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Test Booklet Series

TEST BOOKLET

C

GENERAL STUDIES (P) 2020 – Test–2985

Time Allowed: Two Hours

Maximum Marks: 200

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TURN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.
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 **100** items (Questions). Each item is printed in **English**. 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 with 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 direction in the answers sheet.
6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of **correct responses** marked by you in the answer sheet. For **every incorrect** response **1/3rd of the allotted marks** will be deducted.
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 sheets as per instruction sent to you with your Admission Certificate.
8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.
9. Sheet for rough work are appended in the Test Booklet at the end.

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1. With reference to recently announced National Guidelines for Gene Therapy, consider the following statements:

1. It seeks to regulate the gene therapy procedures in India.
2. It mandates registration of all clinical trials with Clinical Trials Registry-India (CTRI).
3. All entities producing gene therapy products must establish an Institutional Bio-safety Committee (IBSC).

Which of the statements given above are correct?

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

2. Consider the following statements about a photocell:

1. A photocell is a technological application of the photoelectric effect.
2. It is a device whose electrical properties are affected by light.
3. Photocells are used in burglar alarms.

Which of the statements given above are correct?

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

3. Which of the following pairs are correctly matched?

<i>Acid</i>	<i>Use</i>
1. Oxalic Acid	: Bleaching of leather
2. Acetic Acid	: Processing of foods
3. Citric Acid	: Washing metals
4. Benzoic Acid	: Accumulation batteries

Select the correct answer using the code given below.

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

4. Which of the following represents the correct order of abundance of elements by mass in the Earth?

- (a) Iron>Silicon>Magnesium>Oxygen
- (b) Oxygen>Iron>Silicon>Magnesium
- (c) Oxygen>Iron>Magnesium>Silicon
- (d) Iron>Oxygen>Silicon>Magnesium

5. Global Climate Risk Index is released by

- (a) Germanwatch
- (b) World Economic Forum
- (c) United Nations Economic Programme
- (d) Intergovernmental Panel on Climate Change

6. The lowest amount of water in the soil that a plant requires to maintain its turgidity is known as:

- (a) Field Capacity
- (b) Available Water Capacity
- (c) Permanent Wilting Point
- (d) Total Soil Water Storage Capacity

7. Consider the following statements:

1. Xylem can transport in both an upward and downward direction, while Phloem can transport only in upwards direction.
2. Xylem transports water and minerals while Phloem transports food and nutrients.

Which of the statements given above is/are correct?

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

8. The term parthenogenesis refers to
- (a) the process by which different plant pigments are formed
 - (b) the phenomenon of night respiration in some plants
 - (c) the production of an embryo from a female gamete without male gamete
 - (d) the process by which insectivorous plants absorb nutrients from the trapped insects

9. Consider the following pairs:

<i>Organisms</i>	<i>Uses</i>
1. Streptococcus	: Clot buster
2. Lipases	: Detergent
3. Cyclosporine	: Cholesterol lowering agents
4. Statins	: Immunosuppressant

Which of the pairs given above is/are correctly matched?

- (a) 2 and 4 only
 - (b) 1 and 2 only
 - (c) 2 only
 - (d) 3 and 4 only
10. With respect to viruses, consider the following statements:
1. Viruses are usually bigger than bacteria.
 2. Viruses can replicate outside living cells and can be cultured outside specific host cells.
 3. Viruses do not have a cellular structure.
- Which of the statements given above is/are **not** correct?
- (a) 1 only
 - (b) 1 and 3 only
 - (c) 1 and 2 only
 - (d) 2 and 3

11. A person stands on loose sand and then lies down on it. He goes deeper into the sand while standing than while lying down. Which one of the following is the reason?
- (a) The weight of the body is lesser while standing up.
 - (b) The density of the human body is lesser than sand
 - (c) The pressure on the sand is higher while standing up
 - (d) There is more friction between the body and the sand while lying down

12. A cup with a hole in the bottom drains slower when filled with honey than when it is filled with water. This is because of
- (a) presence of impurities in the water.
 - (b) the higher gravitational pull on water.
 - (c) the difference in viscosities of honey and water.
 - (d) stronger capillary effect in case of honey.

13. In the context of gravitational force and electromagnetic force, consider the following statements:
1. While gravitational force is always attractive, electromagnetic force can be both attractive and repulsive.
 2. While gravitational force is only dependent on mass, the electromagnetic force is dependent on both mass and charge.
 3. While gravitational force is dependent upon the distance between the two bodies, the electromagnetic force is independent of it.

Which of the statements given above is/are correct?

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

14. Which of the following statements best explains the reason for airplane windows being rounded rather than square?

- (a) Rounded windows have higher tensile strength as compared to squared windows.
- (b) Stress is more equally distributed along the edges in the rounded windows as compared to squared windows.
- (c) Rounded windows have lesser surface area and thus are less expensive.
- (d) Rounded windows are easier to fit as compared as squared windows.

15. With reference to Washing Soda, consider the following statements:

- 1. Sodium chloride is used in the manufacturing of Washing Soda.
- 2. It is used as a cleaning agent for domestic purposes.
- 3. It is used for removing the permanent hardness of the water.

Which of the statements given above is/are correct?

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

16. 'Agreement on the Prohibition of Attack against Nuclear installations' is an agreement between:

- (a) India and Pakistan
- (b) All the members of United Nations
- (c) India and China
- (d) USA and Russia

17. A highly trained singer can hit a note that causes glass to shatter. Which of the following phenomenon exhibited by the sound waves is responsible for this?

- (a) Reverberation
- (b) Boundary behavior
- (c) Resonance
- (d) Interference

18. With reference to the Appellate Body of the World Trade Organization, consider the following statements:

- 1. It acts as a supreme institution for the settlement of international trade disputes whose decisions are binding on members.
- 2. It is composed of seven members who are appointed by the WTO members by consensus.

Which of the statements given above is/are correct?

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

19. Which of the following are the constituents of nucleic acid?

- 1. Sugar
- 2. Phosphate
- 3. Nitrogenous base
- 4. Potassium base

Select the correct answer using the code given below.

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

20. Which of the following is/are the part of the forensic analysis?

1. Mitochondrial DNA Analysis
2. Polygraph Test
3. Brain Electrical Oscillation Signature (BEOS) Profiling

Select the correct answer using the code given below.

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

21. The term 'Founder effect', in population genetics, is used to indicate

- (a) reduced genetic variation as compared to the original population.
- (b) increased genetic variation as compared to the original population.
- (c) confinement of successive generations in the geographical area that is the original habitat of the founders.
- (d) retreat of successive generations from the geographical area that is the original habitat of the founders.

22. Which of the following correctly describes the 'prebiotics'?

- (a) Food ingredients that encourage the growth of beneficial gut bacteria.
- (b) A type of antimicrobial drug used in the treatment and prevention of bacterial infections.
- (c) Preservatives added to food products to prevent decomposition by microbial growth.
- (d) Vaccine used to stimulate the production of antibodies and provide immunity against one or several diseases.

23. Which of the following technologies will be enabled by the 5G mobile communication networks?

1. Internet of Things
2. Edge Computing
3. Network Slicing

Select the correct answer using the code given below.

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

24. Double Fortified Salt is one of the most cost-effective opportunities to deliver critical micronutrients. Which among the following micronutrients are fortified to table salt?

1. Iodine
2. Iron
3. Chromium

Select the correct answer using the code given below.

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

25. Operation Vanilla, recently seen in the news, pertains to:

- (a) provision of relief to flood-hit madagascar by the Indian navy.
- (b) a bilateral tri-service exercise between India and the United States of America.
- (c) a study undertaken by NITI Aayog to gauge the adoption of new technologies in rural India.
- (d) a field trial to determine the suitable soil conditions for vanilla cultivation in India.

26. The ceilings of cinema halls, conference halls and concert halls are generally curved in order to:
- reflect sound to all corners of the cinema hall.
 - create a phase difference in sound.
 - create an echo effect in sound.
 - increase volume of air for faster transmission of sound.

27. Which of the following are the initiatives to promote digital payments in India?
1. Mandatory facility for electronic modes of payment for businesses with turnover over rupees fifty crores.
 2. Waiver of Merchant Discount Rate (MDR) charges.
 3. Levying surcharge on cash withdrawals of one crore and above.

Select the correct answer using the code given below.

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

28. Some of the mammals, like humans and whales, share similarities in the pattern of bones of forelimbs. But these bones perform different functions in these mammals. Which of the following correctly explains this type of evolution?
- Co-evolution
 - Divergent evolution
 - Convergent evolution
 - None of the above

29. Which of the following applications/ phenomena are based on the Doppler effect?
1. Echolocation by bats.
 2. Sonic boom
 3. Police radar for measuring the speed of vehicles

Select the correct answer using the code given below.

- 1 and 2 only
- 1, 2 and 3
- 3 only
- 1 and 3 only

30. Which of the following is/are the applications of Mycorrhizal biotechnology – a result of symbiotic associations between plant roots and soil fungi?
1. Rehabilitation of degraded land.
 2. To enable plants to resist droughts.
 3. To enable disease/pest resistance in plants.

Select the correct answer using the code given below.

- 1 only
- 2 only
- 1 and 2 only
- 1, 2 and 3

31. A concave lens is used for correction of which of the following eye defects?

1. Myopia
2. Hypermetropia
3. Presbyopia

Select the correct answer using the code given below.

- 1 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

32. Which of the following actions is/are coordinated by the human brain?
1. Maintaining blood pressure
 2. Regulating the heartbeat
 3. Balancing the body
- Select the correct answer using the code given below.
- (a) 1 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
33. A man is pushing hard against a rigid brick wall. In this context, which among the following is correct?
- (a) The internal energy used by the man is zero.
 - (b) The work done by the man is zero.
 - (c) The force applied by the man is zero.
 - (d) None of the above
34. Which of the following is/are functions of the liver?
1. Regulation of the glucose levels in the blood
 2. Production of bile
 3. Production of cholesterol in the body
- Select the correct answer using the code given below.
- (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 2 only
35. Duchifat 3, often seen in the news, is
- (a) A satellite launched by Israeli students.
 - (b) A solar powered aeroplane recently launched by the NASA
 - (c) A nuclear powered submarine recently launched by Russia
 - (d) A fighter helicopter recently purchased by India from France.

36. Which of the pairs given below is/are correctly matched?
- | <i>Disease</i> | <i>Cause</i> |
|-------------------------|-------------------------|
| 1. Albinism | : absence of melanin |
| 2. Cri-du-chat syndrome | : heavy metal poisoning |
| 3. Cystic Fibrosis | : mutation of gene |
- Select the correct answer using the code given below.
- (a) 1 only
 - (b) 1 and 2 only
 - (c) 1 and 3 only
 - (d) 3 only
37. Semiconductors are present in most of the modern electronic devices that we use. Which of the following statements is/are true regarding semiconductors?
1. The resistivity of semiconductors is more than insulators but less than conductors.
 2. The most commonly used semiconductor elements are Silicon and Germanium.
- Select the correct answer using the codes given below.
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
38. Consider the following statements:
1. Saline water has a lower boiling point than distilled water.
 2. Saline water is a good conductor of electricity.
 3. Saline water has a lower freezing point than distilled water.
- Which of the statements given above is/are correct?
- (a) 2 only
 - (b) 1 and 2 only
 - (c) 2 and 3 only
 - (d) 1, 2 and 3

39. Which of the following methods can be used for removing the permanent hardness of water?

1. Distillation
2. Adding sodium carbonate
3. Boiling
4. Adding caustic soda

Select the correct answer using the code given below.

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

40. With reference to the Global Consortium for Digital Currency Governance, consider the following statements:

1. It is the first global consortium focused on designing a framework for the governance of digital currencies.
2. It is an initiative of the World Economic Forum

Which of the statements given above is/are correct?

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

41. Which of the following are vestigial organs of the human body?

- (a) Wisdom Tooth, Human brain, Eye Lids, and Vermiform Appendix
- (b) Wisdom Tooth, Eye Lids, Caecum and Vermiform Appendix
- (c) Wisdom Tooth, Coccyx and Vermiform Appendix
- (d) Spleen, Wisdom, Tooth and Vermiform Appendix

42. Nitrogen gas is used in the tyres of an airplane because

- (a) Nitrogen gas is inert unlike air
- (b) It is heavier than air
- (c) It forms liquid only below a very low temperature
- (d) Both (a) and (c)

43. The color of the sun appears reddish during sunset. Which of the following is the reason behind this phenomenon?

- (a) Absorption of light rays by the atmosphere
- (b) Human eyes are not sensitive to other colors during that part of the day
- (c) Scattering of light rays by atmospheric particles
- (d) The sun emits different wavelengths of light during different times of the day

44. Which of the following can induce mutations?

1. X rays
2. Gamma rays
3. Mustard gas
4. UV rays
5. Nitrous acid

Select the correct answer using the code given below.

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

45. With reference to Bodo tribe in India, consider the following statements:

1. They are the single largest community among the notified Scheduled Tribes in Assam.
2. Bodoland Territorial Council is an autonomous body under the Sixth Schedule of the Constitution.

Which of the statements given above is/are correct?

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

46. Consider the following statements with reference to NEST (New and Emerging Strategic technologies):

1. NEST will negotiate technology governance rules, standards and architecture, suited to India's conditions, in multilateral and plurilateral frameworks.
2. It is formed under the Department of Science and Technology.

Which of the statements given above is/are correct?

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

47. When an ice cube is warmed only to the extent it has totally molten (and not further), how does the temperature change during the entire process from the solid-state to the liquid state?

- (a) The temperature first increases and then remains constant during the process.
- (b) The temperature increases continuously during the process.
- (c) The temperature first increases and then decreases.
- (d) The temperature decreases and then increases during the process.

48. Consider the following statements regarding Nanoflares:

1. It is a sudden flash of brightness observed by the people living close to the poles at night.
2. The brightness is generated by converting energy stored in the magnetic field to the motion of plasma.

Which of the statements given above is/are correct?

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

49. Recently scientists have discovered a new archaean in Sambhar Salt Lake in Rajasthan. In this context, which of the following correctly describes an Archaean?

- (a) It is a primitive group of microorganism that thrives in extreme habitats.
- (b) It is an invertebrate animal having an exoskeleton, a segmented body, and paired jointed appendages.
- (c) It is a snail like animal which has a soft body and a hard shell to protect it.
- (d) It is a marine fish occasionally found in saline or brackish water lakes.

50. ISRO's Project NETRA aims to

- (a) explore planets outside the solar system.
- (b) aid detection and mapping of ocean bed resources.
- (c) provide early warning system in space to detect debris and other hazards to Indian satellites.
- (d) ease navigation in metropolitan cities.

51. Which of the following is/are the necessary properties required by a molecule to act as genetic material?

1. It should be able to generate its replica.
2. It should be chemically and structurally stable.
3. It should be able to express itself in the form of "Mendelian Characters".

Select the correct answer using the code given below.

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

52. Which among the following hormones is/are produced by the human body?

1. Insulin
2. Cytokinin
3. Thyroxine

Select the correct answer using the code given below.

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

53. Consider the following parts of the human eye:

1. Cornea
2. Retina
3. Lens

In the case of eye donation, which of the above parts is/are transplanted from the donor?

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

54. Isotopes have the same atomic number but different atomic masses. Which among the following are the uses of radioactive isotopes?

1. Treatment of cancer
2. Fuel in nuclear reactors
3. Treatment of goitre

Select the correct answer using the code given below.

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

55. Consider the following statements regarding the speed of sound in a different medium:

1. Among the three states solid, liquid and gaseous, sound travels fastest in the gaseous state.
2. Sound travel travels faster in hot air than in cold air.

Which of the statements given above is/are correct?

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

56. Which among the following are the uses of heavy water?

1. Preservation of Oral Polio Vaccines
2. Coolant in nuclear reactors
3. Bleaching agent

Select the correct answer using the code given below.

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

57. Which of the following treaties, under the auspices of the United Nations, have been ratified by India?

1. Convention on the Elimination of All Forms of Discrimination against Women.
2. Convention on the Rights of Persons with Disabilities.
3. Convention against Torture and Other Cruel Inhuman or Degrading Treatment or Punishment.

Select the correct answer using the code given below.

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

58. Edge computing is used for data processing and content delivery. What are the advantages of Edge computing over Cloud computing?

1. Edge computing allows quicker data processing
2. In Edge computing, data is stored and processed in the centralised data center
3. Internet of Things (IoT) based technology could be using Edge computing for analytics.

Select the correct answer using the code given below.

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

59. Consider the following statements regarding virtual reality (VR) and augmented reality (AR):

1. The real and virtual objects cannot be distinguished in VR whereas they can be distinguished in AR.
2. Both VR and AR can be viewed by users wearing special glasses only.

Which of the statements given above is/are correct?

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

60. Consider the following statements regarding 'Halogens':

1. They are non-metallic elements that produce sodium salts of similar properties.
2. Because of their great reactivity, the free halogen elements are not found in nature.

Which of the statements given above is/are correct?

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

61. With reference to the 'National Aquifer Mapping and Management Programme' (NAQUIM), consider the following statements:

1. It aims to prepare a map of all surface and groundwater sources of water in India.
2. It is being implemented by the Central Water Commission.

Which of the statements given above is/are correct?

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

62. Which of the following vitamins are soluble in fat?

1. Vitamin A
2. Vitamin B
3. Vitamin C
4. Vitamin E
5. Vitamin K

Select the correct answer using the code given below.

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

63. Consider the following statements with reference to Prokaryotic and eukaryotic cells:

1. In Prokaryotic cells, there is a well-defined nucleus and membrane-bound organelles.
2. In Eukaryotic cells, there is no well-defined nucleus and organelles are absent.

Which of the statements given above is/are correct?

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

64. Which among the following is known as the powerhouse of the cell and has its own DNA and ribosomes?
(a) Mitochondria
(b) Nucleus
(c) Golgi Body
(d) Endoplasmic Reticulum
65. Recently a device called 'core catcher' was installed in the Kundankalam nuclear plant. In this context, consider the following statements:
1. A core catcher is a device that supplements the work of the moderators by further slowing down the speed of neutrons in a nuclear reactor.
2. It is made up of materials different from that of the moderator.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
66. Consider the following statements with regard to radiation:
1. Transfer of heat by radiation requires a medium.
2. All hot bodies radiate infrared radiation.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
67. With reference to human blood, *Rh factor* is a/an
(a) antigen on surface of red blood cells.
(b) enzyme responsible for coagulation of blood.
(c) antibody on surface of red blood cells.
(d) protein responsible for carrying oxygen in blood.

68. Which among the following are exocrine glands in the human body?
1. Mammary glands
2. Pituitary glands
3. Tear ducts
Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3
69. Which of the following rays or radiations are used in thermal imaging?
(a) Gamma rays
(b) Infrared radiation
(c) X rays
(d) Ultraviolet radiation
70. With reference to Hemoglobin, consider the following statements:
1. It imparts red color to blood.
2. It carries oxygen in the blood.
3. It transports carbon dioxide from tissues to lungs.
Which of the above functions is/are performed by Hemoglobin?
(a) 1 only
(b) 2 only
(c) 1 and 2 only
(d) 1, 2 and 3
71. Consider the following statements with regard to the National Genomic Grid:
1. It is a pan India program to study genes of all patients suffering from all types of genetic diseases.
2. The study will utilize the technique of genome sequencing.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

72. Which among the following is/are genetic diseases?

1. Haemophilia
2. Down's syndrome
3. Sickle-cell anemia

Select the correct 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. With reference to the role of anti-oxidants in the human body, which of the following statements is/are correct?

1. They prevent damage caused by oxidation of fatty acids and proteins by free radicals.
2. They provide protection from asthma, diabetes, and cancer.

Select the correct answer using the codes given below.

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

74. With reference to phenomena of formation of the rainbow, consider the following statements:

1. A rainbow is always formed in a direction opposite to that of the Sun.
2. The sunlight undergoes refraction and dispersion in the water droplets to form the colors of a rainbow.

Which of the statements given above is/are correct?

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

75. Consider the following statements regarding Thorium:

1. It is largely imported in India to meet nuclear energy demands.
2. Its deposits in India mainly occur in the Vindhyan system of rocks.
3. It can be directly used as fuel in a nuclear reactor.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 only
- (c) 3 only
- (d) None

76. Which of the following are the potential applications of lasers?

1. It is used to measure the distance between two celestial bodies.
2. It provides information on continental drifting.
3. It detects and measures the pollutants in vehicular exhaust gases.
4. It is used in the barcode scanners.

Select the correct answer using the code given below.

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

77. Which of the following sites has been recently declared as Ramsar wetland sites in India?

1. Samaspur Bird Sanctuary, Uttar Pradesh
2. Nangal Wildlife Sanctuary, Punjab
3. Lonar Lake, Maharashtra

Select the correct answer using the code given below.

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

78. With respect to Free Space Optical (FSO) communication, which of the following statements is/are correct?

1. It is a communication technology in which data is transmitted through the air.
2. It can be used for point-to-point line of sight communication.

Select the correct answer using the code given below:

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

79. 'SaaS', 'PaaS' and 'IaaS', terms often seen in the news, are related to:

- (a) Cyber Crime and Ransomware
- (b) Cryptocurrencies
- (c) Breath analyzer tests detecting coronavirus
- (d) Services available on cloud computing

80. Which of the following processes will make the cooking of liquid food faster?

1. Putting a lid on the vessel
2. Reducing the amount of salt
3. Adding more oil

Select the correct answer using the code given below.

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

81. Which of the following diseases are caused by viruses?

1. Kala-azar
2. Dengue
3. Tuberculosis
4. Influenza

Select the correct answer using the code given below.

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

82. Consider the following statements regarding silicosis:

1. Silicosis is a curable respiratory disease caused by inhaling silica dust.
2. Workers in glass manufacturing, mining, quarrying and gem cutting, and polishing are more prone to silicosis.
3. Silicosis is the condition in which the silica dust accumulates in the trachea, restricting the passage of air to the lungs.

Which of the statements given above is/are correct?

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

83. Which of the following statements is correct about RBI's MANI?

- (a) It is a mobile application launched for better dissemination of current rates including policy rates.
- (b) It is a mobile based platform that ensures 24*7 availability of electronic funds transfer.
- (c) It is a mobile application that can identify the denomination of Indian Banknotes.
- (d) None of the above

84. A body is falling freely under the action of gravity alone in a vacuum. Which one of the following is correct?

- (a) In the beginning, the kinetic energy of the body is zero.
- (b) As the body falls, the potential energy of the body keeps increasing.
- (c) The sum of potential energy and kinetic energy is different at all points.
- (d) All of the given statements are correct.

85. If someone in the family is suffering from a problem of acidity after overeating, which of the following would you suggest as a remedy?

- (a) Lemon juice
- (b) Vinegar
- (c) Baking soda solution
- (d) Both (a) and (b)

86. Which of the following statements is/are correct with reference to antigens?

- 1. They are substances that are capable of stimulating an immune response.
- 2. They can only be produced inside the human body.
- 3. Antibodies are produced by the immune system to target antigen.

Select the correct answer using the code given below.

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

87. With reference to vaccine-derived polio, consider the following statements:

- 1. It occurs in children due to the administration of faulty vaccines with live poliovirus.
- 2. For a country to be declared polio-free, cases of both wild and vaccine-derived polio infection should be reduced to zero.
- 3. India has been declared polio-free by the World Health Organization.

Which of the statements given above is/are correct?

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

88. With reference to the 'Countercyclical Fiscal Policy', which of the following is/are correct?

- 1. It will increase public spending and reduce taxes during an economic boom.
- 2. During the recession, RBI will lower down the interest rates.

Select the correct answer using the code given below.

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

89. Consider the following functions of Blood Vessels:

- 1. Arteries bring blood from various parts of the body to the heart.
- 2. Veins carry blood from the heart to various parts of the body.
- 3. Capillaries allow the exchange of materials between blood and tissues.

Which of the pairs given above are *not* correctly matched?

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

90. Consider the following statements regarding Magnetic Resonance Imaging (MRI):

- 1. MRI scanning uses X rays in the magnetic field to produce images of body parts.
- 2. While MRI scanning cannot produce the pictures of bone, Computerized Tomography (CT scan) can produce pictures of bone.
- 3. Jewelry and other wearable metallic accessories are not allowed during MRI since it interferes with the magnetic field.

Which of the statements given above is/are correct?

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

91. With reference to the ongoing issue of Adjusted Gross Revenue (AGR) in the telecom sector, consider the following statements:

1. AGR includes all revenues from both telecom and non-telecom services.
2. Higher the AGR, higher is the annual license fee (LF) for the telecom operator.

Which of the statements given above is/are correct?

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

92. With reference to Alternating Current (AC) and Direct Current (DC), consider the following statements:

1. Both AC and DC flow in the direction of the flow of electrons.
2. In AC, the direction of the electric charge reverses periodically.
3. A battery produces only direct current.

Which of the statements given above are correct?

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

93. With reference to Dry Ice, consider the following statements:

1. It is the solid form of carbon dioxide.
2. It is used primarily as a cooling agent.
3. It has a lower temperature than that of water ice and does not leave any residue.
4. Earth has vast blankets of dry ice.

Which of the statements given above is/are correct?

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

94. A person X met with an accident and was in urgent need of blood transfusion. Unfortunately, his blood type could not be determined. In this case, which may be the safest blood group that can be transfused to X?

- (a) A+ve
- (b) O-ve
- (c) O+ve
- (d) AB+ve

95. Which of the following statements are correct regarding ozone?

1. Ozone is a colorless and odorless gas.
2. It is formed from dioxygen by the action of ultraviolet light.
3. Ozone is used in disinfection.

Select the correct answer using the code given below.

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

96. Vegetative Propagation, a form of asexual reproduction can be achieved by which of the following parts of a plant?

1. Roots
2. Leaves
3. Stem

Select the correct answer using the code given below.

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

97. Which among the following gases is/are used as chemical warfare agents?

1. Mustard gas
2. Sarin
3. Phosgene

Select the correct answer using the code given below.

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

98. While it is stressful to watch a movie on TV in a dark room, it is not while watching a movie in a traditional theatre. Consider the following reasons:

1. In a traditional theatre, we receive analog pictures while on TV we receive images in pixels.
2. In the theatre, the view is almost completely occupied by the screen unlike that in the case of TV.

Which of the statements given above is/are correct?

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

99. When a potted plant is over-watered for a few days, it gradually dies because:

- (a) plant is infected by soil microbes.
- (b) roots do not receive oxygen for respiration.
- (c) roots are unable to absorb nutrients.
- (d) water from soil cannot rise to aerial parts.

100. With reference to hydroponics, a term often seen in the news, consider the following statements:

1. It refers to the cultivation of plants in a water solvent without using soil.
2. It completely prohibits the use of chemical fertilizers and pesticides.

Which of the statements given above is/are **not** correct?

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

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