of the following element is essential for the construction of nuclear reactors?
(A) Tungsten
(B) Platinum
(C) Cobalt
(D) Zirconium
185. What is software?
(A) A type of computer code
(B) A computer language
(C) A set of instructions for your computer
(D) A cover for the computer
186. The operating system is the most common type of software.
(A) System
(B) Communication
(C) Application
(D) None of the above
187. A computer cannot boot if it does not have the
(A) compiler
(B) loader
(C) operating system
(D) assembler
188. PARAM was developed by
(A) IIT Kanpur
(B) C-DAC
(C) IIT Kharagpur
(D) None of the above
189. For television broadcasting, the frequency range employed normally varies from
(A) 30 — 300 MHz
(B) 30 — 300 GHz
(C) 30 — 300 kHz
(D) 30 — 300 Hz
190. Modern communication systems are based on
(A) Analog circuits
(B) digital circuits
(C) combination of analog and digital circuits
(D) None of the above

191. A transistor is made of
(A) doped semiconductors
(B) intrinsic semiconductors
(C) a metal piece sandwiched between two intrinsic semiconductors
(D) None of the above
192. The isotope used as fuel in nuclear power plant is
 (A) U^{235}
 (B) U^{238}
(C) U^{233}
(D) U^{239}
193. A carbon microphone is best used in
(A) Dynamo
(B) Telephone
(C) Transformer
(D) None of the above
194. Martensitic steel has following crystal structure:
(A) BCC
(B) FCC
(C) BCT
(D) HCP
195. (Ni-Mn) ferrite is the example of material
(A) ferrimagnetic
(B) paramagnetic
(C) ferromagnetic
(D) None of the above
196. Soft iron is used in many parts of electrical machines for its
(A) Low hysteresis loss and low permeability
(B) High hysteresis loss and low permeability
(C) Large density and large retentivity
 (D) Low hysteresis loss and high permeability
197. Tangent galvanometer is used to measure
(A) Steady currents
(B) Currents impulses
(C) Earth's magnetic field
(D) None of the above
198. In a charged capacitor, the energy is stored as
 (A) Positive charge
(B) both as positive and negative charge
(C) the electric field between the plates
(D) the potential energy of the capacitor plates
199. Line spectrum is produced by
(A) the Sun
 (B) mercury vapour lamp
(C) candle
(D) electric bulb
200. The technique used to transmit audio signal in television broadcasting is
 (A) amplitude modulation
(B) frequency modulation
(C) pulse code modulation
(D) time division multiplexing

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