

NEXT IAS

Test Paper-5
Current Science & Technology

Analysed and prepared by
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Civil Services
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1. Bose-Einstein Condensates (BECs) which has been in news in recent times mainly concerns with which of the following?

- (a) Study of Mass-Energy Equivalence
- (b) Fifth State of matter
- (c) Quantum Data Processing
- (d) None of these

2. Which of the following statements is correct relating to precise meanings of Virtual Reality (VR) and Augmented Reality (AR)?

- (a) User uses an App of a Paints/Distemper Company for shade/colour selection for walls: Virtual Reality (VR)
- (b) One sits at home but using head-mounted display immersed in computer-simulated world experiences moon-walk: Augmented Reality (AR)
- (c) Augmented Reality (AR) is completely immersive in Computer-Simulated World but not Virtual Reality (VR)
- (d) None of these

3. Which of the following statements is correct about Cold Atom Lab (CAL) in the news recently?

- (a) It is space research project developed and led by European Space Agency (ESA)
- (b) It is placed in Transiting Exoplanet Survey Satellite (TESS) of USA
- (c) It is launched in 2020
- (d) It has been used for developing Fifth State of Matter

4. What is *Vyommitra*?

- (a) Latest Supercomputer in the PARAM Series of Supercomputers developed by India
- (b) India's fastest Supercomputer put in Indian Institute of Tropical Meteorology (IITM), Pune
- (c) ISRO's Humanoid Robot to be used in Gaganyaan Mission's experimental launches before its final launch

(d) Humanoid Robot for Tele-Education (Tel-Ed) used as part of National Mission on Education through Information and Communication Technology (NMEICT)

5. Which of the following statements is correct about Microbial Fuel Cell (MFC) Technology?

- (a) E. coli cannot be used for generation of electricity
- (b) It can be used for energising robots in underwater locations
- (c) It does not need any form of chemical energy to generate electricity
- (d) None of these

6. Over the time several gene editing technologies have come up for improving gene targeting methods. Which of the following is/are included in these technologies?

- 1. CRISPR-Cas System
- 2. Transcription Activator-Like Effector Nucleases (TALENs)
- 3. Zinc-Finger Nucleases (ZFNs)

Select the correct Code:

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

7. Launched in 2019, it is advanced high-resolution Sun-Synchronous Earth Observation Satellite of strategic significance with broad utility also for cartography, Geographical Information System (GIS), Land Information System (LIS), urban planning, water resource management, Disaster Management, etc. Which of the following satellite is being talked about here?

- (a) EMISAT
- (b) Cartosat-3
- (c) Microsat-R
- (d) None of these

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8. Assertion (A): Arogya Setu App enables even feature phone and landline users to register on the platform.

Reason (R): The Arogya Setu App is available even on Interactive Voice Response System (IVRS) form.

Select the correct Code:

- (a) Assertion (A) and Reason (R) both are correct, and Reason (R) is the correct explanation for Assertion (A)
- (b) Assertion (A) and Reason (R) both are correct, but Reason (R) is not the correct explanation for Assertion (A)
- (c) Assertion (A) is correct, but Reason (R) is wrong
- (d) Assertion (A) is wrong, but Reason (R) is correct

9. Which of the following statements is/are correct about CRISPR-Cas9 Genome Editing Tool?

- 1. It is expansive yet slow and not that accurate
- 2. In it Cas-9 protein is an enzyme
- 3. It facilitates editing of part of genome
- 4. CRISPR stands for Clustered Regulatory Interspaced Palindromic Repeats

Select the correct Code:

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

10. Which of the following statements is correct about use of Microbial Fuel Cell (MFC) Technology in electricity generation?

- (a) In it there is no use of Anode Chamber and Cathode Chamber
- (b) Microbial Fuel Cells (MFCs) can generate quite high currents
- (c) Bacteria used in MFCs are called/named-as 'Biological Electrons'

(d) It uses bacteria to oxidise organic and inorganic matter

11. Which of the following statement is correct about Plasma Convalescent Therapy?

- (a) It is also known as active antibody therapy
- (b) Its first practical use has started with its use in fighting COVID-19
- (c) Donor of plasma is a person never-infected by Coronavirus
- (d) None of these

12. Which of the following statements is/are correct?

- 1. In Syzygy the Earth, Moon and the Sun are completely aligned
- 2. Supermoon is also Apogee-Syzygy
- 3. Supermoon is also called Perigee-Syzygy

Select the correct Code:

- (a) 1 Only
- (b) 1 and 2 Only
- (c) 1 and 3 Only
- (d) None of these

13. Which of the following statements is correct about Internet of Things (IoT)?

- (a) It enhances privacy of people
- (b) It reduces Cyber Security threats
- (c) It needs more IP Addresses
- (d) It reduces cost of the devices/machines

14. Assertion (A): Microbial Fuel Cell (MFC) Technology cannot be used for generation of Hydrogen Gas (H₂).

Reason (R): Microbial Fuel Cell (MFC) Technology can be used for generation of bioelectricity.

Select the correct Code:

- (a) Assertion (A) and Reason (R) both are correct, and Reason (R) is the correct explanation for Assertion (A)

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- (b) Assertion (A) and Reason (R) both are correct, but Reason (R) is not the correct explanation for Assertion (A)
(c) Assertion (A) is correct, but Reason (R) is wrong
(d) Assertion (A) is wrong, but Reason (R) is correct

15. Which of the following statements is correct about Indian Space Station?

- (a) Indian Space Station Programme/Mission and Gaganyaan Mission were jointly launched in 2018 and will be complete by 2022
(b) It will be put in Geostationary Earth Orbit (GEO) and will take 24 hours to orbit the earth
(c) Its important aim is also space tourism along with space experimentation
(d) None of these

16. Which of the following statements is/are correct about Virtual Labs?

1. Virtual Lab Project is led by Indian Institute of Science, Bengaluru
2. Remote Triggering Virtual Labs are more scalable than Simulation based Virtual Labs
3. Virtual Labs make use of Learning Management System (LMS)

Select the correct Code:

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

17. Under Public Internet Access Pillar of Digital India Programme out of its nine pillars for which of the following Sub-Components Ministry of Electronics and Information Technology (MeitY) is the Nodal Ministry for implementation?

1. Common Services Centers (CSCs)
2. Post Offices as Multi-Service Centers

Select the correct Code:

- (a) 1 Only
(b) 2 Only

- (c) Both 1 and 2
(d) Neither 1 nor 2

18. Assertion (A): Bio-ink makes use of stem cells.

Reason (R): Stem Cells can self-renew as well as develop into different types of specialised cells.

Select the correct Code:

- (a) Assertion (A) and Reason (R) both are correct, and Reason (R) is the correct explanation for Assertion (A)
(b) Assertion (A) and Reason (R) both are correct, but Reason (R) is not the correct explanation for Assertion (A)
(c) Assertion (A) is correct, but Reason (R) is wrong
(d) Assertion (A) is wrong, but Reason (R) is correct

19. Which of the following statements is/are correct about Bio-Printing emerging in the field of Biotechnology?

1. It uses stem-cell loaded bio-ink making use of 3D printers
2. It uses subtractive manufacturing approach rather than additive manufacturing approach
3. Bio-inks can act as cell carriers and structural components

Select the correct Code:

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

20. Which of the following statements is/are correct?

1. Application Programming Interfaces (APIs) are always developed in Machine Level Languages that means in binary
2. BOSS (Bharat Operating System Solutions) Linux is developed by C-DAC and distributed by National Resource Centre

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for Free and Open Source Software (NRCFOSS)

Select the correct Code:

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

21. Which of the following statement is correct?

- (a) NavIC - Navigation with Indian Constellation provides truly global coverage
- (b) Standard Global Positioning Systems (GPS) is faster than Assisted-GPS (aGPS)
- (c) Operational cost of Assisted-GPS (aGPS) for a consumer is far lower than Standard GPS
- (d) GPS-Aided Geo-Augmentation (GAGAN) is used for Air Traffic Control in India

22. Which of the following statements are correct?

- 1. National Aeronautics and Space Administration (NASA), USA has brought a mission named InSight to study deep interiors of Mars
- 2. HySIS is earth observation satellite launched by India and it stands for Hyper-Spectral Imaging Satellite
- 3. Hope Probe is Mars Mission launched by United Arab Emirates (UAE) from a spacecraft in Japan

Select the correct Code:

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

23. Which of the following statements is/are correct about Big Data?

- 1. Data collected by Satellites or AADHAAR Data or Data of social media like Facebook and Twitter is taken as Big Data

2. Structured Big Data is far more scalable than Unstructured Big Data

3. Hadoop is Big Data storage and processing service

Select the correct Code:

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

24. Which of the following statements are correct relating to COVID-19?

- 1. First State in India to take steps for the Pool Testing on COVID-19 was Maharashtra
- 2. If pool testing result is negative that means nobody out of the samples taken has the virus
- 3. If the pool testing result is positive then that needs individual testing
- 4. Operation SHIELD was launched in Delhi for COVID-19 testing of residents in some areas

Select the correct Code:

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

25. Which of the following statements is/are correct about the Gaganyaan Mission initiated by India for Human Spaceflight?

- 1. It is expected to send astronauts to space by 2022
- 2. USA is the only other country which brought such a mission earlier
- 3. It will be put in High Earth Orbit (HEO)
- 4. It will take 24 hours to complete the earth orbit

Select the correct Code:

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

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26. Which of the following statements is/are correct?

1. The Food and Standards Authority of India (FSSAI) has placed a ban on using antibiotics in fisheries
2. Council of Scientific and Industrial Research (CSIR) took steps for Open Source Drug Discovery (OSDD) for bringing newer drugs by crowdsourcing solutions

Select the correct Code:

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

27. Why is it that COVID-19 disease is called Novel Coronavirus Disease?

- (a) It is Pandemic
- (b) It is contagious
- (c) Antibiotics don't work on it
- (d) It is caused by a new virus

28. Which of the following statement is correct?

- (a) Mission life of Chandrayaan-2 was two years earlier which was extended to 3 years
- (b) For Vikram – The Lander of Chandrayaan-2 Soft Landing was planned in the North-Polar Region of the Moon
- (c) Pragyan – The Rover of Chandrayaan-2 was 6-wheeled Robotic Vehicle capable of 3D mapping
- (d) None of these

29. Which of the following statement is correct about Plasma Convalescent Therapy Clinical Trials in India to treat Coronavirus Infected patients?

- (a) First State in India to conduct such trials is Maharashtra
- (b) Patients with initial and mild symptoms are preferred for such trials
- (c) Indian Council of Medical Research (ICMR) has finalised research protocols for it

(d) None of these

30. Which of the following statements correctly expresses the relationship between the Blockchain and Distributed Ledger Technology (DLT)?

- (a) Blockchain is specific type of Distributed Ledger Technology (DLT)
- (b) Distributed Ledger Technology (DLT) is specific type of Blockchain
- (c) Blockchain and Distributed Ledger Technology (DLT) are one and the same
- (d) Blockchain is centralised while Distributed Ledger Technology (DLT) is decentralised

31. Which of the following statements is/are correct about Enzyme-Linked Immunosorbent Assay (ELISA)?

1. Its use is for measurement of antigens, proteins and glycoproteins
2. It is used for diagnosis of HIV infection, pregnancy tests and measurement of cytokines
3. ELISA was developed by the modification of Radioimmunoassay
4. Radioimmunoassay was developed by the modification of ELISA

Select the correct Code:

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

32. Which of the following statements is/are correct?

1. Cartosat-3 is the first Indian Remote Sensing Satellite capable of taking 3D images
 2. Cartosat-3, 12 FLOCK-4P, and MESHBED all these are Earth Observation Satellites
- Select the correct Code:

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

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33. rDNA Technology has use in the medicine for which of the following?

1. Gene Therapy
2. Vaccine
3. Insulin

Select the correct Code:

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

34. Which of the following statements is/are correct about the Organic Light Emitting Diode (OLED) Display Technology?

1. These could even be ultra-thin, flexible, foldable and transparent
2. They can give very effective display in bright sunlight
3. They use series of thin organic films between two conductors

Select the correct Code:

- (a) 1 Only
- (b) 1 and 3 Only
- (c) 1, 2 and 3
- (d) None of these

35. Antibodies which are mainly of use in Plasma Convalescent Therapy are produced by which of the followings?

- (a) B lymphocytes
- (b) Red Blood Cells
- (c) Platelets
- (d) None of these

36. Which of the following Programmes relating to e-Governance is not correctly matched with the State where brought?

- (a) FRIENDS (Fast, Reliable, Instant, Efficient Network for Disbursement of Services): Kerala
- (b) eLaabh for Dairy Farmers and Fisherman: Telangana
- (c) Akashganga for linking rural milk producers and integrating operations: Gujarat

(d) RASI (Rural Access to Services through Internet): Madhya Pradesh

37. Bose-Einstein Condensates (BECs) development and advancements in the news recently will catalyse, enhance and facilitate research and solutions in which of the following fields?

- (a) Properties of gases in the atmosphere
- (b) Properties of gels
- (c) Quantum mechanics and dark energy
- (d) None of these

38. Which of the following statements are correct about Polymer Chain Reaction (PCR)?

1. It is also called Molecular Photocopying and it rapidly amplifies the defined piece of DNA
2. Kary B. Mullis was awarded Nobel Prize in 1993 for his work on Polymer Chain Reaction (PCR)
3. It is slow and expansive
4. Its usages include in DNA finger printing, diagnosis of Genetic Disorders and detection of bacteria or viruses

Select the correct Code:

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

39. Which of the following statements is/are correct about Internet of Things (IoT)?

1. It is Machine-to-Machine Communication and limited to that
2. It is Machine-to-Machine Communication but not limited to that
3. As the use of Internet of Things (IoT) increases need for Radio Frequency Identification (RFID) Technology decreases

Select the correct Code:

- (a) 1 Only
- (b) 2 Only
- (c) 1 and 3 Only

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(d) 2 and 4 Only

40. Plasma Convalescent Therapy was used for the treatment of which of the following diseases?

1. Spanish Influenza
2. Korean Fever or Hantavirus

Select the correct Code:

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

41. Scientists study Bose-Einstein Condensates (BECs) in hundreds of labs around the world. Yet why was Cold Atom Lab (CAL) in International Space Station (ISS) considered as more ideal for such studies?

- (a) Desired conditions of temperature
- (b) Desired conditions of microgravity
- (c) Comparative studies of earth and space
- (d) None of these

42. Which of the following statements is/are correct about rDNA Technology?

1. rDNA Technology has also its use in making vaccines
2. All the gene readouts in a cell are called Transcriptome
3. mRNA plays an important role in making Proteins and Protein Engineering is an offshoot of rDNA Technology

Select the correct Code:

- (a) 1 Only
- (b) 1 and 3 Only
- (c) 1, 2 and 3
- (d) None of these

43. Which of the following statements is correct?

- (a) SPADEX is a lab for experimentation in the 'space medicine'
- (b) China is partner/member in International Space Station (ISS)

(c) Canada is not a partner/member in International Space Station (ISS)

(d) Beidou Global Positioning System (GPS) Constellation of China has 35 Satellites

44. Which of the following statement is incorrect about Pegasus?

1. It is a type of Spyware developed by Israel-based NSO Group
2. It is capable of using mobile's microphone as well as camera
3. It has been used by intelligence agencies of some countries
4. In 2019 it targeted some WhatsApp users of few countries including India

Select the correct Code:

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

45. Which of the following statement is *incorrect*?

- (a) Japan and Canada are part/members of International Space Station (ISS)
- (b) GSAT-9 is South Asia Satellites
- (c) As of now USA has highest number of live Satellites in the space
- (d) Quasi-Zenith Satellite System (QZSS) is brought by European Space Agency

46. What are 'Monoclonal Antibodies' used for the treatment of Ebola?

- (a) Individual antibodies isolated from convalescent plasma and cloned officially in the lab
- (b) Plasma containing antibodies after separating red blood cells, white blood cells and platelets
- (c) Antibodies which are developed and generated due to use of any vaccine against any disease
- (d) None of these

47. Which of the following statement is correct?

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- (a) Li-Fi, Wi-Fi and Bluetooth all these make use of radio-waves
- (b) Quantum-Dot Light Emitting Diode (QLED) Technology is far more energy efficient than Organic Light Emitting Diode (OLED) Technology
- (c) Sycamore is a Quantum Computer brought by Google with the claim of quantum supremacy over Supercomputers
- (d) None of these

48. Which of the following is the advantage of Quantum-Dot Light Emitting Diode (QLED) Display over Organic Light Emitting Diode (OLED) Display?

- (a) Lesser energy consumption
- (b) Better in open sun-lighted spaces
- (c) More cost effective
- (d) Lesser eye strain

49. rDNA Technology could also lead to which of the following complications or problems?

1. Multi-drug resistant bacteria
2. Risk of misuse in biological warfare
3. There could be health risks in GM Crops

Select the correct code:

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

50. Which of the following statements is/are incorrect?

1. Remdesivir is antiviral drug initially developed to treat Ebola
2. CoVlg-19 Plasma Alliance is formed by some leading biotech companies concerning new advancements in Plasma Therapy
3. Kaletra is combination of Lopinavir and Ritonavir and has been used in HIV treatment

Select the correct Code:

- (a) 1 and 2 Only
- (b) 1 and 3 Only

- (c) 2 and 3 Only
- (d) 1, 2 and 3

51. Which of the following statements is correct?

- (a) Voice over Internet Protocol (VoIP) Services can be used only when there are 4G internet services or above that
- (b) Instant Messaging Services like WhatsApp, Google Talk, Yahoo Messenger and Skype can use of VoIP
- (c) Direct-to-Home (DTH) Technology and Internet Protocol Television (IPTV) both are essentially communicated using internet
- (d) None of these

52. Which of the following statements are correct?

1. Common Flue, Spanish Flue, Swine Flue, Ebola, and COVID-19 these all are viral diseases
2. Antibiotics are not effective on viral diseases
3. Viruses don't have the organ-cells to reproduce thus they hijack the cellular machinery of host cells

Select the correct Code:

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

53. Which of the following statements is correct about Gaganyaan Mission?

- (a) It will send 5 astronauts as part of Human Spaceflight
- (b) There is technical cooperation and support from the USA on the Project
- (c) Indian Space Station will be an extension of Gaganyaan Mission
- (d) None of these

54. Which of the following statements is/are correct?

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1. Every Virtual Currency is a Cryptocurrency
 2. Every Cryptocurrency is a Virtual Currency
 3. Bitcoin, Ethereum, Ripple, Libra and Cardano are Cryptocurrencies
- Select the correct Code:
- (a) 1 and 3 Only
 - (b) 2 and 3 Only
 - (c) 3 Only
 - (d) None of these

55. Which of the following statement is/are correct?

1. Supermoon appears brighter and bigger than usual moon
2. Micro-moon appears smaller and less bright than usual moon
3. Supermoon occurs when moon coincides with Apogee
4. Micro-moon occurs when moon coincides with Perigee

Select the correct Code:

- (a) 1 and 2 Only
- (b) 3 and 4 Only
- (c) 1, 2, 3 and 4
- (d) None of these

56. Which of the following statements are correct relating to Anti-Satellite (A-SAT) weapon capability of India?

1. Using Kinetic Kill Technology, A-SAT can hit live Satellites flying in Low Earth Orbit (LEO), Medium Earth Orbit) and Geosynchronous Earth Orbit (GEO)
2. It was developed by Indian Space Research Organisation (ISRO)
3. It was developed by Defence Research Development Organisation (DRDO)

Select the correct Code:

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

57. Which of the following statements is *incorrect*?

- (a) Cells and chemicals behave somewhat in a different way in space
- (b) Planned Indian Space Station can achieve conditions of micro gravity
- (c) Indian Data Relay Satellite System (IDRSS) is a tele-education satellite and connects universities
- (d) Indian Space Station will be put in the Low Earth Orbit

58. In Plasma Convalescent Therapy to treat COVID-19, Plasma is collected from whom amongst the following?

- (a) A person who never had COVID-19
- (b) A person who has COVID-19 in its initial and mild stage
- (c) A person who has COVID-19 in very advanced stage and is critically ill
- (d) A person who had COVID19 but is now free from symptoms for last 14-days

59. Which of the following statements are correct about Plasma?

1. It is yellowish-liquid part of the blood
2. It comprises around 25% of the human blood
3. It carries cells and proteins throughout the body

Select the correct Code:

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

60. Which of the following statements is/are correct about rDNA?

1. It combines DNAs from two or more different sources
2. rDNA molecule can be prepared in-vitro in a laboratory test tube and into an organism

Select the correct Code:

- (a) 1 Only
- (b) 2 Only

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- (c) Both 1 and 2
(d) Neither 1 nor 2

61. Which of the following statements is correct?

- (a) Chairman of 5G (Fifth Generation Mobile Services) Steering Committee set up by the Government of India (GoI): N. R. Narayana Murthy
(b) First country in the world to roll out 5G services at mass commercial scale: Japan
(c) While LTE (Long Term Evolution) is 4G service but not WiMAX (Worldwide Interoperability for Microwave Access)
(d) None of these

62. Which disease out of the given ones is not correctly matched with geographical area or part of the world where they occurred?

- (a) Nipah Virus: East Asia
(b) Ebola: Africa
(c) Marburg: Europe
(d) Hendra Virus: North America

63. Which of the following statements is/are correct?

1. Temporary immunity can be achieved in a person even without injecting any antigen
2. Temporary immunity can be achieved by infusing antibodies or activated T-Cells or both

Select the correct Code:

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

64. Assertion (A): Frequent use of 'used cooking oil' may lead to several diseases such as hypertension, atherosclerosis, Alzheimer's disease, liver disease.

Reason (R): During frying, several properties of cooking oil are altered and

Total Polar Compounds are formed on repeated frying.

Select the correct Code:

- (a) Assertion (A) and Reason (R) both are correct, and Reason (R) is the correct explanation for Assertion (A)
(b) Assertion (A) and Reason (R) both are correct, but Reason (R) is not the correct explanation for Assertion (A)
(c) Assertion (A) is correct, but Reason (R) is wrong
(d) Assertion (A) is wrong, but Reason (R) is correct

65. Which of the following statements is correct about Cartosat-3?

- (a) It is Satellite for Tele-Education (Tel-Ed)
(b) It is cost efficient low-resolution satellite
(c) It is placed in Medium Earth Orbit (MEO)
(d) It is a Sun Synchronous Satellite

66. Which of the following is the best solution/alternative to develop 'Herd Immunity' to overcome COVID-19 / Coronavirus crisis?

- (a) Vaccine
(b) Social Distancing
(c) Plasma Convalescent Therapy
(d) Hydroxychloroquine

67. Which of the following is/are the advantages of Quick Response Code (QR) over the Bar Code / Universal Product Code (UPC)?

1. Larger data capacity
2. Easy to scan
3. Better fault tolerance

Select the correct Code:

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

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68. Which of the following statements is correct about antibodies?

- (a) They live in Red Blood Cells
- (b) They fight pathogens
- (c) They cannot be injected through transfusion
- (d) Red Blood Cells produce them

69. Which of the following statements is correct about the Distributed Ledger Technology (DLT)?

- (a) It requires centralised record mechanism
- (b) Adding more blocks to blockchain makes it easier to change the records
- (c) New transaction records are hashed
- (d) None of these

70. Which of the following statements is/are correct?

- 1. COVID-19 is the official name given to Coronavirus
- 2. SARS-CoV-2 is the official name given to Coronavirus
- 3. COVID-19 is the official name given to the disease that is caused by the Coronavirus
- 4. SARS-CoV-2 is the official name given to the disease that is caused by the Coronavirus

Select the correct Code:

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

71. Which of the following statements is/are correct about the Committee on Virtual Currency?

- 1. It was set up in April 2019
- 2. It gave Report January 2020
- 3. Its Chairman was Prof. AJ Paulraj

Select the correct Code:

- (a) 1 and 2 Only
- (b) 3 Only
- (c) 1, 2 and 3

(d) None of these

72. Which of the following is not the advantage of 3D Printing?

- (a) Customisation of products
- (b) Waste reduction/removal
- (c) Cost efficiency in mass production
- (d) Flexibility and creativity in products

73. Which of the following statements are correct relating to Bose-Einstein Condensates (BECs) in the news recently?

- 1. Studies were conducted on Fifth State of matter
- 2. Studies were conducted in Cold Atom Lab (CAL) placed in International Space Station (ISS)
- 3. BECs were created using Rubidium Atoms

Select the correct Code:

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

74. Which of the following statements are correct about EMISAT launched by India?

- 1. It is Electronic Intelligence (ELINT) Satellite
- 2. Its primary purpose is Air Traffic Control (ATC) in Indian Airspace
- 3. It can measure Electro Magnetic Spectrum and Intercept Radio Signals

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

75. Why is it that Antibiotics are not effective / cannot-cure COVID-19?

- (a) There are even Asymptomatic Cases
- (b) Very large number of people are affected by it
- (c) It is a viral disease
- (d) None of these

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76. Which of the following statements is *incorrect*?

- (a) Hubble had put itself into safe mode due to problems with the on-board gyroscope
- (b) Spaceborne Computer is to enable astronauts on the International Space Station (ISS) to use Supercomputer for science experimentation
- (c) James Web Space Telescope (JWST) is scheduled for launch by USA in 2021 and it will facilitate study of the smallest exomoons
- (d) Transiting Exoplanet Survey Satellite (TESS) will be launched by USA in 2022 to study world's circling stars close to sun

77. Which of the following help(s) in fighting pathogens and has important utility for antibiotics?

- (a) Jatropha
- (b) Trichoderma
- (c) B1, B2, G1 and G2
- (d) None of these

78. Which of the following crops can be simply brought through pollination without the use of gene slicing?

- 1. Hybrid Crops
- 2. Genetically Modified (GM) Crops

Select the correct Code:

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

79. Which of the following statements are correct relating to Anti-Satellite (A-SAT) weapon capability of India?

- 1. Before India's launch only USA, Russia, China, France, Germany and Israel had this technology
- 2. Using Kinetic Kill Technology, A-SAT can hit live Satellites flying in Low Earth Orbit (LEO)
- 3. Its launch was named as 'Mission Shakti'

Select the correct Code:

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

80. Which of the following statements is/are correct about aflatoxins?

- 1. Main fungi that produce aflatoxins are *Aspergillus Flavus* and *Aspergillus Parasites*
- 2. Exposure to aflatoxins is associated with increased risk to liver cancer
- 3. Pistachio, corn, peanut and coconut are extremely lowly prone to contamination by aflatoxins

Select the correct Code:

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

81. Which of the following statements is correct relating to wireless technologies?

- (a) Near Field Communication (NFC) can be used for covering larger range/distance as compared to Bluetooth
- (b) Battery consumption in Wi-Fi is lower than in Bluetooth
- (c) Li-Fi communication is far more reliable and accurate than Wi-Fi communication
- (d) None of these

82. Which of the following statements are correct about Dark Web?

- 1. Normal browser is used in it
- 2. In it there is use of The Onion Router (TOR)
- 3. There is much misuse of Dark Web in unlawful activities

Select the correct Code:

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

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83. Which of the following statements is correct about Cartosat-3?

- (a) It is Earth Observation Satellite
- (b) It has a Mission Life of 7 Years
- (c) It is 5th Satellite in Cartosat Series
- (d) None of these

84. Which of the following is the main purpose of Gaganyaan Mission?

- (a) Space Diplomacy
- (b) Space experimentation
- (c) Space Tourism
- (d) None of these

85. Which of the following statement is correct regarding Cryptocurrency and Fiat Money?

- (a) Both have status of legal tender
- (b) None of these is legal tender
- (c) Cryptocurrency is Legal Tender but not Fiat Money
- (d) Fiat Money is legal tender but not Cryptocurrency

86. Which of the following statements are correct about Microbial Fuel Cell (MFC) Technology?

- 1. Bioelectricity generated through it is a form of alternate renewable energy
- 2. It can be used for detection of water toxicity and detection of Biological Oxygen on Demand (BOD)
- 3. It can be used for generating Hydrogen Peroxide (H_2O_2) useful for bleaching/cleaning

Select the correct Code:

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

87. Which of the following statements is correct relating to Satellite Technology or Satellites?

- (a) Geostationary Earth Orbit is also called Geosynchronous Equatorial Orbit and a

satellite in this orbit takes 24 hours to orbit the earth

- (b) All the Satellites of Navigation with Indian Constellation (NavIC) are in Geostationary Earth Orbit
- (c) None of the Satellites of Navigation with Indian Constellation (NavIC) is in Geostationary Earth Orbit (GEO)
- (d) None of these

88. Which of the following is the correct sequence of COVID-19 transmission in increasing intensity of the problem of transmission?

- 1. Cluster of cases
- 2. Sporadic cases
- 3. Community transmission

Select the correct Code:

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

89. Which of the following statements is/are correct?

- 1. Secure Scalable and *Suganya* Website as a Service (S3WaaS) Platform is used for developing Government Websites which are compliant with GIGW – Guidelines for Indian Government Websites
- 2. DigiLocker (Digital Locker) has partnered with Unique Identification Authority of India (UIDAI) for facilitating the 'Digital Aadhaar'/'eAadhaar' availability to those having DigiLocker Account

Select the correct Code:

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

90. Which of the following statements is/are correct?

- 1. While COVID-19 is zoonotic in nature, whereas SARS and MERS were not zoonotic

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2. COVID-19 was first reported in Wuhan City of Hubei Province in Central China
3. Highest number of deaths due to COVID-19 are in China

Select the correct Code:

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

91. In Bose-Einstein Condensates (BECs) in the news in recent times when groups of atoms were cooled to absolute zero in Cold Atom Lab (CAL) in the International Space Station (ISS) they started behaving as if they were one atom with some quantum properties referred to and named as which of the following?

- (a) Cold Atom
- (b) Super Atom
- (c) Dark Atom
- (d) Quantum Atom

92. Which of the following statements is correct about the Supercomputers?

- (a) PARAM Shivay is at present the fastest Supercomputer in India
- (b) Tianhe-2 is the fastest Supercomputer in the World at present
- (c) Supercomputers are largely based on Parallel Processing and largely use Linux Operating System
- (d) None of these

93. Which of the following display technology is best fit for developing 'quality foldable displays'?

- (a) Quantum-Dot Light Emitting Diode (QLED)
- (b) Organic Light Emitting Diode (OLED)
- (c) Plasma Display
- (d) Liquid Crystal Display (LCD)

94. Which of the following statements is/are correct regarding Plasma Convalescent Therapy?

1. States in India need approval of the Indian Council of Medical Research before conducting the Clinical Trials

2. Approval of Drug Controller General of India (DGCI) is needed for collecting the blood donation for such a treatment

Select the correct Code:

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

95. Which of the following statements is/are correct about India's COVID-19 contact tracing Arogya Setu App?

1. It is available on Android, iOS and KaiOS Platforms
2. It was first launched on 27th May 2020

Select the correct Code:

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

96. When was Novel Coronavirus Disease (COVID-19) declared a pandemic by World Health Organisation (WHO)?

- (a) 1st March 2020
- (b) 7th March 2020
- (c) 11th March 2020
- (d) 15th March 2020

97. Which of the following institutions in India is/are authorised for collecting samples for Plasma Convalescent Therapy for Clinical Trials?

1. Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram
2. Post Graduate School of Medical Education and Research (PGIMER), Chandigarh

Select the correct Code:

- (a) 1 Only
- (b) 2 Only
- (c) 1 and 2 Both

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(d) Neither 1 nor 2

98. Which of the following statement is *incorrect*?

- (a) Plasma contains antibodies
- (b) Antibodies are immediate warriors to fight pathogens
- (c) Antibodies are proteins
- (d) Plasma Convalescent Therapy develops life-long immunity

99. Which of the following statement is correct?

- (a) Block chain technology transfers take place through number of intermediaries
- (b) Cryptocurrency is legal tender

(c) Qatar is the first country in the world to launch Central Bank Digital Currency (CBDC)

(d) None of these

100. Which of the following statements is *incorrect* about Arogya Setu App?

- (a) There is also Bug Bounty Programme for finding bugs and improving its code
- (b) It was launched with the objective of Bluetooth based contact tracing and mapping of likely hotspots
- (c) Lead agency for its development is Centre for Development of Advanced Computing (C-DAC)
- (d) Now it is Open-Source

NEXT IAS

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Answer Key:

- | | | | | |
|----------------|----------------|----------------|----------------|-----------------|
| <u>1.</u> (b) | <u>21.</u> (d) | <u>41.</u> (b) | <u>61.</u> (d) | <u>81.</u> (d) |
| <u>2.</u> (d) | <u>22.</u> (d) | <u>42.</u> (c) | <u>62.</u> (d) | <u>82.</u> (c) |
| <u>3.</u> (d) | <u>23.</u> (b) | <u>43.</u> (d) | <u>63.</u> (c) | <u>83.</u> (a) |
| <u>4.</u> (c) | <u>24.</u> (c) | <u>44.</u> (d) | <u>64.</u> (a) | <u>84.</u> (b) |
| <u>5.</u> (b) | <u>25.</u> (a) | <u>45.</u> (d) | <u>65.</u> (d) | <u>85.</u> (d) |
| <u>6.</u> (d) | <u>26.</u> (c) | <u>46.</u> (a) | <u>66.</u> (a) | <u>86.</u> (d) |
| <u>7.</u> (b) | <u>27.</u> (d) | <u>47.</u> (c) | <u>67.</u> (d) | <u>87.</u> (a) |
| <u>8.</u> (a) | <u>28.</u> (c) | <u>48.</u> (b) | <u>68.</u> (b) | <u>88.</u> (b) |
| <u>9.</u> (c) | <u>29.</u> (c) | <u>49.</u> (d) | <u>69.</u> (c) | <u>89.</u> (c) |
| <u>10.</u> (d) | <u>30.</u> (a) | <u>50.</u> (d) | <u>70.</u> (b) | <u>90.</u> (c) |
| <u>11.</u> (d) | <u>31.</u> (c) | <u>51.</u> (b) | <u>71.</u> (d) | <u>91.</u> (b) |
| <u>12.</u> (c) | <u>32.</u> (d) | <u>52.</u> (d) | <u>72.</u> (c) | <u>92.</u> (c) |
| <u>13.</u> (c) | <u>33.</u> (d) | <u>53.</u> (c) | <u>73.</u> (d) | <u>93.</u> (b) |
| <u>14.</u> (d) | <u>34.</u> (b) | <u>54.</u> (b) | <u>74.</u> (b) | <u>94.</u> (c) |
| <u>15.</u> (d) | <u>35.</u> (a) | <u>55.</u> (a) | <u>75.</u> (c) | <u>95.</u> (a) |
| <u>16.</u> (a) | <u>36.</u> (d) | <u>56.</u> (b) | <u>76.</u> (d) | <u>96.</u> (c) |
| <u>17.</u> (a) | <u>37.</u> (c) | <u>57.</u> (c) | <u>77.</u> (b) | <u>97.</u> (c) |
| <u>18.</u> (a) | <u>38.</u> (b) | <u>58.</u> (d) | <u>78.</u> (a) | <u>98.</u> (d) |
| <u>19.</u> (b) | <u>39.</u> (b) | <u>59.</u> (c) | <u>79.</u> (c) | <u>99.</u> (d) |
| <u>20.</u> (b) | <u>40.</u> (c) | <u>60.</u> (c) | <u>80.</u> (b) | <u>100.</u> (c) |