



*Drishti IAS Presents...*

PT

**SPRINT** 2022

# SOCIAL ISSUES

(January 2021 – March 2022)



Detailed  
Explanation

Answers

Drishti IAS, 641, Mukherjee Nagar,  
Opp. Signature View Apartment,  
New Delhi

Drishti IAS, 21  
Pusa Road, Karol Bagh  
New Delhi - 05

Drishti IAS, Tashkent Marg,  
Civil Lines, Prayagraj,  
Uttar Pradesh

Drishti IAS, Tonk Road,  
Vasundhara Colony,  
Jaipur, Rajasthan

e-mail: [englishsupport@groupdrishti.com](mailto:englishsupport@groupdrishti.com), Website: [www.drishtias.com](http://www.drishtias.com)

Contact: 011430665089, 7669806814, 8010440440

**1. Ans: C****Exp:**

- Recently, the **Indian Council of Medical Research (ICMR)** has approved a made-in-India testing kit (RT-PCR Test), named Omisure, for detecting the Omicron variant of the SARS-CoV-2 coronavirus. **Hence statement 1 is correct.**
- The kit currently in use to detect Omicron in the country has been developed by the US-based scientific instrumentation company Thermo Fisher.
- Further, the World Health Organisation (WHO) has proposed some measures to strengthen laboratory capacities, with the focus on addressing inequalities in access to Covid-19 diagnostics tools.
- The RT-PCR kit is manufactured by Tata Medical and Diagnostics. It uses S-Gene **Target Failure (SGTF) strategy.**
- Currently, Omicron patients are **detected only after genome sequencing.**
  - However, the Omisure test kit helps to **eliminate this step** and detects the Omicron variant of SARS-CoV2 in the nasopharyngeal/oropharyngeal specimens during the RT-PCR tests. **Hence statement 2 is correct.**
  - The Omicron variant underwent several mutations in the S-gene, the SGTF strategy checks and indicates it in patients who are detected Covid positive.
  - 'S' Gene, ORF, 'N' gene, RdRp, 'E' gene are viral genes that are targeted to detect Covid-19 virus.

**2. Ans: A****Exp:****African Swine Fever:**

- It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs. **Hence statement 1 is correct.**
- Other manifestations of the disease include high fever, depression, anorexia, loss of appetite, hemorrhages in the skin, vomiting and diarrhea among others.
- It was first detected in Africa in the 1920s. **Hence statement 2 is not correct.**
  - Historically, outbreaks have been reported in Africa and parts of Europe, South America, and the Caribbean.

- However, more recently (since 2007), the disease has been reported in multiple countries across Africa, Asia and Europe, in both domestic and wild pigs.
- In 2021, cases were also detected in India.
- The mortality is close to 100% and since the fever has no cure, the only way to stop its spread is by culling the animals.
- ASF is not a threat to human beings since it only spreads from animals to other animals.
- ASF is a disease listed in the World Organization for Animal Health (OIE) Terrestrial Animal Health Code and thus, reported to the OIE.

**3. Ans: A****Exp:****Global Hunger Index:**

- Annual Report:** Jointly published by **Concern Worldwide and Welthungerhilfe.** **Hence statement 2 is not correct.**
  - It was first produced in 2006. It is published every October. The 2021 edition marks the 16th edition of the GHI.
- Aim:** To comprehensively measure and track hunger at the global, regional, and country levels.
- Calculation:** It is calculated on the basis of four indicators:
  - Undernourishment:** Share of the population with insufficient caloric intake.
  - Child Wasting:** Share of children under age five who have low weight for their height, reflecting acute undernutrition.
  - Child Stunting:** Share of children under age five who have low height for their age, reflecting chronic undernutrition.
  - Child Mortality:** The mortality rate of children under the age of five.
- India's Rank:** India has slipped to 101st position in the Global Hunger Index (GHI) 2021 of 116 countries, from its 2020 position of 94<sup>th</sup>. **Hence statement 1 is correct.**

**4. Ans: A****Exp:**

- Antimicrobial resistance is the resistance acquired by any microorganism (bacteria, viruses, fungi, parasite, etc.)** against antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics) that are used to treat infections.
  - As a result, standard treatments become ineffective, infections persist and may spread to others.

- ◆ Microorganisms that develop antimicrobial resistance are sometimes referred to as "superbugs".

- The World Health Organization (WHO) has identified AMR as one of the top ten threats to global health.

- According to the **Global Research on Antimicrobial Resistance (GRAM)** report, 1.27 million people died in 2019 as a direct result of AMR (AntiMicrobial Resistance).

- ◆ The **death due to AMR is now a leading cause of death** worldwide, **higher than HIV/AIDS or malaria**. Hence, **statement 1 is correct**.

- ◆ Most of the deaths from AMR were caused by lower respiratory infections, such as pneumonia, and bloodstream infections, which can lead to sepsis.

- **Measures Taken to Address AMR (India):**

- ◆ **National Action Plan on AMR:** It focuses on One Health approach and was launched in April 2017 with the aim of involving various stakeholder ministries/departments.

- ◆ **Antibiotic Stewardship Program:** The ICMR (Indian Council of Medical Research (ICMR)) has initiated antibiotic stewardship program (AMSP) on a pilot project across India to control misuse and overuse of antibiotics in hospital wards and ICUs. Hence, **statement 2 is not correct**.

- DCGI has banned 40 Fixed Dose Combinations (FDCs) which were found inappropriate.

5. Ans: C

Exp:

- Neglected Tropical Diseases (NTDs) are a group of infections that are most common among marginalised communities in the developing regions of **Africa, Asia and the Americas**. Hence, **statement 1 is not correct**.
- NTDs are especially common in tropical areas where people do not have access to clean water or safe ways to dispose of human waste.
- They are **caused by a variety of pathogens** such as viruses, bacteria, protozoa and parasitic worms. Hence, **statement 2 is correct**.
- **NTDs affect more than a billion people globally**.
  - ◆ They are preventable and treatable. However, these diseases - and their intricate interrelationships with poverty and ecological systems - continue to cause devastating health, social and economic consequences.
  - ◆ There are 20 NTDs that impact over 1.7 billion people worldwide. Hence, **statement 3 is not correct**.

6. Ans: D

Exp:

- Under the **National Commission for Women Act, 1990**, the National Commission for Women (NCW) was set up as a statutory body in January 1992. Hence, **statement 1 is not correct**.
- It can take **suo moto** actions to inquire into cases related to the non-implementation of laws for women and non-enforcement of laws and non-compliance of policy decisions, guidelines enacted and aimed at mitigating hardships ensuring the welfare and then take up issues arising out of matter with the concerned authorities. Hence, **statement 2 is not correct**.

7. Ans: C

Exp:

- According to the **World Health Organisation (WHO)**, women in the reproductive age group and having haemoglobin levels lower than 12 grams per decilitre (g / dL), as well as children under five with haemoglobin levels lower than 11.0 g / dL are considered anaemic.
  - ◆ **Iron deficiency is the most common cause of anaemia**, although other conditions, such as folate, vitamin **B12** and **vitamin A** deficiencies, chronic inflammation, parasitic infections, and inherited disorders can all cause anaemia. Hence, **statement 1 is correct**.
- **Anaemia Mukht Bharat plan** is based on a life cycle approach, providing preventive and curative mechanisms through a **6X6X6 strategy** including six target beneficiaries, six interventions and six institutional mechanisms for all stakeholders to implement the strategy. Hence, **statement 2 is correct**.

8. Ans: A

Exp:

- **Atal Innovation Mission (AIM)**, **NITI Aayog**, and the **US Agency for International Development (USAID)** announced a new partnership under the **Sustainable Access to Markets and Resources for Innovative Delivery of Healthcare (SAMRIDH)** initiative.
- The collaboration will focus on **innovations across the healthcare landscape with the common goal to mount an effective response** to the ongoing third wave of **Covid-19** and build health system preparedness for future infectious disease outbreaks and health emergencies.
- In 2020 the Indian government, academia, and the private sector developed the **innovative SAMRIDH**

**blended finance facility** to combine **public and philanthropic funds with commercial capital** to create and rapidly scale market-based health solutions. Hence, **option A is correct.**

9. Ans: A

Exp:

- Fortification is the **addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.** Hence, **statement 1 is correct.**
  - ◆ These nutrients may or may not have been originally present in the food before processing.
- The Minister of Consumer Affairs, Food and Public Distribution has approved the **Centrally Sponsored Pilot Scheme** on “**Fortification of Rice & its Distribution under Public Distribution System**” for a period of 3 years beginning in 2019-20 with total outlay of Rs. 174.64 Cr. Hence, **statement 3 is not correct.**
- **Objectives the Scheme:**
  - ◆ **Distribution of Fortified Rice through Public Distribution System**, to cater **15 Districts in the country** - preferably one district per State in the initial phase of Implementation. Hence, **statement 2 is not correct.**
  - ◆ Coverage of NFSA (National Food Security Act) beneficiaries under PDS with Fortified Rice in the selected Districts.
  - ◆ Facilitate cross learning and sharing of best practices among States/UTs and DoF&PD (Department of Food and Public Distribution).
  - ◆ To evaluate the provision, coverage and Utilization of Fortified Rice by the target population as well as the efficiency/effectiveness of the consumption of fortified rice in reducing the targeted micronutrient deficiencies in different age and gender groups.

10. Ans: C

Exp:

- In October 2016, FSSAI operationalized the Food Safety and Standards (Fortification of Foods) Regulations, 2016 for fortifying staples namely Wheat Flour and Rice (with Iron, Vitamin B12 and Folic Acid), Milk and Edible Oil (with Vitamins A and D) and Double Fortified Salt (with Iodine and Iron) to reduce the high burden of micronutrient malnutrition in India. Hence, **option C is correct.**

11. Ans: A

Exp:

- Epilepsy is a **central nervous system (neurological) disorder** in which brain activity becomes abnormal, causing seizures or periods of unusual behavior, sensations, and sometimes loss of awareness. Hence, **statement 1 is correct.**
  - ◆ Epilepsy is the fourth most common neurological disorder and affects people of all ages.
  - ◆ Anyone can develop epilepsy, but it's **more common in young children** and older adults. It **occurs slightly more in males than in females.** Hence, **statement 2 is not correct.**
- **Symptoms:**
  - ◆ Alterations to sense of taste, smell, sight, hearing, or touch, dizziness, tingling and twitching of limbs, Staring blankly, unresponsiveness, performing repetitive movements.
  - ◆ It may or may not involve loss of awareness or consciousness.
- **Cure:**
  - ◆ There's **no cure for epilepsy**, but the disorder can be managed with medications and other strategies.

12. Ans: C

Exp:

- **Human Immunodeficiency Virus (HIV)** attacks CD4, a type of **White Blood Cell** (T cells) in the body's immune system. T cells are those cells that move around the body detecting anomalies and infections in cells. Hence, **statement 1 is correct.**
- After entering the body, HIV multiplies itself and destroys CD4 cells, thus severely damaging the human immune system. **Once this virus enters the body, it can never be removed.** Hence, **statement 2 is correct.**
- The CD4 count of a person infected with HIV reduces significantly. In a healthy body, CD4 count is between 500- 1600, but in an infected body, it can go as low as 200.

13. Ans: C

Exp:

- **Article 23 (1)** in the constitution of India prohibits **trafficking in human beings and forced labour.** Hence, **statement 1 is correct.**
  - ◆ The Immoral Traffic (Prevention) Act, 1956 (ITPA) penalizes trafficking for commercial sexual exploitation.

- ◆ India also prohibits bonded and forced labour through the Bonded Labour System (Abolition) Act 1976, Child Labour (Prohibition and Abolition) Act 1986, and Juvenile Justice Act.
- ◆ Sections 366(A) and 372 of the Indian Penal Code, prohibits kidnapping and selling minors into prostitution respectively.
- ◆ Apart from this, the Factories Act, 1948 guaranteed the protection of rights of workers.

- **Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children** in 2000 as a part of the UN Convention Against Transnational Organised Crime (**Palermo Convention**). Hence, **statement 2 is correct.**

- ◆ It entered into force on 25 December 2003. It is the first global legally binding instrument with an agreed definition on trafficking in persons.
- ◆ Protocol against the Smuggling of Migrants by Land, Sea and Air.

14. Ans: A

Exp:

- **Blue Heart Campaign** is a global awareness raising initiative to fight human trafficking and its impact on society. It seeks to encourage involvement from governments, civil society, the corporate sector and individuals alike, to inspire action and help prevent this heinous crime. Hence, **option A is correct.**

15. Ans: D

Exp:

- **World AIDS Day** is observed on 1 December every year to raise awareness and knowledge about HIV and a call to move toward ending the HIV epidemic. It was first celebrated in 1988.
- Every year on **3<sup>rd</sup> December, International Day of Persons with Disabilities** is observed.
- **Human Rights Day** is observed every year on 10th December - the day the United Nations General Assembly adopted, in 1948, the Universal Declaration of Human Rights (UDHR). Hence, **option D is correct.**

16. Ans: D

Exp:

- The Universal Declaration of Human Rights (UDHR) adopted in 1948 by the United Nations General Assembly established a set of common basic values both with regard to the view of human beings and to the relationship between the state and the individual.
  - ◆ India is a signatory to UDHR and took an active part in drafting of the UDHR.

- The other similar conventions to which India is a party include:

- ◆ The Convention on the Prevention and Punishment of the Crime of Genocide (1948)
- ◆ The International Convention on the Elimination of All Forms of Racial Discrimination (1965)
- ◆ The Convention on the Elimination of All Forms of Discrimination against Women (1979)
- ◆ The Convention on the Rights of the Child (1989)
- ◆ The Convention on the Rights of Persons with Disabilities (2006)

- Hence, option D is correct.

17. Ans: B

Exp:

- **Neurological disorders** are diseases of the central and peripheral nervous system.
  - ◆ In other words, the brain, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and muscles.
- **Non-Communicable Neurological Disorders:** Stroke, Headache disorders, **Epilepsy**, Cerebral palsy, Alzheimer's disease and other dementias, Brain and central nervous system cancer, **Parkinson's disease**, Multiple sclerosis, Motor neuron diseases, and other neurological disorders.
  - ◆ **Communicable Neurological Disorders:** Encephalitis, Meningitis, Tetanus.
- Hence, option B is correct.

18. Ans: C

Exp:

- Human trafficking involves recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, for the purpose of exploitation.
  - ◆ Exploitation include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude, or the removal of organs.
- **Relevant Laws in India:**
  - ◆ **Immoral Traffic (Prevention) Act 1956** is the premier legislation to deal with this issue.
  - ◆ **Article 23** and 24 (Right Against Exploitation) of the Constitution of India.
    - **Article 23** prohibits human trafficking and begar (forced labour without payment). Hence, **statement 1 is correct.**



- **Article 24** forbids employment of children below the age of 14 years in dangerous jobs like factories and mines.

◆ **25 sections in IPC** such as 366A, 366B, 370 and 374.

◆ The **Juvenile Justice Act** and the **Information Technology (IT) Act** and also the **Prevention of Child Labour Act**, the **Bonded Labour (Abolition) Act**, among others.

- In July 2021, the Ministry of Women and Child Development released **Draft anti-trafficking Bill**, the Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021.
- India has ratified the **United Nations Convention on Transnational Organised Crime (the Palermo Convention)** which among others has a Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children. **Hence, statement 2 is correct.**
- India has ratified the SAARC Convention on Preventing and Combating Trafficking in Women and Children for Prostitution.

19. Ans: B

Exp:

- **Human papillomavirus (HPV)** is the **most common viral infection of the reproductive tract**. **Hence, statement 1 is correct.**
- There are more than 100 types of HPV.
  - ◆ More than 40 types of HPV are spread through direct sexual contact.
  - ◆ Out of these 40, two cause genital warts, while about a dozen of HPV cause different types of cancer including cervical, anal, oropharyngeal, penile, vulvar and vaginal.
- Recently, new research has found that the Human papillomavirus (HPV) vaccine (Cervarix) reduces the risk of Cervical Cancer significantly in women.
- In India about 77% cases of cervical cancer are caused by HPV 16 and 18.
  - ◆ In India, bivalent and quadrivalent HPV vaccines were licensed in 2008 and a non valent vaccine was licensed in 2018.
  - ◆ **Officially, the HPV vaccine has not been recommended for boys and males in India. Hence, statement 2 is not correct.**

20. Ans: C

Explanation:

- **About Molnupiravir:**
  - ◆ Recently, it is claimed that Molnupiravir, an oral drug, can cut the risk of hospitalisation in **Covid-19** patients by half, in phase 3 trials.

◆ It belongs to a class of **broad spectrum antiviral drugs called nucleoside analogues.**

- They act by interfering with the function of **viral RNA (Ribonucleic Acids) polymerases** – which are enzymes that make new viral RNA in infected cells.
- RNA is a polymer of ribonucleotides and an important biological macromolecule that is present in all biological cells.
- It is principally involved in the synthesis of proteins, carrying the messenger instructions from **Deoxyribonucleic acid (DNA)**, which itself contains the genetic instructions required for the development and maintenance of life.

◆ It works by **causing viruses to make errors when copying** their own RNA, introducing mutations that inhibit replication.M

◆ It was initially invented as a drug for the influenza virus.

- **Hence, option C is correct.**

21. Ans: B

Exp:

- Recently, the Ministry of Animal Husbandry and Dairying has organized a workshop on the National Action Plan to combat Antimicrobial Resistance (AMR), while celebrating World Antimicrobial Awareness Week (WAAW - November 18-24).
  - ◆ During WAAW an International Colour Campaign, **'Go Blue' campaign, was launched by the AMR tripartite organisations (World Health Organization, Food and Agriculture Organization of the United Nations and the World organisation for Animal Health) to help spread awareness about AMR.**
- AMR is the resistance acquired by any microorganism against antimicrobial drugs that are used to treat infections.
  - ◆ Microorganisms that develop antimicrobial resistance are sometimes referred to as "superbugs".
  - ◆ The WHO has declared AMR as one of the top 10 global health threats.
- **Hence, option B is correct.**

22. Ans: C

Exp:

- In late 2016, a few diplomats from the USA and their employees had reported certain usual symptoms during their stay in Havana, Cuba.

- ◆ They experienced some odd physical sensations and heard peculiar sounds, after which they started feeling sick. Hence, statement 1 is correct.

- The US had even accused Cuba of carrying out sonic attacks. But Cuba denied the accusations of the sonic attacks and refused awareness of any such illness or syndrome.

- ◆ Ever since many bodies and institutions have been researching the cause of the Havana syndrome and many plausible factors have been discovered till date.

- The symptoms of the syndrome include Nausea, Severe headaches, Fatigue, Dizziness, Sleep problems, Hearing loss.

- ◆ A few of those who had been affected more faced chronic issues like vestibular processing and cognitive problems.

- In 2020, a report by the National Academies of Sciences (NAS), US found directed microwave radiation to be the plausible cause of the Havana syndrome. Hence, statement 2 is correct.

23. Ans: A

Exp:

Microwave Weapons:

- **Direct Energy Weapon (DEW):** They are a type of direct energy weapons, which aim highly focused energy in the form of sonic, laser, or microwaves, at a target.
  - ◆ They release electromagnetic radiation which causes sensations in the human body..
- A number of countries are thought to have developed these weapons to target both humans and electronic systems.
  - ◆ China had first put on display its microwave weapon, called Poly WB-1, at an air show in 2014.
  - ◆ The US has also developed a prototype microwave-style weapon, which it calls the "Active Denial System", which is the first non-lethal, directed-energy, counter-personnel system with an extended range greater than currently fielded non-lethal weapons. Hence, statement 2 is not correct.
  - ◆ Recently, the DRDO has also announced its plans to develop DEWs using high-energy lasers and microwaves.
- These weapons are a cause of concern as they can affect both machines and human beings. Hence, statement 1 is correct.
  - ◆ They can cause long-term damages without leaving a single mark on the human body.

24. Ans: D

Exp:

- **Total fertility rate (TFR)** in simple terms refers to the total number of children born or likely to be born to a woman in her lifetime if she were subject to the prevailing rate of age-specific fertility in the population. Hence, statement 1 is correct.
  - ◆ TFR of about 2.1 children per woman is called **Replacement-level fertility**. TFR lower than 2.1 children per woman — indicates that a generation is not producing enough children to replace itself, eventually leading to an outright reduction in population. Hence, statement 2 is correct.
  - ◆ This value represents the average number of children a woman would need to have to reproduce herself by bearing a daughter who survives to childbearing age.
- Recently, the latest data from the National Family Health Survey (NFHS 2019-21) has been released.
  - ◆ The data shows a declining trend regarding Total Fertility Rate (TFR).
  - ◆ Due to the sustained family planning programme spanning decades, the TFR, has declined further from 2.2 reported in 2015-16 to 2.0 at the all-India level. Hence, statement 3 is correct.
    - The TFR is at 1.6 in urban areas and 2.1 in rural India.
    - The total fertility rate, was as high as 6 or more in 1950s
  - ◆ It is a very huge development because of maternal and child health improvement.

25. Ans: D

Exp:

- The **Science, Technology, Engineering and Mathematics (STEM)** was introduced in 2001 by scientific administrators in the U.S. National Science Foundation (NSF).
  - ◆ India is one of the countries that produce the highest number of scientists and engineers, the growth of STEM has picked up significantly over the last few years.
    - Under **Article 51A (enlisting fundamental duties)** of the Constitution of India, it is a duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform. Hence, statement 1 is correct.

- **Participation of Women in STEM: About 43% of STEM graduates in India are women**, which is the **highest in the world**, but their share in STEM jobs in India is a mere 14%. **Hence, statement 2 is correct.**

- **Initiatives to Promote Women Participation:**

- ◆ **Vigyan Jyoti Scheme:** It is launched by the Department of Science & Technology (DST) and intends to create a level-playing field for the meritorious girls in high school to pursue Science, Technology, Engineering, and Mathematics (STEM) in their higher education.

- ◆ **Knowledge Involvement Research Advancement through Nurturing (KIRAN):** It is one of the several pioneering initiatives started by the Department of Science and Technology (DST) for promoting women in science.

- It **provides career opportunities to unemployed women scientists and technologists**, especially those who had a break in their career. **Hence, statement 3 is correct.**

26. Ans: C

Exp:

- Norovirus is a group of viruses that **leads to gastrointestinal illness**. It has been recently detected in Kerala. **Hence, statement 1 is not correct.**
  - ◆ It causes **inflammation of the lining of the stomach and intestines**, in addition to severe vomiting and diarrhoea.
  - ◆ Norovirus is resistant to many disinfectants and can heat up to 60°C. Therefore, **merely steaming food or chlorinating water does not kill the virus**. The virus can also survive many common hand sanitisers. **Hence, statement 2 is not correct.**
- A person can be infected with different varieties of norovirus several times in their lives, but developing immunity to one type doesn't provide protection against other varieties.
  - ◆ The virus can primarily be transmitted from oral-faecal.
- While **there is no specific treatment available to cure the virus**, generic medications for diarrhoea and vomiting can help cure the disease. **Hence, statement 3 is correct.**

27. Ans: D

Exp:

- The Palermo protocols are three protocols that were adopted by the United Nations to supplement the 2000 Convention against Transnational Organized

Crime (the Palermo Convention). These protocols and conventions fall within the jurisdiction of the United Nations Office on Drugs and Crime.

- ◆ The Protocol to **Prevent, Suppress and Punish Trafficking in Persons**, especially Women and Children; and
- ◆ The Protocol against the **Smuggling of Migrants** by Land, Sea and Air.
- ◆ The Protocol against the **Illicit Manufacturing and Trafficking in Firearms**, Their Parts and Components and Ammunition.

- **Hence, option D is correct.**

28. Ans: A

Exp:

- **Malaria** is a life threatening mosquito borne blood disease caused by plasmodium parasites, predominantly found in the tropical and subtropical areas of Africa, South America as well as Asia.
  - ◆ The parasites spread through the bites of infected female Anopheles mosquitoes.
  - ◆ Four types of Parasites can infect humans: **Plasmodium Vivax**, P. ovale, P. malariae and P. falciparum.
- **Chloroquine (CQ) is the most commonly prescribed drug for P Vivax parasite**. A World Health Organisation (WHO) report said P vivax resistance to chloroquine had been reported from all WHO regions. **Hence, statement 1 is correct.**
  - ◆ Twenty-eight countries, including **India**, showed the **CQ resistance**. **Hence, statement 2 is not correct.**

29. Ans: A

Exp:

- **RTS,S/AS01**, trade name **Mosquirix**, is an **injectable vaccine targeting P. falciparum**, the **most prevalent malaria strain in Africa**. It is the first and only vaccine to show partial protection in young children. **Hence, statement 1 is correct.**
  - ◆ It was developed by British drugmaker GlaxoSmithKline in 1987.
- The active substance in Mosquirix is made up of proteins found on the surface of the Plasmodium falciparum parasites (PFP).
  - ◆ RTS,S aims to trigger the immune system to defend against the first stages of malaria when the PFP enters the human host's bloodstream through a mosquito bite and infects liver cells.
- It also helps protect against infection of the liver with the Hepatitis B virus. **Hence, statement 2 is correct.**



- The **vaccine's effectiveness** at preventing severe cases of malaria in **children is only around 30%**, but it is the only approved vaccine. **Hence, statement 3 is not correct.**
  - ◆ The European Union's drugs regulator approved it in 2015, saying its benefits outweighed the risks.
- Its side effects are rare, but sometimes include a fever that may result in temporary convulsions.

30. Ans: D

Exp:

- **Silicosis** occurs most commonly in people working in the **quarrying, manufacturing, and building construction industries.**
  - ◆ It is a **progressive lung disease** caused by the **inhalation of silica over a long period of time**, characterized by shortness of breath, cough, fever and bluish skin. **Hence, statement 1 is correct.**
- It is one of the **most prevalent occupational health illnesses in the world.**
  - ◆ It is also reported from the population with non-occupational exposure to **silica dust** from industrial as well as non-industrial sources. **Hence, statement 2 is correct**
- Silicosis is a **notified disease under the Mines Act (1952) and the Factories Act (1948).**
  - ◆ **Factory Act of India (1948)** mandates a well-ventilated working environment, provisions for protection from dust, reduction of overcrowding and provision of basic occupational health care. **Hence, statement 3 is correct.**

31. Ans: B

Exp:

- Recently, the National Innovation Foundation (NIF) has developed a poly-herbal medicine called **Mastirak Gel** to treat Mastitis in Dairy Cattle.
- **About Mastitis:** Mastitis, or inflammation of the mammary gland, is the most common and the most expensive disease of dairy cattle throughout most of the world. **Hence Statement 1 is correct.**
  - ◆ Several types of bacteria cause distinctly different mastitis infections. **Hence Statement 3 is not correct.**
  - ◆ Antibiotic infusions into the udder nearly always cure the clinical disease but may not eliminate the bacterial infection.
- **Cause:** Although stress and physical injuries may cause inflammation of the gland, infection by invading bacteria or other microorganisms (fungi, yeasts and possibly viruses) is the primary cause of mastitis.

- ◆ Infections begin when microorganisms penetrate the teat canal and multiply in the mammary gland.

- **Impact:** It can affect farm productivity due to fall in milk quality, thus impacting income-generating activities. **Hence Statement 2 is correct.**

- ◆ It reduces milk yields, increases the cost of production and makes milk less valuable for liquid consumption and manufacture.

32. Ans: D

Exp:

- **Silica** (SiO<sub>2</sub>/silicon dioxide) is a crystal-like mineral found in abundance in sand, rock, and quartz.
- **Silicosis is a progressive lung disease caused by the inhalation of silica over a long period of time**, characterized by shortness of breath, cough, fever and bluish skin.
  - ◆ It occurs most commonly in people working in the quarrying, manufacturing, and building construction industries.
- **Exposure to large amounts of free silica** may not be noticed because silica is odourless, non-irritant and does not cause any immediate health effects, but **long-term exposure is associated with pneumoconiosis, lung cancer, pulmonary tuberculosis, and other lung diseases.**
  - ◆ Pneumoconiosis is one of a group of interstitial lung diseases caused by breathing in certain kinds of dust particles that damage your lungs.
- **Hence, option D is correct.**

33. Ans: A

Exp:

- According to the World Health Organization (WHO) India seems to be entering some stage of Covid-19 endemicity where there is low- to moderate-level transmission.
- An **endemic disease** is a disease that is **always present in a certain population or a given geographical region.** **Hence, statement 1 is correct.**
  - ◆ Some **examples of endemics** include chicken pox and malaria, where there are a predictable number of cases every year in certain parts of the world. **Hence, statement 3 is not correct**
- Epidemic **refers to an outbreak of a disease.** An epidemic occurs when a disease is **spreading through one or more populations.** In contrast, the endemic disease is one that is constantly present in a group or geographic area. **Hence, statement 2 is correct**

- ◆ Pandemics are worldwide epidemics. A pandemic affects more people and takes more lives than an epidemic.
- ◆ Under certain circumstances, an epidemic can lead to a disease becoming endemic.

34. Ans: C

Exp:

- **Tuberculosis (TB)** is caused by a bacterium called *Mycobacterium tuberculosis*, belonging to the *Mycobacteriaceae* family consisting of about 200 members.
  - ◆ In humans, TB most commonly affects the lungs (pulmonary TB), but it can also affect other organs (extra-pulmonary TB).
- **MultiDrug Resistant Tuberculosis (MDR-TB)** is a strain of TB that **cannot be treated** with the two **most powerful first-line treatment anti-TB drugs**. Hence, **statement 1 is correct**.
  - ◆ Extensively Drug Resistant Tuberculosis (XDR-TB) is a form of TB caused by bacteria that are resistant to several of the most effective anti-TB drugs.
- TB is a treatable and curable disease.
  - ◆ **Bacille Calmette-Guérin (BCG)** vaccine, which is presently the **sole vaccine** available for the **prevention of Tuberculosis (TB)**. Hence, **statement 2 is correct**.
  - ◆ It was developed by two Frenchmen, Albert Calmette and Camille Guérin, by modifying a strain of *Mycobacterium bovis* (that causes TB in cattle). It was first used in humans in 1921.

35. Ans: D

Exp:

- **Pollen grains** are **male biological structures** with the **primary role of fertilisation**, but when inhaled by humans, they may strain the respiratory system and cause allergies. Hence, **statement 1 is correct**.
  - ◆ Pollen is released by plants, making **millions of people suffer** from hay fever, **pollinosis and allergic rhinitis**. Hence, **statement 2 is correct**.
  - ◆ About 20-30% of the population suffers from allergic rhinitis or hay fever in India, and approximately 15% develop Asthma.
- According to a study by PGIMER, **Airborne pollen dominating seasons are spring and autumn** with maximum species when the phenological and meteorological parameters are considered favorable for pollen grains' growth, dispersion, and transmission. Hence, **statement 3 is correct**.

36. Ans: D

Exp:

- **Meningitis** is an inflammation (swelling) of the protective membranes covering the brain and spinal cord.
  - ◆ It is **predominantly caused by bacterial and viral infection**. However, injuries, cancer, certain drugs, and other types of infections also can cause meningitis. Hence, **statement 1 is correct**.
- Symptoms: Severe headache that seems different from normal, sudden high fever, stiff neck, confusion or difficulty concentrating, etc.
- Transmission: They **spread from person to person by respiratory droplets** or throat secretions. Hence, **statement 2 is correct**.
  - ◆ Group B streptococcus (bacteria) is often spread from mother to child around the time of birth.
- **Spread**: Meningitis epidemics have occurred in the last decade in all regions of the world. But it is most common in the '**Meningitis Belt**,' which **spans 26 countries across sub-Saharan Africa**. Hence, **statement 3 is correct**.

37. Ans: A

Exp:

- **Durban Declaration and Programme of Action (2001)**: Adopted by the **World Conference against Racism, Racial Discrimination, Xenophobia and Related Intolerance**.
- It also acknowledged that people of African descent were victims of slavery, the slave trade and colonialism, and continue to be victims of their consequences.
  - ◆ It raised the visibility of them and contributed to a substantive advancement in the promotion and protection of their rights as a result of concrete actions taken by States, the United Nations, other international and regional bodies and civil society.

- Hence, **option A is correct**.

38. Answer: D

Explanation:

- Hibernation is an inactive state resembling deep sleep in which certain animals living in cold climates pass the winter.
  - ◆ In hibernation, the body temperature is lowered and breathing and heart rates slow down.
  - ◆ It protects the animal from cold and reduces the need for food during the season when food is scarce.
- Normally, Polar bears, Rodents, and Bats are some animals that show hibernation.

- Recently, new research in zebrafish has demonstrated how **induced hibernation (torpor)** may protect humans from the elements of space, especially radiation, during space flight.

Hence, option D is correct.

39. Ans: B

Exp:

- Pneumococcal disease is a name for any infection caused by bacteria called *Streptococcus pneumoniae* or pneumococcus.** Most people carry pneumococcus in their nose and throat, where the bacteria do not cause any symptoms.
  - However, sometimes the bacteria grow and spread to other parts of the body and that's when people become sick.
  - These bacteria can cause many types of illnesses, including pneumonia, which is an infection of the lungs. Pneumococcal bacteria are one of the most common causes of pneumonia.
- Anyone can get pneumococcal disease**, but children under 2 years of age, **people with certain medical conditions**, adults **65 years or older**, and cigarette smokers are at the highest risk. **Hence, statement 1 is not correct.**
  - Pneumonia had been a major cause of infant and child mortality. According to the World Health Organisation (WHO), pneumonia accounts for 15% of all deaths of children under 5 years.
  - It was estimated that the disease affected around 16 lakh children and caused the death of nearly 68,700 children across the country in the year 2015.
- The government of India is ensuring equitable access to those to the underprivileged** and underserved by making it available under the **Universal Immunization Program (UIP)**. **Hence, statement 2 is correct.**

40. Ans: C

Exp:

- The West Nile Virus (WNV) is a member of the flavivirus genus and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae.
  - It is commonly found in Africa, Europe, the Middle East, North America and West Asia.
- WNV was first isolated in a woman in the West Nile district of Uganda in 1937.
  - It was identified in birds in the Nile delta region in 1953. **Before 1997, WNV was not considered pathogenic for birds. Hence, statement 1 is not correct.**

- WNV causes an infectious disease spread by infected mosquitoes. Hence, statement 2 is correct.**

- It spreads from birds to humans with the bite of an infected Culex mosquito.
  - It can lead to a **fatal neurological disease in humans. Hence, statement 3 is correct.**
- The virus causes West Nile fever in around 20% of cases, according to the World Health Organization (WHO). It is related to the Zika, Dengue and Yellow Fever Viruses.

41. Ans: C

Exp:

- Polio is a crippling and potentially **deadly viral infectious disease that affects the nervous system. Hence, statement 1 is correct.**
- There are three individual and immunologically distinct wild poliovirus strains:
  - Wild Poliovirus type 1 (WPV1)
  - Wild Poliovirus type 2 (WPV2)
  - Wild Poliovirus type 3 (WPV3)
- Symptomatically, all three strains are identical, in that they cause irreversible paralysis or even death. However, there are genetic and virological differences, which make these three strains separate viruses which must each be eradicated individually.
- India received polio-free certification by the WHO in 2014**, after three years of zero cases. **Hence, statement 2 is correct.**
- This achievement has been spurred by the successful Pulse Polio Campaign in which all children were administered polio drops.
  - The last case due to wild poliovirus in the country was detected on 13th January 2011.

42. Ans: C

Exp:

- Zika virus is a mosquito-borne flavivirus** that was first identified in Uganda in 1947 in monkeys. It was later identified in humans in 1952 in Uganda and the United Republic of Tanzania. **Hence, statement 1 is correct.**
- Transmission:**
  - ZVD is caused by a virus transmitted primarily by **Aedes mosquitoes (AM)**, mainly *Aedes aegypti*.
  - This is the same mosquito that transmits dengue, chikungunya and yellow fever.
  - Zika virus is also transmitted from mother to fetus during pregnancy**, through sexual contact, transfusion of blood and blood products, and organ transplantation.

- Zika virus infection during **pregnancy can cause infants to be born with microcephaly** (smaller than normal head size) and other congenital malformations, known as congenital Zika syndrome. **Hence, statement 2 is correct**

- Symptoms are generally mild and include fever, rash, conjunctivitis, muscle and joint pain, malaise or headache.
  - ◆ Most people with Zika virus infection do not develop symptoms.
- There is no vaccine or medicine for Zika. Instead, the focus is on relieving symptoms and includes rest, rehydration and acetaminophen for fever and pain.

43. Ans: A

- Acute Encephalitis Syndrome (AES) is a broad term involving several infections and affects young children. The syndrome can be caused by viruses, bacteria or fungi. In India, the most common cause is the virus that causes Japanese Encephalitis (JE). **Hence, statement 1 is correct.**
- **Acute encephalitis syndrome** is a severe case of encephalitis transmitted by mosquitoes and is characterized by **high fever** and **inflammation of the brain**. **Hence, statement 2 is correct.**
- The disease most commonly affects children and young adults and can lead to considerable morbidity and mortality.
- Viruses are the main causative agents in AES cases, although other sources such as bacteria, fungi, parasites, spirochetes, chemicals, toxins, and noninfectious agents have also been reported over the past few decades. It is not vaccine-preventable. **Hence, statement 3 is not correct.**
  - ◆ Japanese Encephalitis virus (JEV) is the major cause of AES in India (ranging from 5%-35%).
  - ◆ Herpes simplex virus, Nipah virus, Zika virus, Influenza A virus, West Nile virus, Chandipura virus, mumps, measles, dengue, scrub typhus, S.pneumoniae are also found as causative agents for AES.

44. Ans: A

Exp:

- **Conjugal rights** are rights created by marriage, i.e. right of the husband or the wife to the society of the other spouse.
  - ◆ The law **recognises these rights— both in personal laws** dealing with marriage, divorce etc, and in criminal law requiring payment of maintenance and alimony to a spouse. Hence, statement 1 is correct.

- **Section 9 of the Hindu Marriage Act** recognises one aspect of conjugal rights — the right to consortium and protects it by allowing a spouse to move court to enforce the right. It reads:

- ◆ When either the husband or the wife has, without reasonable excuse, withdrawn from the society of the other, the aggrieved party may apply, by petition to the district court. Hence, statement 2 is correct.

- In 1984, the SC had upheld Section 9 of the Hindu Marriage Act in the case of **Saroj Rani v Sudarshan Kumar Chadha**, holding that the provision serves a social purpose as an aid to the prevention of break-up of marriage.

- ◆ In 1983, a single-judge bench of the Andhra Pradesh High Court had **for the first time struck down the provision** in the case of **T Sareetha v T Venkatasubbaiah** and **declared it null and void**. **Hence, statement 3 is not correct.**

- It cited the right to privacy among other reasons. The court also held that in “a matter so intimately concerned the wife or the husband the parties are better left alone without state interference”.
- The court had, most importantly, also recognised that compelling “sexual cohabitation” would be of “grave consequences for women”.

45. Ans: C

Exp

**Monkeypox Virus:**

- It is a **viral zoonotic disease** (transmission from animals to humans) and is identified as a pox-like disease among monkeys. Hence it is named Monkeypox. It is endemic to Nigeria. **Hence, statement 1 is correct.**
  - ◆ It is caused by the monkeypox virus, a member of the **Orthopoxvirus genus** in the family Poxviridae.
- The **natural host of the virus remains undefined**. But the disease has been reported in many animals.
  - ◆ Animals known to be sources of the Monkeypox virus include monkeys and apes, a variety of rodents (including rats, mice, squirrels and prairie dogs) and rabbits. **Hence, statement 2 is not correct.**
- Monkeypox infected people **break out in a rash that looks a lot like chickenpox**. But the fever, malaise, and headache from Monkeypox are usually more severe than in chickenpox infection.

- ◆ In the early stage of the disease, Monkeypox can be distinguished from smallpox because the lymph gland gets enlarged. Hence, statement 3 is correct.

46. Ans: B

Exp:

- The World Health Organisation (WHO) defines 'severe acute malnutrition' (SAM) by very low weight-for-height or a mid-upper arm circumference less than 115 mm, or by the presence of nutritional oedema.
- An estimated 9,27,606 'severely acute malnourished' children from six months to six years were identified across the country till November 2020.
- States with SAM Children:
  - ◆ The most in **Uttar Pradesh (3,98,359)** followed by **Bihar (2,79,427)**.
  - ◆ Maharashtra (70,665) > Gujarat (45,749) > Chhattisgarh (37,249) > Odisha (15,595) > Tamil Nadu (12,489) > Jharkhand (12,059) > Andhra Pradesh (11,201) > Telangana (9,045) > Assam (7,218) > Karnataka (6,899) > Kerala (6,188) > Rajasthan (5,732). **Hence, statement 1 is not correct.**
- The **Sustainable Development Goal (SDG 2: Zero hunger)** aims to end all forms of hunger and malnutrition by 2030, making sure all people – especially children – have access to sufficient and nutritious food all year round. **Hence, statement 3 is correct.**
- National Family Health Survey-4 (NFHS-4), 2015-16 suggests that prevalence of severe acute malnutrition among children was at 7.4%.
- The National Family Health Survey (NFHS)-5 suggests that **malnutrition increased among children in 2019-20** from 2015-16 in 22 states and UTs. **Hence, statement 2 is not correct.**
  - ◆ Stunted: Around 13 states and UTs out of the 22 surveyed recorded a rise in percentage of children under five years who are stunted in comparison to 2015-16.
  - ◆ Wasted: 12 states and UTs recorded a rise in the percentage of children under five years who are wasted.
  - ◆ Severely wasted and underweight: 16 states and UTs recorded a rise in the percentage of children under five years who are severely wasted and underweight in 2019-20.

47. Ans: C

Exp:

- The **replacement level** is the **number of children needed to replace the parents**, after accounting for fatalities, skewed sex ratio, infant mortality, etc. Population starts falling below this level. **Hence, statement 1 is correct.**
- India has done very well with its family planning measures and now it is at replacement level fertility of 2.1, which is desirable.
- However, it needs to sustain population stabilisation because in some States like **Sikkim, Andhra Pradesh, Delhi**, Kerala and Karnataka, the **total fertility rate is way below replacement level**, which means it can experience in 30-40 years what China is experiencing now. **Hence, statement 2 is correct.**

48. Ans: C

Exp:

- Recently, China has reported the first case of human infection with the H10N3 strain of bird flu in Jiangsu province.
- **H10N3** is a subtype of the **Influenza A virus** which is commonly known as the bird flu virus. **Hence, statement 1 is correct.**
  - ◆ It is a low pathogenic, or relatively less severe, strain of the virus in poultry and the risk of it spreading on a large scale is very low.
  - ◆ Among animals, it **can spread through respiratory droplets**, similar to flu and Covid-19. **Hence, statement 2 is correct.**

49. Ans: A

Exp:

- The Union Health Minister addressed the **75<sup>th</sup> session** of the **United Nations General Assembly (UNGA)** on **prevention of HIV/AIDS**.
- The **Resolution 75/260 of UNGA** deals with the **Implementation of the Declaration of Commitment on HIV/AIDS** and the political declarations on HIV/AIDS. **Hence, option A is correct.**

50. Ans: C

Exp:

- Sickle Cell Disease is an **inherited blood disease** which is most common among people of African, Arabian and Indian origin. **Hence, statement 1 is correct.**
- It is a group of disorders that **affects hemoglobin**, the molecule in red blood cells that **delivers oxygen to cells throughout the body**. **Hence, statement 2 is correct.**



- The Rights of Persons with Disabilities (RPwD) Act, 2016 has recognised persons with **blood disorders** (Thalassemia, Hemophilia and **Sickle Cell Disease**) as 'persons with disabilities' under the Act.

- ◆ Recently, the Ministry of Social Justice and empowerment has increased the validity of disability certificates for SCD patients from 1 year to 3 year. Hence, statement 3 is not correct.

51. Ans: C

Exp:

- **Ebola Virus Disease (EVD)** is transmitted to people from wild animals and spreads in the human population through human to human transmission.
  - ◆ Ebola virus was first discovered in 1976 near the Ebola River in what is now **the Democratic Republic of Congo**. Hence, **statement 1 is not correct**.
- **Human-to-Human Transmission:** Ebola spreads via direct contact (through broken skin or mucous membranes) with:
  - ◆ Blood or body fluids of a person who is sick with or has died from Ebola.
  - ◆ Objects that have been contaminated with such body fluids (like blood, feces, vomit). Hence, **statement 2 is correct**.
- Confirmation that symptoms are caused by Ebola virus infection are made using the following diagnostic methods:
  - ◆ ELISA (antibody-capture enzyme-linked immunosorbent assay)
  - ◆ Reverse transcriptase polymerase chain reaction (RT-PCR) assay, etc. Hence, statement 3 is correct.

52. Ans: A

Exp:

- African Swine Fever (ASF) is a highly contagious and fatal animal disease that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.
  - ◆ The mortality is close to 100% and since the fever has no cure, the only way to stop its spread is by culling the animals. Hence, statement 2 is correct.
  - ◆ **Classical Swine Fever (CSF), also known as hog cholera**, is another important disease of pigs. Hence, **statement 1 is not correct**.
- It was first detected in Africa in the 1920s.
  - ◆ Historically, outbreaks have been reported in Africa and parts of Europe, South America, and the Caribbean.

- ◆ However, more recently (since 2007), the disease has been reported in multiple countries across Africa, Asia and Europe, in both domestic and wild pigs.

- ASF is not a threat to human beings since it only spreads from animals to other animals.

- ◆ **ASF is a disease listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code** and thus, reported to the OIE. Hence, **statement 3 is not correct**.

- ◆ OIE is an intergovernmental organisation responsible for improving animal health worldwide.

- ◆ It has 182 Member Countries. India is one of the member countries.

53. Ans: D

Exp:

- **Mucormycosis** is a serious but **rare fungal infection** caused by a **group of molds (not protozoans) called mucormycetes**, which is abundant in the environment. Hence, **statement 1 is not correct**.
- It mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.
- The types of Mucormycosis are: Rhinocerebral (Sinus and Brain), Pulmonary (Lung), Gastrointestinal, Cutaneous (Skin), and disseminated Mucormycosis.
- The transmission of disease occurs through inhalation, inoculation, or ingestion of spores from the environment.
  - ◆ Mucormycosis **does not spread between people** or between people and animals. Hence, **statement 2 is not correct**.

54. Ans: C

Exp:

- Dengue is a **mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus)**, transmitted by several species of mosquito within the genus Aedes, principally Aedes aegypti.
  - ◆ Flavivirus is a genus of **positive-strand RNA viruses** in the family Flaviviridae. Hence, **statement 1 is correct**.
  - ◆ This mosquito also transmits chikungunya, yellow fever and Zika infection.
- Recently researchers from the World Mosquito Program have used mosquitoes infected with **Wolbachia bacteria to successfully control dengue** in Indonesia. Hence, **statement 2 is correct**.

- ◆ The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the Population Replacement Strategy.

55. Ans: C

Exp:

- **Community Transmission (CT)** is one of the stages of the Pandemic.
  - ◆ Broadly, CT is when **new cases in the last 14 days can't be traced to those who have an international travel history**, when cases can't be linked to specific clusters. Hence, statement 1 is correct.
  - ◆ CT classification is now divided into four levels, from low incidence (CT1) to very high incidence (CT4)
- As per a latest report by the World Health Organisation (WHO), India continues to label itself as **a country with no Community Transmission (CT) since the beginning of the Covid-19 pandemic. Hence, statement 2 is correct.**
  - ◆ Countries such as the United States, Brazil, United Kingdom, France have all labelled themselves as being in the 'community transmission' stage whereas Italy and Russia do not label themselves as being in 'community transmission'.

56. Ans: B

Exp:

- **Kyasanur Forest Disease (KFD)** is caused by Kyasanur Forest disease Virus (KFDV), which **primarily affects humans and monkeys. Hence, statement 1 is not correct.**
  - ◆ It was first identified in 1957 in a sick monkey from the **Kyasanur Forest in Karnataka**. Since then, between 400-500 human cases per year have been reported. **Hence, statement 2 is correct.**
  - ◆ Eventually, KFD emerged as a grave public health problem spreading through the entire Western Ghats.
  - ◆ Transmission:
    - In nature, the virus is maintained mainly in hard ticks (*Haemaphysalis spinigera*), monkeys, rodents and birds.
    - To humans, it may occur after a tick bite or contact with an infected animal (a sick or recently dead monkey).

- Characterised by chills, frontal headache, body ache, and high fever for five to 12 days with a case fatality rate of 3 to 5%.

57. Ans: C

Exp:

- **Havana Syndrome** is a mysterious illness that was **first detected at the US Embassy in Havana, Cuba in 2016. Hence, statement 1 is correct.**
  - ◆ In late 2016, a few diplomats from the USA and their employees had reported certain usual symptoms during their stay in Havana, Cuba.
  - ◆ They experienced some odd physical sensations and heard peculiar sounds, after which they started feeling sick.
- The symptoms of the syndrome include Nausea, Severe headaches, Fatigue, Dizziness, Sleep problems, Hearing loss.
  - ◆ A few of those who had been affected more faced chronic issues like vestibular processing and cognitive problems.
- In 2020, a report by the National Academies of Sciences (NAS), US found **directed microwave radiation to be the plausible cause of the Havana syndrome. Hence, statement 2 is correct.**
  - ◆ NAS is a non-profit, Government Organisation that offers its reports to the Government with regard to the Science and Technology projects.

58. Ans: C

Exp:

- A pathogen is a biological agent that causes disease or illness. Zoonotic pathogen refers to pathogens naturally transmitted between animals and humans. **Hence, statement 1 is correct.**
- Types of Pathogens:
  - ◆ **Virus:** made up of a piece of genetic code, such as DNA or RNA, and protected by a coating of protein.
    - Diseases caused by viruses: Chickenpox, Flu (influenza), Covid-19, Human immunodeficiency virus (HIV/AIDS), Mumps, measles and rubella.
  - **Bacteria:** microorganisms made of a single cell. They are very diverse, have a variety of shapes and features, and have the ability to live in just about any environment, including in and on the body.
    - ◆ Diseases caused by bacteria: **Cholera, Leprosy, Tuberculosis, Plague, Syphilis, Anthrax etc. Hence, statement 2 is correct.**

- **Fungi:** They cause infection when they overgrow.
  - ◆ Examples of Fungal Infection: Mucormycosis, White Fungus, Yellow Fungus.
- **Parasites:** organisms that behave like tiny animals, living in or on a host and feeding from or at the expense of the host.
  - Diseases caused by Parasite: Malaria, African trypanosomiasis, babesiosis, leishmaniasis, and toxoplasmosis etc.
- The **World Health Organization (WHO) and Switzerland have launched a BioHub facility** that will allow pathogens sharing between laboratories and facilitate “analysis and preparedness” against them (and not G20 countries). **Hence, statement 3 is not correct.**

59. Ans: D

Exp:

- **Article 23 of the Indian Constitution** Prohibition of traffic in human beings and forced labour.
- **India has ratified the United Nations Convention on Transnational Organised Crime (UNTOC)** which among others has a Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children (Palermo protocols).
- **India has ratified the South Asian Association for Regional Cooperation (SAARC) Convention on Preventing and Combating Trafficking in Women and Children for Prostitution.**
- The National Commission for Protection of Child Rights (NCPCR) was set up in 2007 under the Commission for Protection of Child Rights Act, 2005.
  - ◆ **India has ratified the UN Convention on the Rights of the Child (UNCRC).**
- Hence, option D is correct.

60. Ans: C

Exp:

- **Persistent Viral Shedding:**
  - ◆ When an individual gets infected by a respiratory virus like SARS-CoV-2, the virus particles bind to the various types of viral receptor.
  - ◆ Thus, Recovered patients can sometimes continue to carry low levels of virus within their system for up to three months.
  - ◆ These levels are no longer enough to make the person sick or transmit the disease to others, but it can get detected in diagnostic tests.
  - ◆ The disease developed from such persistent virus is what is called Persistent viral shedding.
- **Hence option C is correct.**

61. Ans: D

Exp:

- A rare disease is a health condition of low prevalence that affects a small number of people compared with other prevalent diseases in the general population.
- There is no universally accepted definition of rare diseases and the definitions usually vary across different countries.
- Rare diseases **have low prevalence and are also life threatening or chronically debilitating diseases. Hence, statement 1 is not correct.**
- About **80% of the rare diseases are of genetic origin** and a large chunk of rare diseases patients are children. **Hence, statement 2 is not correct.**
- About 95% rare diseases have no approved treatment. However, **less than 1 in 10 patients receive disease-specific treatment. Hence, statement 3 is not correct.**

62. Ans: C

Exp:

- The stark difference is Racism and Xenophobia is that racism is discrimination based on physical characteristics whereas xenophobia is discrimination based on the perception that someone is foreign or originating from another community or nation. Hence, statement 1 is not correct.
  - ◆ The word Xenophobia originates from the Greek word Xeno.
  - ◆ Xenophobia and Racism are often overlapped.
- **Article 15, Article 16 and Article 29** of the Constitution of India prohibit discrimination on ground of “race”. **Hence, statement 2 is not correct.**
  - ◆ Section 153A of the Indian Penal Code (IPC) also refers to “race”.
  - ◆ Article 24 of the Indian Constitution deals with Prohibition of Child Labour.
- India also ratified the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) in **1968. Hence, statement 3 is correct.**

63. Ans: C

Exp:

- **Adenoviruses (ADVs)** are DNA viruses ranging from 70-90 nanometre in size, which induce many illnesses in humans like cold, respiratory infection etc. **Hence, statement 1 is correct.**
- Adenoviruses are preferred for vaccines because their DNA is double stranded which makes them genetically more stable and the chances of them changing after injection are lower.
- Rabies vaccine is an adenovirus vaccine.

- Adenovirus vaccines are a type of viral vector vaccine.
  - ◆ In this vaccine, adenovirus is used as a tool to deliver genes or vaccine antigens to the target host tissue. **Hence, statement 2 is correct.**
- However, there are drawbacks of adenovirus vector vaccines like pre-existing immunity in humans, inflammatory responses etc.
  - ◆ Just as human bodies develop immune responses to most real viral infections, they also develop immunity to adenoviral vectors. Since adenoviral vectors are based on natural viruses that some humans might already have been exposed to, these vaccines might not work for everyone.

64. Ans: C

Exp:

- The Supreme Court of India has interpreted bonded labour as the payment of wages that are below the prevailing market wages and legal minimum wages. **Hence, statement 1 is correct.**
- The Constitution of India prohibits forced labour under **Article 23** (Fundamental Rights).
  - ◆ **Article 23:** Prohibition of traffic in human beings and forced labour. **Hence, statement 2 is correct.**
- Bonded labour was historically associated with rural economies where peasants from economically disadvantaged communities were bound to work for the landlords.
- Bonded labour is found to exist in both rural and urban pockets in unorganized industries such as brick kilns, stone quarries, coal mining, agricultural labour, domestic servitude, circus, and sexual slavery.

65. Ans: C

Exp:

- Multisystem Inflammatory Syndrome in Children (MIS-C) is a **rare but severe hyperinflammatory condition** in children and adolescents that typically occurs 2-6 weeks after a Covid-19 infection. Hence, statement 1 is correct.
  - ◆ It is a potentially deadly condition where different body parts can become inflamed, including the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs.
- In a recent study, **young people with the MIS-C syndrome have shown neurological issues** which were life-threatening such as strokes or severe encephalopathy (any brain disease that alters brain function or structure). **Hence, statement 2 is correct.**
  - ◆ Neurological symptoms include hallucinations, confusion, speech impairments, and problems with balance and coordination.

- The new findings strengthen the theory that the syndrome is related to a surge of inflammation triggered by an immune response to the virus.

67. Ans: C

Exp:

- Sheep Pox is a severe viral disease in Sheep and its virus is closely related to the Goat (capripoxviruses).
  - ◆ Classical Swine Fever (CSF) is also known as hog cholera. It is an important disease of pigs. **Hence, statement 1 is not correct.**
- The virus is also related to the virus of lumpy skin disease. **Hence, statement 2 is correct.**
- The disease is very serious, often fatal, characterized by widespread skin eruption.
- It is confined to parts of southeastern Europe, Africa, and Asia. **Hence, statement 3 is not correct.**

68. Ans: A

Exp:

- Harlequin Ichthyosis is a **rare genetic skin disorder** to a **newborn infant**. It's a type of ichthyosis, which refers to a group of disorders that cause persistently dry, scaly skin all over the body. **Hence, statement 1 is correct.**
- It is inherited in an autosomal recessive pattern.
- It can be caused by changes (mutations) in the ABCA12 gene.
  - ◆ Newborn infants are covered with plates of thick skin that crack and split apart and can restrict breathing and eating.
  - ◆ Premature birth is typical, leaving the infants at risk for complications from early delivery.
- **Affected Population:**
  - ◆ It **affects males and females in equal numbers**. **Hence, statement 2 is not correct.**
  - ◆ It affects approximately one in 5,00,000 persons.
  - ◆ There are around 250 such cases across the world.
- **Treatment:**
  - ◆ A newborn with Harlequin ichthyosis requires neonatal intensive care, which may include spending time in a heated incubator with high humidity.

69. Ans: C

Exp:

- The WHO has also **identified 25 countries with the potential to eradicate malaria** by 2025 under its 'E-2025 Initiative'. **Hence statement 1 is not correct.**

- ◆ In 2017, WHO launched the E-2020 initiative to support a group of countries to achieve zero indigenous cases of malaria by 2020.
- ◆ Building on the successes of the E-2020, WHO has identified a new group of 25 countries that have the potential to stamp out malaria within a 5-year timeline.

- After entering the human body, **parasites initially multiply within the liver cells** and then attack the Red Blood Cells (RBCs) resulting in their rupture. **Hence, statement 2 is correct.**
- It is **preventable as well as curable**. **Hence, statement 3 is correct.**

70. Ans: B

Exp:

- Recently, the **United Nations** and other agencies have launched the Immunisation Agenda 2030 (IA2030) during the World Immunisation Week. **Hence, statements 1 is correct.**
- It will **contribute to achieving the UN-mandated Sustainable Development Goals specifically SDG 3 i.e. Good Health and Well being**. **Hence, statement 2 is correct.**
  - ◆ Covid-19 pandemic has affected routine immunization globally.
- It sets an ambitious, overarching global vision and **strategy for vaccines and immunization for the decade 2021–2030**. **Hence, statement 3 is not correct.**
- The IA2030 is based on learnings from Global Vaccine Action Plan (GVAP). It aims to address the unmet targets of the GVAP that were initially to be fulfilled as part of the global immunisation strategy of the 'Decade of vaccines' (2011–2020).
  - ◆ GVAP was developed to help realize the vision of the Decade of Vaccines, that all individuals and communities enjoy lives free from vaccine preventable diseases.

71. Ans: C

Exp:

- **Brucellosis is a bacterial disease** caused by various Brucella species, which mainly infect cattle, swine, goats, sheep and dogs. **Hence, statement 1 is not correct.**
  - ◆ It is also known as Malta fever or **Mediterranean fever**. **Hence, statement 2 is correct.**
- Brucellosis is endemic in India causing huge economic losses to dairy industry due to:
  - ◆ Infertility

- ◆ Abortion
- ◆ Birth of weak off springs
- ◆ Reduced productivity
- Brucellosis has infected over 3000 people in China. Humans generally acquire the disease through:
  - ◆ Direct contact with infected animals.
  - ◆ Eating, drinking contaminated animal products, unpasteurized milk.
  - ◆ Inhaling airborne agents.
- The US Centers for Disease Control and Prevention states that **person-to-person transmission of brucellosis is "extremely rare" but some symptoms may reoccur or never go away**. **Hence, statement 3 is not correct.**

72. Ans: C

Exp:

- A report published in The Lancet Psychiatry in February 2020 indicates that in 2017, there were 197.3 million people with mental disorders in India.
  - ◆ The **top mental illnesses were depressive disorder** (45.7 million) and anxiety disorder (44.9 million). **Hence, statement 1 is correct.**
- The contribution of mental disorders to the total Disability-Adjusted Life Years (DALYs) in **India increased from 2.5% in 1990 to 4.7% in 2017**. **Hence, statement 2 is not correct.**
  - ◆ Depressive disorder and anxiety disorder contributed the most to the total mental disorders DALYs.
  - ◆ The burden of disability associated with a disease or disorder can be measured in units called DALYs.
    - DALYs represent the total number of years lost to illness, disability, or premature death within a given population.
- Recently, the government of India launched a mobile app, **MANAS** (Mental Health and Normalcy Augmentation System) **to promote mental wellbeing across age groups**. **Hence, statement 3 is correct.**
  - ◆ MANAS was endorsed as a national program by the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC).

73. Ans: B

Exp:

- Recently, there has been an outbreak of **Equine Herpes Virus (EHV-1) among horses** in Europe.
  - ◆ **Equine Herpes Virus (EHV) is a common DNA virus** that occurs in **horse populations worldwide**. **Hence, statement 1 is not correct.**



- EHV can cause manifestations of disease in horses, including respiratory disease, abortion and neonatal death.

◆ This strain can also cause **neurological problems, leading to paralysis and in some cases, death.** Horses that contract this virus can develop a lack of coordination, weakness, loss of appetite and are unable to stand. **Hence, statement 2 is correct.**

74. Ans: B

Exp:

- Visceral leishmaniasis, also known as **kala-azar**, is characterized by irregular bouts of fever, **substantial weight loss**, swelling of the spleen and liver, and anaemia. **Hence, statement 1 is not correct.**
- It is **caused by a parasite** called Leishmania. **Hence, statement 2 is not correct.**
- It is **transmitted through** the bite of sand flies. **Hence, statement 3 is correct.**

75. Ans: c

- Tuberculosis is caused by **bacteria (Mycobacterium tuberculosis)** that most often affect the lungs. **Hence, statement 1 is correct.**
- TB is an **air-borne disease** which means it spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air. **Hence, statement 2 is not correct.**
- TB is both preventable and curable.
  - ◆ The **bacille Calmette-Guerin (BCG)** vaccine has existed for 80 years and is one of the most widely used of all current vaccines to treat TB.
  - ◆ Further, it can also be treated with a standard 6 month course of **antimicrobial drugs** (For e.g. isoniazid and rifampicin,) that are provided with information, supervision and support to the patient by a health worker or trained volunteer. **Hence, statement 3 is correct.**

76. Ans: B

Exp:

- **Diphtheria** is primarily caused by the **bacterium Corynebacterium diphtheriae** and not Virus. **Hence, statement 1 is not correct.**
- A recent study has found that Diphtheria, which is a relatively easily-preventable infection, could become a major global threat. The number of diphtheria cases reported **globally has been increasing gradually.**
  - ◆ In 2018, there were 16,651 reported cases, more than double the yearly average for 1996-2017 (8,105 cases). **Hence, statement 2 is correct.**

- According to the World Health Organization (WHO), India reported 2,365 cases in 2015. However, in 2016, 2017 and 2018, the numbers rose successively to 3,380, 5,293 and 8,788. As per the WHO, India accounted for 60% of all diphtheria cases globally in 2017. **Hence, statement 3 is not correct.**

77. Ans: C

Exp:

- In 2019, the 30 high TB burden countries accounted for 87% of new TB cases.
- Eight countries account for two thirds of the total, with India leading the count, followed by Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa (Global Tuberculosis Report: WHO)
- Scenario in India:
  - ◆ With an estimated 2.64 million TB patients, India has the largest burden of TB globally in terms of absolute numbers.
  - ◆ Recently, the "Step Up for TB 2020" report by the Stop TB Partnership and Médecins Sans Frontières/Doctors Without Borders (MSF) has highlighted India's conservative approach regarding the new medicines for Drug Resistant TB, putting lives of patients including children in danger.
  - ◆ India has committed to **eliminating TB in the country by 2025.** **Hence, statement 1 is correct.**
    - Five years ahead of the global deadline of 2030.
  - ◆ National Strategy Plan for TB Elimination 2017-2025:
    - The requirements for moving towards TB elimination in India have been arranged in four strategic areas of Detect, Treat, Prevent & Build.
    - There is also across all four areas, an overarching theme of the Private Sector. Another overarching theme is that of Key Populations.
  - ◆ TB Harega Desh Jeetega Campaign, **Nikshay Poshan Yojana**, etc. **Hence, statement 2 is correct.**
- Global Efforts:
  - ◆ The End TB Strategy of WHO.
  - ◆ World Tuberculosis (TB) Day is observed on 24th March to raise public awareness about the devastating health, social and economic consequences of TB.

**78. Ans: B****Exp:**

- Diphtheria is primarily caused by the bacterium *Corynebacterium diphtheriae*.
  - ◆ Symptoms are common cold, fever, chills, swollen gland in neck, sore throat, bluish skin etc.
- Impact:
  - ◆ The primary infection is in the throat and upper airways. Produces a toxin affecting other organs.
  - ◆ One type of diphtheria affects the throat and sometimes the tonsils.
  - ◆ Another type causes ulcers on the skin.
- It is mainly spread by coughs and sneezes, or through close contact with someone infected.
- Diphtheria particularly **affects children aged 1 to 5 years**. Occurrence of diphtheria cases in under-five children reflects low coverage of primary diphtheria vaccination. **Hence, statement 1 is not correct.**
- Diphtheria is fatal in only 5-10% cases.
- Administering diphtheria antitoxin to neutralize the effects of the toxin, as well as antibiotics to kill the bacteria.
  - ◆ Diphtheria is preventable with use of antibiotics and vaccines.
- The diphtheria vaccine is among the **oldest vaccines in India's Universal Immunisation Programme**. As per data from the National Family Health Survey-4, the coverage of diphtheria vaccine is 78.4%. **Hence, statement 2 is correct.**
  - ◆ In 1978, India launched the Expanded Programme on Immunisation.
    - The first three vaccines in the programme were BCG (against TB), DPT (diphtheria, pertussis, tetanus) and cholera.
  - ◆ In 1985, the programme was converted to the Universal Immunisation Programme (UIP). DPT continues to be a part of UIP, which now includes 12 vaccines.
  - ◆ It is now incorporated as a pentavalent vaccine (containing a vaccine against diphtheria, pertussis, tetanus, Hepatitis B and Haemophilus influenzae type B).
    - It is also included among the combination of eight vaccine doses which are administered in the first year of life under the full immunisation programme. **Hence, statement 3 is correct.**

- ◆ Recently, the Intensified Mission Indradhanush (IMI) 3.0 scheme has been rolled out to cover children and pregnant women who missed routine immunisation during the Covid-19 pandemic.

**79. Ans: C****Exp:**

- Two brothers suffering from **Mucopolysaccharidosis II or MPS II (Hunter Syndrome, Attenuated Type)** have approached the Delhi High Court seeking direction to the Centre and AIIMS to provide them free treatment.
- MPS II mostly affects boys and their bodies cannot break down a kind of sugar that builds bones, skin, tendons and other tissues.
- It is caused by changes (**mutations**) of the IDS gene that regulates the production of the iduronate 2-sulfatase (I2S) enzyme. **Hence, statement 1 is correct.**
- This enzyme is needed to break-down complex sugars, known as glycosaminoglycans (GAGs), produced in the body.
- Lack of I2S enzyme activity leads to the accumulation of GAGs within cells, specifically inside the lysosomes.
- Conditions that cause molecules to build up inside the lysosomes, including MPS II, are called **lysosomal storage disorders**. **Hence, statement 2 is correct.**

**80. Ans: A****Exp:**

- Recently, the Ministry of Health & Family Welfare has launched the operational guidelines for integration of **NAFLD (Non-Alcoholic Fatty Liver Disease) with NPCDCS** (National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke).
  - ◆ NAFLD causes risk of cardiovascular diseases, **type 2 diabetes** and other metabolic syndromes like hypertension, abdominal obesity, dyslipidemia, glucose intolerance.
- **Type I diabetes:** It is also known as juvenile diabetes, this type occurs when the **body fails to produce insulin**. **Hence, statement 1 is correct.**
  - ◆ People with type I diabetes are insulin-dependent, which means they must take artificial insulin daily to stay alive.
- **Type 2 diabetes:** It affects the way the body uses insulin. While the body still makes insulin, unlike in type I, the cells in the body do not respond to it as effectively as they once did.

- ◆ This is the **most common type of diabetes** and has strong links with obesity. **Hence, statement 2 is not correct.**

**81. Ans: A**

**Exp:**

- The **Lumpy Skin Disease (LSD)** is caused by infection of cattle or **water buffalo** with the poxvirus **Lumpy skin disease virus (LSDV)**. **Hence, statement 1 is correct.**
  - ◆ The virus is one of three closely related species within the genus capripoxvirus, the other two species being Sheeppox virus and Goatpox virus.
- Recently, a Lumpy Skin Disease (LSD) has been infecting India's bovines.
  - ◆ The disease is being reported for the first time in India.
- It spreads through **mosquitoes, flies and ticks** and also through saliva and contaminated water and food. **Hence, statement 2 is not correct.**
- LSD is endemic to Africa and parts of West Asia, where it was first discovered in 1929.
  - ◆ In Southeast Asia the first case of LSD was reported in **Bangladesh** in July 2019.
  - ◆ In India it was first reported from **Mayurbhanj, Odisha** in August 2019.

**82. Ans: C**

**Exp:**

- A rare disease is a health condition of low prevalence that affects a small number of people compared with other prevalent diseases in the general population.
  - ◆ Though rare diseases are of low prevalence and individually rare, collectively they affect a considerable proportion of the population.
  - ◆ **80% of rare diseases are genetic in origin and hence disproportionately impact children. Hence, statement 1 is correct.**
  - ◆ In India there are 56-72 million people affected by rare diseases.
- **Lysosomal storage disorder**
  - ◆ It is an **inherited metabolic disease** that is characterized by an abnormal build-up of various toxic materials in the body's cells **as a result of enzyme deficiencies. Hence, statement 2 is not correct.**
  - ◆ It may affect different parts of the body, including the skeleton, brain, skin, heart, and central nervous system.
  - ◆ There is currently no approved treatment for many lysosomal storage diseases.

- Duchenne Muscular Dystrophy (DMD)

- ◆ It is a genetic disorder characterized by progressive muscle degeneration and weakness due to the alterations of a protein called dystrophin that helps keep muscle cells intact. Hence, statement 3 is correct.
- ◆ Symptoms:
  - Muscle weakness
  - Enlargement of the calves
  - A waddling gait
  - Lumbar lordosis (an inward curve of the spine)

**83. Ans: C**

**Exp:**

- The juvenile justice system concerns children who have conflicted with the law and need care and protection.
  - ◆ In India, a person **below the age of 18 years is considered a juvenile.**
  - ◆ Minor is a person who has not attained the age of full legal responsibility and the **juvenile is a minor who has committed some offence or needs care and protection.**
  - ◆ In India, any child **below the age of 7 years** can not be convicted of any crime because of the **doctrine of Doli incapax** which means incapable of forming intent to commit a crime. **Hence statement 2 is correct.**
- This **Juvenile Justice (care and Protection) Act 2015** was passed by the parliament after much controversy and protest. It has introduced many changes in existing law.
- This act **allows juveniles involved in the heinous crimes age group between 16-18** are treated as adults. **Hence statement 1 is correct.**
- Making the juvenile justice system more responsive and according to the changing circumstances of society.
- The Act gives a clear definition of orphaned, abandoned, surrendered children and provides an organised system for them.

**84. Ans: D**

**Exp:**

- Silicosis occurs most commonly in people working in the quarrying, manufacturing, and building construction industries.
  - ◆ It is a **progressive lung disease caused by the inhalation of silica** over a long period of time,

characterised by shortness of breath, cough, fever and bluish skin. Hence, statement 1 is correct.

- ◆ It is **one of the most prevalent occupational health illnesses** in the world. It is also reported from the population with non-occupational exposure to silica dust from industrial as well as non-industrial sources. Hence, statement 2 is correct.
- Diagnosis of Silicosis is a challenge because it is difficult to even find out if a person has tuberculosis or silicosis.
  - ◆ Grossly, silicotic nodules are firm, discrete, rounded lesions that contain a variable amount of black pigment.
  - ◆ The nodules tend to occur around respiratory bronchioles and small pulmonary arteries.
- In India silicosis is prevalent in Gujarat, Rajasthan, Pondicherry, Haryana, Uttar Pradesh, Bihar, Chhattisgarh, Jharkhand, Orissa and West Bengal among the workers of construction and mining. Hence, statement 3 is correct.

85. Ans: D

Exp:

**Neglected Tropical Diseases (NTDs):**

- NTDs are a group of infections that are most common among marginalized communities in the developing regions of Africa, Asia and the Americas.
  - ◆ They are caused by a variety of pathogens such as viruses, bacteria, protozoa and parasitic worms.
  - ◆ NTDs are especially common in tropical areas where people do not have access to clean water or safe ways to dispose of human waste.
- **Examples of NTDs are: snakebite envenomation, scabies, yaws, trachoma, Leishmaniasis and Chagas disease etc.**
- NTDs affect more than a billion people globally but are preventable and treatable.
  - ◆ However, these diseases - and their intricate interrelationships with poverty and ecological systems - continue to cause devastating health, social and economic consequences.
  - ◆ There are 20 NTDs that impact over 1.7 billion people worldwide.
  - ◆ India carries the largest burden of at least 11 of these diseases, with **parasitic illnesses like kala-azar and lymphatic filariasis** affecting millions of people throughout the country – often the poorest and most vulnerable.

- Hence, option D is correct.

86. Ans: C

Exp:

- **Fairbanks disease or multiple epiphyseal dysplasia (MED)** is a rare genetic disorder (dominant form--1 in 10,000 births) which affects the **growing ends of bones**. Hence, statement 1 is correct.
- Bones usually elongate by a process that involves the **depositing of cartilage at the ends of the bones**, called ossification. Hence, statement 2 is correct.
- This cartilage then mineralizes and hardens to become bone. In MED, this process is defective.
- The Fairbank's disease (Multiple epiphyseal dysplasia) patient usually requires management of pain and orthopedic procedures, for which facilities are available at tertiary care institutions in India.

87. Ans: D

Exp:

- **Acromegaly is a hormonal disorder** that leads to the **abnormal growth of hands, feet and face**. Hence, statement 1 is correct.
- This disorder is mainly **caused due to the excessive production of the Growth Hormone (GH) produced by the Pituitary gland**. Hence, statement 2 is correct.
  - ◆ The pituitary gland, a small gland situated at the base of your brain and called the Master Gland, as it synthesizes some of the important hormones in the body.
  - ◆ Due to the excessive growth of this gland, the surrounding nerve tissues and optic nerves get compressed. This results in the growth of the bone and the enlargement of organs.
- Symptoms: Sleeplessness, Excess fatigue, A hoarse voice, Profuse sweating, Frequent headaches, Abnormal weight gain, Develop odour in the body, Enlargement of jaws or tongue etc.

88. Ans: D

Exp:

**Neglected Tropical Diseases (NTDs):**

- NTDs are a group of infections that are most common among marginalized communities in the developing regions of Africa, Asia and the Americas.
  - ◆ They are caused by a variety of pathogens such as viruses, bacteria, protozoa and parasitic worms.
  - ◆ NTDs are especially common in tropical areas where people do not have access to clean water or safe ways to dispose of human waste.

- **Examples of NTDs are: snakebite envenomation, scabies, yaws, trachoma, Leishmaniasis and Chagas disease etc.**
- NTDs affect more than a billion people globally but are preventable and treatable.
  - ◆ However, these diseases - and their intricate interrelationships with poverty and ecological systems - continue to cause devastating health, social and economic consequences.
- ◆ There are 20 NTDs that impact over 1.7 billion people worldwide.
- ◆ India carries the largest burden of at least 11 of these diseases, with **parasitic illnesses like kala-azar and lymphatic filariasis** affecting millions of people throughout the country – often the poorest and most vulnerable.
- **Hence, option D is correct.**

