

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

T.B.C. : ESGC-A-GST

Test Booklet Series

Serial No.

1011249

TEST BOOKLET

Paper—I

(GENERAL STUDIES)



Time Allowed : Two Hours

Maximum Marks : 100

INSTRUCTIONS

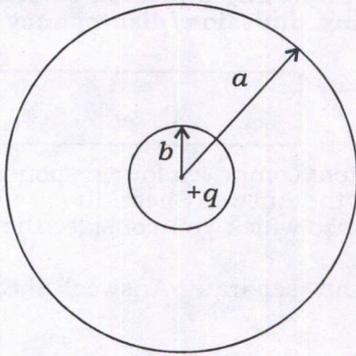
1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. *DO NOT* write *anything else* on the Test Booklet.
4. This Test Booklet contains **120** items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
5. You have to mark all your responses *ONLY* on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. *All* items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the 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 with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the Answer Sheet*. You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers :**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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

1. An electromagnetic wave with its magnetic field $\mathbf{B} = 0.3 \cos(ky - 10^8 t) \hat{i}$ tesla is propagating in a non-magnetic dielectric medium of refractive index 2. The wavelength of the wave is

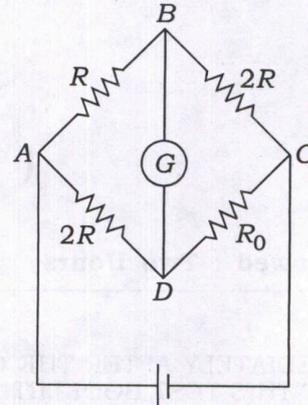
- (a) 6π m
- (b) 3π m
- (c) 0.3 m
- (d) $(2\pi/3)$ m

2. A spherical conductor of radius a has a cavity of radius b at its centre such that $a > b$. A positive charge q is placed at its centre (see in the figure). The electric fields in the regions $b < r < a$ and $r > a$ are respectively



- (a) $\frac{q}{4\pi\epsilon_0 a^2}$ inward and $\frac{q}{4\pi\epsilon_0 b^2}$ outward
- (b) $\frac{q}{4\pi\epsilon_0 r^2}$ inward and zero
- (c) zero and $\frac{q}{4\pi\epsilon_0 r^2}$ outward
- (d) zero and zero

3. For a given system of resistors having resistances $R, 2R, R_0$ and $2R$ (shown in the figure), what will be the value of resistance of the resistor R_0 , when there is NO current in the galvanometer G ?



- (a) $R_0 = 0$
- (b) $R_0 = R$
- (c) $R_0 = 2R$
- (d) $R_0 = 4R$

4. A cyclotron has an oscillator frequency of 12×10^6 Hz and 'Dee' radius of 21 inches. The value of magnetic induction (field) needed to accelerate a deuteron (mass = 3.34×10^{-27} kg and charge = 1.6×10^{-19} C) is

- (a) 1.573 tesla
- (b) 157.3 tesla
- (c) 15.73 tesla
- (d) 0.157 tesla

5. When white light propagating in air passes through a glass prism, it splits into a band of colours referred to as the white light spectrum. This phenomenon is called the dispersion of light. Among the following colours, the angle of deviation will be the highest in

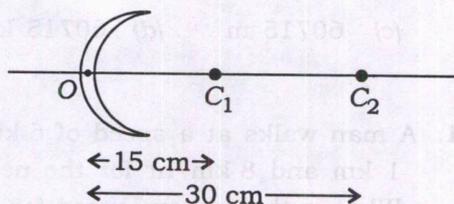
- (a) yellow
- (b) green
- (c) orange
- (d) red

6. Why do we prefer to have a liquid and not a gas to be used as the fluid in a hydraulic machine?
- (a) Liquids are compressible while gases are not.
 (b) Liquids are nearly incompressible and transfer the pressure applied to them.
 (c) Liquids are nearly incompressible and do not transfer the pressure applied to them.
 (d) Liquids are compressible and transfer the pressure applied to them.
7. A threshold frequency for photoelectric emission in copper is 1.1×10^{15} Hz. When the light of frequency 1.2×10^{15} Hz is directed on the copper surface, the maximum energy of emitted particles would be (Planck's constant is 6.62×10^{-34} J-s and the charge on the electron is 1.6×10^{-19} C)
- (a) 0.414 eV (b) 4.14 eV
 (c) 41.4 eV (d) 0.828 eV
8. The masses of ${}^4_2\text{He}$, ${}^3_1\text{H}$ and ${}^1_1\text{H}$ nuclides are respectively 4.002603 amu, 3.016056 amu and 1.007276 amu. How much energy should a γ -ray photon possess if it is to split an α -particle into a tritium (${}^3_1\text{H}$) and a proton (${}^1_1\text{H}$)? (Given that 1 amu of mass is equivalent to 931 MeV)
- (a) 19.30 MeV (b) 0.931 MeV
 (c) 0.021 MeV (d) 0.194 MeV
9. A 10 keV electron (mass = 9.1×10^{-31} kg and charge = 1.6×10^{-19} C) enters perpendicularly into the Earth's magnetic field (5×10^{-5} T). Its Larmor radius is
- (a) 5.93 km (b) 5.93 m
 (c) 6.75 km (d) 6.75 m
10. A transmitting antenna at the top of a tower has a height 32 m and the height of the receiving antenna is 128 m. What is the maximum distance between them for satisfactory communication in Line of Sight mode? (The radius of the Earth = 6400 km)
- (a) 45254 km (b) 45254 m
 (c) 60715 m (d) 60715 km
11. A man walks at a speed of 6 km/hr for 1 km and 8 km/hr for the next 1 km. What is the average speed for the walk of 2 km?
- (a) 6.86 km/hr (b) 14 km/hr
 (c) 3.5 km/hr (d) 1.4 km/hr
12. A particle moves in a circle of radius 0.2 m. Its linear speed is given by $v = 2t$, where t is in seconds and v is in m/s. The ratio of tangential to radial accelerations at $t = 3$ seconds would be
- (a) 1:1 (b) 1:90
 (c) 1:9 (d) 1:10

13. Which one among the following is the sum of moments of inertia (about a tangent to curved surface) of a solid cylinder and a solid sphere? (The masses and radii of both the cylinder and the sphere are M and R respectively)

- (a) $(17/5)MR^2$ (b) $2MR^2$
 (c) $(12/5)MR^2$ (d) $(29/10)MR^2$

14. The focal length of a thin lens made up of glass of refractive index 1.5 (see the figure below) having two centres of curvatures C_1 and C_2 with 15 cm and 30 cm as radii of curvatures respectively, would be



- (a) 45 cm (b) 10 cm
 (c) 60 cm (d) 6 cm

15. The saturation vapour pressure at 300 K is 3.6 kPa and the gas constant R is 8.3 J/(K-mol). The mass of water vapour per m^3 of air at temperature 300 K and relative humidity 50% is

- (a) 13 g (b) 26 g
 (c) 52 g (d) 39 g

16. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I (Phenomenon)	List-II (Approximate temperature)
A. The freezing point of benzene	1. 300 K
B. The room temperature	2. 600 K
C. The normal human body temperature	3. 279 K
D. The melting point of lead	4. 310 K

Code :

- (a) A B C D
 3 4 1 2
 (b) A B C D
 2 1 4 3
 (c) A B C D
 2 4 1 3
 (d) A B C D
 3 1 4 2

17. The ratio of electrostatic potentials at a distance of 1 angstrom from the proton (charge = 1.6×10^{-19} C and mass = 1.67×10^{-27} kg) and from the electron (charge = 1.6×10^{-19} C and mass = 9.1×10^{-31} kg) would be

- (a) 1 : 1
 (b) 1.67 : 9.1
 (c) 1.67 : 0.00091
 (d) 1 : 2

18. A glass bar (refractive index = 1.5) is immersed in a liquid having the same refractive index as that of glass. The angle of incidence for a light ray at which the light would be transmitted through the glass bar without reflecting is

- (a) 30° (b) 45°
(c) 60° (d) 75°

19. A sound wave consists of

- (a) a compression pulse and a rarefaction pulse separated by a distance of one wavelength
(b) compression and rarefaction pulses one after the other
(c) a number of rarefaction pulses one after the other
(d) a number of compression pulses one after the other

20. Which one of the following statements is **not** true?

- (a) The centripetal acceleration is always directed towards the centre.
(b) The motion of an object is called uniform circular motion if the object follows a circular path at a constant speed.
(c) The velocity vector of a particle at a point is always along the tangent to the path of the particle at that point.
(d) The net acceleration of a particle in circular motion is always along the radius of the circle towards the centre.

21. The radius of the first stationary state orbit of hydrogen atom is

- (a) 5.0 \AA (b) 52.9 pm
(c) 5.29 pm (d) 0.529 pm

22. Which one among the following is an example of olfactory indicator?

- (a) Litmus
(b) Methyl orange
(c) Phenolphthalein
(d) Onion

23. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Naturally occurring acid)	<i>List-II</i> (Main source)
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- | | |
|-------------------|--------------|
| A. Methanoic acid | 1. Orange |
| B. Citric acid | 2. Tomato |
| C. Tartaric acid | 3. Ant sting |
| D. Oxalic acid | 4. Tamarind |

Code :

- (a) A B C D
 3 1 4 2
- (b) A B C D
 2 4 1 3
- (c) A B C D
 3 4 1 2
- (d) A B C D
 2 1 4 3

24. Which one among the following constituents of cement is responsible for initial setting?

- (a) Calcium sulphate
- (b) Dicalcium silicate
- (c) Tricalcium aluminate
- (d) Tetracalcium alumina ferrate

25. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Pigment)	<i>List-II</i> (Colour)
A. PbO	1. Yellow
B. Pb ₃ O ₄	2. Red
C. Cr ₂ O ₃	3. Green
D. Graphite	4. Black

Code :

- (a) A B C D
 4 3 2 1
- (b) A B C D
 1 2 3 4
- (c) A B C D
 1 3 2 4
- (d) A B C D
 4 2 3 1

26. Water has its maximum density at which one of the following temperatures?

- (a) 273 K (b) 277 K
- (c) 373 K (d) 298 K

27. Which one of the following properties of an element was considered by Mendeleev in order to form his Periodic Table?

- (a) Atomic volume
- (b) Atomic mass
- (c) Atomic number
- (d) Vapour density

28. Which one among the following statements for the reaction between a metal and nitric acid is **not** correct?

- (a) Nitric acid acts as an oxidizing agent.
- (b) Hydrogen liberated in the reaction is converted into water.
- (c) Gaseous nitrogen is always obtained as a final product.
- (d) Magnesium reacts with very dilute nitric acid to liberate hydrogen gas.

29. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I
(Compound)

- A. H_2O
B. Na_2O
C. Al_2O_3
D. CO_2

List-II

(Type of oxide)

1. Amphoteric
2. Acidic
3. Neutral
4. Basic

Code :

- (a) A B C D
3 4 1 2
(b) A B C D
2 1 4 3
(c) A B C D
3 1 4 2
(d) A B C D
2 4 1 3

30. Which one of the following reactions correctly represents the respiration reaction?

- (a) $2H_2 + O_2 \rightarrow 2H_2O$
(b) $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
(c) $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$
(d) $C_6H_{12}O_6 + H_2O \rightarrow C_6H_{12}O_7 + H_2$

31. Which one of the following statements is **not** correct?

- (a) Water at $0^\circ C$ will have more energy than that of ice at $0^\circ C$.
(b) Temperature of ice remains constant as long as its melting is not complete.
(c) Water vapour at $100^\circ C$ will have more energy than that of water at $100^\circ C$.
(d) Temperature of water varies during the process of vaporization.

32. Separation of the isotope of uranium requires a physical method rather than a chemical method. It is so mainly because

- (a) it is too dangerous to mix other chemicals with uranium
(b) the isotopes are chemically the same element
(c) the isotopes differ in number of neutrons
(d) natural uranium contains only 0.7% U-235

33. Which one of the following compounds is produced in human stomach?

- (a) Milk of magnesia
(b) Nitric acid
(c) Hydrochloric acid
(d) Citric acid

34. The rate of evaporation of a liquid decreases with an increase in

- (a) surface area
(b) temperature
(c) humidity
(d) wind speed

35. Consider the following elements :

1. Bromine
2. Phosphorus
3. Mercury
4. Radon

How many of the above elements are found in liquid form at $25^\circ C$ and at 1 atm?

- (a) 1 (b) 2
(c) 3 (d) 4

36. Which of the following associations is/are example/examples of mutualism?

1. Mycorrhizae : Fungi and roots of higher plants
2. Lichens : Fungi and photosynthetic algae
3. Pollination : Mustard flower and honeybees

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 1 and 3 only

37. Which one of the following adaptive characteristics of the organism is correct?

- (a) Mammals in colder climates have shorter ears and limbs.
- (b) In polar seas, seals tend to have thinner layers of fat below their skin.
- (c) Plants in deserts tend to have broader and elaborate leaves.
- (d) In higher altitudes, the production of RBC in human body decreases.

38. Xerophytic plants adapt to the hot arid regions by

- (a) developing thick cuticle on their leaf surfaces
- (b) opening stomata only during the day
- (c) having photosynthetic roots
- (d) growing leaves only during the winter

39. Which among the following stages of cell cycle is correctly matched in its characteristics?

- (a) Interphase : Growth of cell and replication of DNA
- (b) Interphase : Cell begins to separate its DNA contents
- (c) Mitotic phase : Growth of cell and DNA replication
- (d) Mitotic phase : Both the daughter cells are provided with double the amount of DNA

40. Which one of the following sets of diseases is example of polygenic disorders?

- (a) Sickle cell anaemia, Haemophilia, Hypertension
- (b) Hypertension, Coronary heart disease, Diabetes
- (c) Duchenne muscular dystrophy, Colour blindness, Diabetes
- (d) Achondroplasia, Cystic fibrosis, Tay-Sachs disease

41. Which one of the following is **not** associated with the Jhum cultivation in Northeastern States of India?

- (a) Deforestation
- (b) Conservation of natural habitats of wild flora and fauna
- (c) Slash and burn agriculture
- (d) Shifting agriculture

42. Which one of the following Protocols was signed in the year 1987 to reduce the production and use of ozone-depleting substances?

- (a) Kyoto Protocol
- (b) Montreal Protocol
- (c) Nagoya Protocol
- (d) Cartagena Protocol

43. Which one of the following statements is correct?

- (a) UV-B radiations damage DNA but do not cause mutation.
- (b) Cornea in human eyes absorbs UV-B radiations.
- (c) UV radiations of wavelength greater than UV-B are completely absorbed by the Earth's atmosphere.
- (d) UV-B radiations may be useful to treat snow blindness.

44. Which one of the following viruses is considered to be responsible for COVID-19?

- (a) SARS-CoV-2
- (b) SARS-CoV-19
- (c) SARS-CoV-20
- (d) SARS-CoV-1

45. Clustered Regularly Interspaced Short Palindromic Repeats are associated with

- (a) gene-editing method
- (b) designing a guide DNA
- (c) Norman Myers and Stanley Cohen
- (d) double-strand break and template-guided RNA repair

46. Consider the following statements :

It is an extremely cold wind laden with dry snow. This wind has sub-freezing temperature and carries abundant supply of ice crystals and snow.

The statements are related to

- (a) Harmattan (b) Tramontane
- (c) Chinook (d) Blizzard

47. The Tropic of Capricorn does **not** pass through

- (a) Uruguay (b) Paraguay
- (c) Chile (d) Brazil

48. Llamas are typically reared in

- (a) Arctic region
- (b) sub-Saharan region
- (c) Andes mountain region
- (d) Great Karoo region

49. The cultivation of which one of the following crops was introduced in the Baba Budan Hills?

- (a) Tea (b) Coffee
- (c) Apple (d) Pineapple

50. Among the following, which one is the least in percentage by volume in the atmosphere?

- (a) Hydrogen (b) Argon
- (c) Helium (d) Neon

51. In which among the following atmospheric layers, the temperature increases with height?

- (a) Mesosphere and Thermosphere
- (b) Stratosphere and Mesosphere
- (c) Stratosphere and Thermosphere
- (d) Troposphere and Mesosphere

52. Which one among the following tectonic plates is **not** located in the Pacific Ocean?

- (a) Nazca Plate
- (b) Cocos Plate
- (c) Juan de Fuca Plate
- (d) Scotia Plate

53. Distance of about 147 million kilometres between the Sun and the Earth is found during the Earth's orbit around the Sun at the position of

- (a) Perihelion
- (b) Aphelion
- (c) Vernal Equinox
- (d) Autumnal Equinox

54. Which one among the following rivers is a tributary of river Hooghly?

- (a) Padma (b) Jamuna
- (c) Damodar (d) Meghna

55. Consider the following characteristics of a type of soil as given by the Natural Resources Conservation Service (NRCS) :

1. It develops in poorly drained areas.
2. It is largely composed of slowly decomposing plant material.
3. It is common in Tundra areas.

On the basis of the above characteristics, identify the type of soil.

- (a) Entisols
- (b) Inceptisols
- (c) Histosols
- (d) Andisols

56. Exfoliation in rocks can occur due to forces induced by

1. carbonation
2. oxidation
3. temperature change

Select the correct answer using the code given below.

- (a) 1 and 2
- (b) 2 only
- (c) 3 only
- (d) 1 and 3

57. Which one of the following is related with the term 'Nephanalysis'?
- Albedo analysis
 - Cloud analysis
 - Analysis of pollution level in water
 - Analysis of nitrogen level in soil
58. Among the following local winds, which one is known as "Doctor's wind"?
- Chinook
 - Khamsin
 - Harmattan
 - Nor'wester
59. Which one among the following cities is **not** connected through the Trans-Canadian Railway line?
- Vancouver
 - Ottawa
 - Montreal
 - Yellowknife
60. The Govind Ballabh Pant National Institute of Himalayan Environment (GBPNIHE) has its Headquarters at
- Leh
 - Gangtok
 - Almora
 - Itanagar
61. The Deccan Riots of 1875 were peasant rebellions against which of the following classes?
- Zamindars
 - British Officials at Poona
 - Moneylenders/Sahukars
 - Patels/Village Headmen
62. Salt March was the first nationalist activity in which women participated in large numbers. Who among the following was instrumental in persuading Mahatma Gandhi not to restrict the protest to men alone?
- Kamaladevi Chattopadhyay
 - Avantika Bai Gokhale
 - Sarojini Naidu
 - Mithuben Petit
63. Who among the following commanders was **not** tried in the INA trials in the Red Fort, Delhi?
- P. K. Sahgal
 - G. S. Dhillon
 - Mohan Singh
 - Shah Nawaz Khan
64. Which one among the following pairs of organizations and their founders is **not** correctly matched?
- British Indian Association :
Radhakanta Deb and
Debendranath Tagore
 - Indian League :
Shishir Kumar Ghose
 - Bombay Association :
Sucheta Kripalani
 - Indian Association :
Surendranath Banerjee

65. Consider the following statements about the Virashaiva Movement :

1. The Virashaiva Movement was led by Basavanna.
2. Virashaivas worshipped Shiva in his manifestation as a Linga.
3. Vachanas, composed in Kannada, are the main compositions for understanding the Virashaiva tradition.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 only
- (d) 1, 2 and 3

66. Which of the following temples are constructed by Krishnadeva Raya?

1. Krishnadeva Temple
2. Hazara Rama Temple
3. Vitthalaswami Temple
4. Tiruvengalanatha Temple

Select the correct answer using the code given below.

- (a) 2 and 3 only
- (b) 1, 2 and 3 only
- (c) 1 and 4 only
- (d) 1, 2, 3 and 4

67. Among the Ashtapradhans of Shivaji, who among the following did **not** hold any military commands besides civil duties?

1. Peshwa
2. Amatya
3. Sumanta
4. Pandit Rao

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 and 3
- (c) 1 and 4
- (d) 4 only

68. The Battle of Chinhat was fought between

- (a) Shivaji and Mughal forces near Naneghat in 1676
- (b) the Marathas and Afghans in 1760 before the Third Battle of Panipat
- (c) the rebels of 1857 and British forces
- (d) Tipu Sultan and the Nizam in 1794

69. Who among the following is the most frequently invoked God in the *Rig Veda*?

- (a) Indra
- (b) Agni
- (c) Surya
- (d) Varuna

70. Which one of the following pairs of the Bhakti poets and their works is **not** correctly matched?

- (a) Jnaneshvara : *Bhavartha Deepika*
- (b) Jayadeva : *Gita Govinda*
- (c) Eknath : *Bhavartha Ramayana*
- (d) Tulsidas : *Adhyatma Ramayana*

71. Which of the following statements about the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 is/are correct?

1. It is based on the guidelines emerging from the Vishaka Judgment of the Supreme Court of India in 1997.
2. As per the Act, it is mandatory for an employer even with two employees to form an Internal Committee in the workplace.
3. Vishaka is the name of the woman complainant who filed the case.

Select the answer using the code given below.

- (a) 1 only (b) 2 and 3 only
(c) 1, 2 and 3 (d) 3 only

72. With reference to Article 16 of the Constitution of India, which of the following statements is/are correct?

1. Nothing in this Article shall prevent the State from making any provision for the reservation of appointments or posts in favour of any backward classes of citizens.
2. The State can deny a woman to be appointed as a doctor in the Army Medical Institutes on account of pregnancy.
3. Creamy layers amongst the backward classes of citizens are determined by income criteria only.

Select the answer using the code given below.

- (a) 1 only (b) 1 and 2 only
(c) 2 and 3 only (d) 1, 2 and 3

73. When the President of India is impeached for the violation of the Constitution, the charge shall be preferred by

- (a) the Lok Sabha
- (b) the Rajya Sabha
- (c) either House of the Parliament
- (d) the Lok Sabha followed by the Rajya Sabha

74. The Vice President of India, who is also the ex-officio Chairman of the Council of States, is elected by the Members of an Electoral College consisting of the Members of

- (a) the Rajya Sabha only
- (b) both the Houses of the Parliament
- (c) both the Houses of the Parliament and the Upper House of the State Legislatures
- (d) both the Houses of the Parliament and the Members of the Legislative Assemblies of States and UTs

75. Which country is the Chair of G20 for the year 2025?

- (a) China
- (b) Brazil
- (c) Russia
- (d) South Africa

76. The Constitution (106th Amendment) Act, 2023 reserves one-third of all seats for women in various Legislatures. For how many years will the reservation be available under this Act?

- (a) 10 years
- (b) 12 years
- (c) 15 years
- (d) 20 years

77. Which of the following statements about Money Bill is/are correct?

1. The Money Bill passed by the Lok Sabha shall be returned by the Rajya Sabha within 14 days with its recommendations.
2. The Lok Sabha shall agree to the recommendations of the Rajya Sabha on the Money Bill to consider it passed by both the Houses of the Parliament.
3. The Finance Minister has absolute powers to pass the Money Bill.

Select the answer using the code given below.

- (a) 1 only
(b) 2 only
(c) 1 and 2 only
(d) 1, 2 and 3

78. Consider the following statements :

1. The idea of the Fundamental Duties in the Constitution of India is inspired by the Constitution of Ireland.
2. The Fundamental Duties were incorporated in the Constitution of India upon the recommendations of the Swaran Singh Committee.
3. The Fundamental Duties are justiciable through a Writ.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

79. Which one among the following statements about the Directive Principles of State Policy (DPSP) is **not** correct?

- (a) It is not enforceable by any court.
(b) It is enforceable by courts, therefore, they are fundamental in the governance of the country.
(c) It envisions a social order where inequalities of income are minimized.
(d) It strives for equal pay for equal work for both men and women.

80. The Election Commission of India holds election for

- (a) the Parliament of India, State Legislatures and for the posts of the President and Vice President of India
(b) the Parliament, State Legislative Assemblies and State Legislative Councils only
(c) the Parliament of India only
(d) the Parliament of India and State Legislatures only

81. Which one among the following Articles of the Constitution of India provides the mandate for the implementation of the Uniform Civil Code (UCC) in India?

- (a) Article 41 (b) Article 44
(c) Article 47 (d) Article 51

82. The Padmaja Naidu Zoological Park is situated in which one among the following States?

- (a) Tamil Nadu (b) Karnataka
(c) Chhattisgarh (d) West Bengal

83. Which one of the following statements with reference to the Constitution of India is correct?

- (a) Part IX of the Constitution is about Municipalities.
- (b) Part IXB of the Constitution is about Cooperative Societies.
- (c) Part XV of the Constitution is about Tribunals.
- (d) Part XVI of the Constitution is about Elections.

84. 'Appiko Movement' for protecting the trees by hugging them began in which of the following States?

- (a) Maharashtra
- (b) Madhya Pradesh
- (c) Karnataka
- (d) Rajasthan

85. Consider the following statements about the development plans in India :

1. The concept of Five-Year Plan is inspired by the USSR.
2. The Planning Commission was established in the year 1950.
3. The Five-Year Plans were supposed to provide the basis for the Perspective Plans.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 1 only

86. The scientific name of Mango is *Mangifera indica* L. The word *indica* stands for which one of the following?

- (a) Generic name
- (b) General name
- (c) Species name
- (d) Specific epithet

87. Which one of the following is the main driver in explaining the cohesion-tension-transpiration pull model of water transport in plants?

- (a) Evapotranspiration
- (b) Transpiration
- (c) Cohesion process
- (d) Surface tension

88. Which one of the following combinations consists of essential components of biomolecules and structural elements of cells?

- (a) Carbon, hydrogen, oxygen and nitrogen
- (b) Magnesium and phosphorus
- (c) Iron, zinc and manganese
- (d) Calcium, potassium and sulphur

89. Which one of the following categories does **not** have photosynthetic pigments?

- (a) Algae
- (b) Fungi
- (c) Angiosperms
- (d) Gymnosperms

90. Which of the following organisms ingest dead organic matter and then digest internally and absorb the nutrients?
- Detritivores only
 - Saprotrophs only
 - Both detritivores and saprotrophs
 - Chemotrophs
91. Which one of the following statements about ecosystems is **not** correct?
- Ecosystems are not self-sustaining.
 - Nutrient cycling supplies inorganic nutrients.
 - Energy flows in ecosystems mostly rely on sunlight.
 - Ecosystems support communities of organisms.
92. The global temperature and CO₂ concentration for the last eight lakh years were deduced mainly from which one of the following?
- Fossil fuel
 - Tree annual ring
 - Ice coring in tropical mountain peaks
 - Ice coring in the Antarctic Plateau
93. In Germany, the date in the spring season when new leaves open on horse chestnut trees (*Aesculus hippocastanum*) has been recorded every year since 1951. Which one among the following groups of scientists primarily records such seasonal activities of plants?
- Physiologists
 - Phenologists
 - Taxonomists
 - Ecologists
94. The ability of corals to make their skeletons primarily depends on which one of the following factors?
- Temperature
 - pH
 - CO₂ concentration
 - Salt concentration
95. The International Botanical Congress held in 1892 proposed that the year 1753 be the reference year for biological nomenclature. It is because
- Genera Plantarum* was published in 1753
 - Species Plantarum* was published in 1753
 - Systema Naturae* was published in 1753
 - Philosophia Botanica* was published in 1753
96. The cooperative aggregates of microorganisms can form colonies on various surfaces by secreting signalling molecules. Which one of the following phenomena explains it?
- Biopile
 - Biomarker
 - Biofilm
 - Biomass
97. Which one among the following locations is also known for the strange phenomenon of alleged bird suicides?
- Diphu
 - Tura
 - Jatinga
 - Dirang

98. Which one of the following correctly explains a species' unique environmental requirements, its role and position in the spatial habitats at a given time?
- Ecological equivalent
 - Niche overlap
 - Niche expansion
 - Ecological niche
99. When *Paramecium caudatum* and *Paramecium aurelia* are cultured together under ideal laboratory conditions, the population of *Paramecium caudatum* may gradually be completely disappeared. Which one of the following laws or principles correctly explains it?
- Niche expansion
 - Niche replacement
 - Competitive exclusion principle
 - Adaptive radiation
100. Which one of the following species disproportionately affects ecosystem dynamics?
- Umbrella species
 - Flagship species
 - Priority species
 - Keystone species
101. Which one of the following is an example of endemic plant species of India?
- Prosopis juliflora*
 - Nepenthes khasiana*
 - Lantana camara*
 - Parthenium hysterophorus*
102. Which one of the following books expressed concern on the indiscriminate use of DDT and played major role in banning the use of DDT for agricultural use?
- Walden*
 - Half-Earth*
 - Silent Spring*
 - The End of Nature*
103. Which one of the following statements about nature reserves is **not** correct?
- These protect biodiversity.
 - These should always be small.
 - A circular reserve is generally superior to an extended strip of land with the same total area.
 - Several reserves may be connected by corridors.
104. Which one of the following pairs of Ramsar Sites and States is **not** correctly matched?
- Khijadia Wildlife Sanctuary : Gujarat
 - Rudrasagar Lake : Tripura
 - Bakhira Wildlife Sanctuary : Sikkim
 - Haiderpur Wetland : Uttar Pradesh
105. Which one of the following biogeochemical cycles is sedimentary in nature?
- Carbon cycle
 - Nitrogen cycle
 - Oxygen cycle
 - Phosphorus cycle

106. Purvodaya initiative, under the Union Budget 2024–25, includes which of the following States?

1. Bihar
2. Jharkhand
3. Odisha
4. West Bengal
5. Andhra Pradesh

Select the correct answer using the code given below.

- (a) 1, 2, 3 and 4 only
- (b) 3 and 4 only
- (c) 1, 2 and 5 only
- (d) 1, 2, 3, 4 and 5

107. Consider the following statements with reference to the Presidential elections of the USA :

1. California has the largest allocation of votes in the Electoral College.
2. In 2016, Hillary Clinton won more percentage of popular votes than Donald Trump.
3. A Presidential candidate cannot win an election without winning highest percentage of popular vote.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 3 only

108. Which/Who among the following has been selected for the Nobel Peace Prize, 2024?

- (a) The World Food Programme
- (b) Dmitry Muratov
- (c) Nihon Hidankyo
- (d) Ales Bialiatski

109. The 19th East Asia Summit (EAS) was held in

- (a) Phnom Penh
- (b) Jakarta
- (c) Bandar Seri Begawan
- (d) Vientiane

110. The host country of the inaugural Kho Kho World Cup, 2025 is

- (a) Bangladesh
- (b) India
- (c) Pakistan
- (d) India and Bangladesh jointly

111. The Species Survival Commission of the International Union for Conservation of Nature (IUCN) conferred the 'Harry Messel Award (2024)' upon

- (a) Jadav Payeng
- (b) Dr. Krithi Karanth
- (c) Bibhab Kumar Talukdar
- (d) Kinkri Devi

112. Which one of the following films was awarded the National Film Award, India in 2024 in the category of Best Feature Film promoting National, Social and Environmental Values?

- (a) *Gulmohar*
- (b) *Kutch Express*
- (c) *Uunchai*
- (d) *Kaberi Antardhan*

113. Naseem-Al-Bahr, held in October 2024, was a joint maritime exercise between the navies of India and

- (a) Indonesia
- (b) Azerbaijan
- (c) Oman
- (d) Qatar

114. Which one of the following countries hosted the QUAD Leaders' Summit in 2024?

- (a) India
- (b) Australia
- (c) The USA
- (d) Japan

115. In Vazhachal forest division, tribal community members are being engaged in the removal of invasive species from the forest. Identify the tribe.

- (a) Katkari
- (b) Kadar
- (c) Bamcha
- (d) Bhil

116. The National Maritime Heritage Complex (NMHC) is proposed to be developed at which one of the following places?

- (a) Lothal
- (b) Porbandar
- (c) Kandla
- (d) Okha

117. Which one of the following statements about Tele MANAS App is correct?

- (a) It has been launched by the Ministry of Home Affairs, Government of India for the safety of the girl child.
- (b) Parents of children under 14 years can report through this App directly to the Ministry of Health and Family Welfare, Government of India about nutritional deficiencies of their children.
- (c) It is a Mobile App for providing support for mental health issues.
- (d) This App has been launched by the Ministry of Education, Government of India for holistic curricular development of schoolchildren.

118. With regard to the findings of the Second All India Rural Financial Inclusion Survey of NABARD, which of the following statements is/are correct?

- 1. The average monthly income of rural households saw a rise over a five-year period from 2016–17 to 2021–22.
- 2. The average monthly expenditure of rural households saw a decline over a five-year period from 2016–17 to 2021–22.

Select the answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

119. Consider the following States :

- 1. Kerala
- 2. Karnataka
- 3. Chhattisgarh
- 4. Bihar

Which of the above States celebrate their Foundation Day on November 1?

- (a) 1 and 2 only
- (b) 2 and 4
- (c) 1, 2 and 3
- (d) 1, 3 and 4

120. Which of the following statements about the 'Kaveri Meets Ganga' Programme is/are correct?

- 1. It was the first cultural event held under the Amrit Parampara series.
- 2. It is a river-water linking programme under the Ministry of Jal Shakti, Government of India.

Select the answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

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