

WBCS (Main) Exam Paper – IV Practice Set

Answers with Explanation

1. (c) The specific heat is the amount of heat per unit mass required to raise the temperature by one degree Celsius. The specific heat of water is 1 calorie/gram °C = 4.186 joule/gram °C which is higher than any other common substance. As a result, water plays a very important role in temperature regulation.
2. (b) Evaporation: the process by which water is converted from its liquid form to its vapor form (gas); Sublimation: the transition of a substance directly from the solid phase to the gas phase without passing through an intermediate liquid phase; Freezing: a phase transition in which a liquid turns into a solid when its temperature is lowered below its freezing point; and Melting: the process of heating a solid substance to a liquid.
3. (b) A concave lens is used to correct short-sightedness (myopia). In myopia, images are formed in front of the retina, resulting in a blurred image. This occurs when the eye is relatively too long or the refractive powers of the cornea and lens of the eye are relatively too strong. শ্রীচিভর্ষ
4. (c) Conversion of sound energy into electrical energy is done by microphone.
5. (b) Least audible sound for most of the human ear is 2×10^{-5} pascal. The generally accepted standard range of audible frequencies is 20 to 20,000 Hz.
6. (c) When a running car stops suddenly, the passengers tend to lean forward due to inertia of motion. Inertia is that property of a body due to which it resists a change in its state of rest or of uniform motion.
7. (c) Nichrome has high resistance and it is called a resistor. শ্রীচিভর্ষ
8. (c) The bar is a non-SI unit of pressure. It is defined by the IUPAC as exactly equal to 100,000 Pa or 10^5 Pa.
9. (d) The frequencies at which a human being can perceive sound vary between 20 Hertz and 20,000 Hertz. It is within these frequency ranges that people can communicate to each other and listen to music.
10. (a) As per the question, the rubber ball rebounds while the metal ball does not. So if m and v be the mass and velocity respectively, the change in momentum of rubber ball = $2mv$ (in magnitude) However, the change in momentum of the metal ball = mv
The rubber ball suffers almost twice the change in momentum as experienced by the metal ball.
11. (b) The oil in the wick of lamp rises due to phenomenon of capillarity. This phenomenon is called molecular property of matter.
12. (d) In digital logic, an inverter or NOT gate is a logic gate which implements logical negation. An inverter circuit outputs a voltage representing the opposite logic-level to its input. Inverters can be constructed using a single NMOS transistor or a single PMOS transistor coupled with a resistor. শ্রীচিভর্ষ
13. (b) Normal speech is about 60 dB (decibels). A dangerous sound is anything that is 80 dB or higher which can lead to hearing loss. At 70 dB or lower, the risk of harm to healthy ears is negligible. Listening to sound above 80 decibels can cause profound deafness.
14. (a) The dimensions of Force are M (mass), L (length) and T^{-2} (time). It can also be expressed as $[\text{newton}] = [\text{kilogram}] [\text{metre}] [\text{second}]^{-2}$
15. (a) The Farad is the SI derived unit of capacitance. It is named after the English physicist Michael Faraday. শ্রীচিভর্ষ
16. (b) The fibre least prone to catch fire is cotton. Fabrics with more of the fiber surface area exposed to air have more oxygen available to support burning and therefore burn more easily. Thus, thin, gauzy fabrics, lace, or brushed fabrics can be very flammable. Fabrics with a napped or brushed surface of fine fibers can catch fire easily because of the greater amount of fiber surface exposed to oxygen in the air.
17. (c) A magnetic alloy is a combination of various metals from the periodic table that contains at least one of the three main magnetic elements: iron (Fe), nickel (Ni), and cobalt (Co). Such an alloy must contain but is not limited to one or more of these metals. Magnetic alloys have become common, especially in the form of steel (iron and carbon) alnico (iron, nickel, cobalt, and aluminum,) and permalloy (iron and nickel). The strongest magnetic element is iron,

- which allows items made out of these alloys to attract to magnets. অ্যাচিভমেন্ট
18. (a) Milk contains a sugar called lactose, a disaccharide (compound sugar) made by the glycosidic bonding between glucose and galactose (monosaccharides). When milk is heated to a temperature of 30-40 degrees centigrade and a small amount of old curd added to it, the lactobacillus in that curd sample gets activated and multiplies. These convert the lactose into lactic acid, which imparts the sour taste to curd. অ্যাচিভমেন্ট
19. (b) The excretory system functions in ridding the body of nitrogenous (nitrogen-containing, discussed below) and other wastes. Nitrogenous wastes of animals are excreted in form of ammonia, urea, or uric acid. They are excreted in the urine. Because ammonia is so water-soluble, aquatic animals often can get rid of it just by diffusion into the surrounding water. That's one reason why the water in your aquarium gets "bad" and needs to be changed, and why not changing the water could kill the fish. However, ammonia doesn't readily go from body fluids into air, so terrestrial animals need other ways of getting rid of nitrogenous wastes. অ্যাচিভমেন্ট
20. (c) Aspirin (USAN), also known as acetylsalicylic acid., is a salicylate drug, often used as an analgesic to relieve minor aches and pains, as an antipyretic to reduce fever, and as an anti-inflammatory medication. Aspirin was first isolated by Felix Hoffmann, a chemist with the German company Bayer in 1897. Salicylic acid, the main metabolite of aspirin, is an integral part of human and animal metabolism. While in humans much of it is attributable to diet, a substantial part is synthesized endogenously. অ্যাচিভমেন্ট
21. (c) Waxes are a class of chemical compounds that are plastic (malleable) near ambient temperatures. Characteristically, they melt above 45°C (113°F) to give a low viscosity liquid. Waxes are insoluble in water but soluble in organic, non-polar solvents. All waxes are organic compounds, both synthetic and naturally occurring. Although most natural waxes are esters, paraffin waxes are hydrocarbons, Paraffin waxes are mixtures of saturated and iso-alkanes, naphthenes, and alkyl- and naphthene-substituted aromatic compounds. অ্যাচিভমেন্ট
22. (d) Iron is a chemical element with the symbol Fe and atomic number 26. It is a metal in the first transition series. It is the most common element (by mass) forming the planet Earth as a whole, forming much of Earth's outer and inner core. It is the fourth most common element in the Earth's crust. Wrought iron is the purest form of iron. It contains less than 0.25% carbon.
23. (c) Sulphonate is a detergent used for cleaning clothes and utensils. It is a salt or ester of any sulphonic acid containing the ion RSO_2^- or the group RSO_2^- , R being an organic group., it is used as comonomers in LLDPE and HDPE (C_4-C_8 , in manufacture of lubricants (C^A-C^A), and industrial chemicals and plasticisers.
24. (b) Copper forms a rich variety of compounds with oxidation states +1 and +2, which are often called cuprous and cupric, respectively. It does not react with water, but it slowly reacts with atmospheric oxygen forming a layer of brown-black copper oxide. In contrast to the oxidation of iron by wet air, this oxide layer stops the further, bulk corrosion. A green layer of verdigris (copper carbonate) can often be seen on old copper constructions, such as the Statue of Liberty, the largest copper statue in the world built using repoussé and chasing. Hydrogen sulfides and sulfides react with copper to form various copper sulfides on the surface. In the latter case, the copper corrodes, as is seen when copper is exposed to air containing sulfur compounds. Oxygen-containing ammonia solutions give water-soluble complexes with copper, as do oxygen and hydrochloric acid to form copper chlorides and acidified hydrogen peroxide to form copper (II) salts. Copper (II) chloride and copper combine to form copper (I) chloride.
25. (c) Most of us think as glass as a solid material, but it is actually a super cooled liquid. Molecular units have a disordered arrangement yet still have sufficient cohesion that mechanical rigidity is produced. Glass was first made in the Middle East, approximately during the third millennium BC. Early uses were primarily for vessels or decoration. Glass did not come into use for windows until the first century AD, and was made at that time by casting or hand blowing the glass. Today, glass is a highly engineered material with many different varieties and countless uses. There is float glass, annealed

- glass, wired glass, tempered glass, safety or laminated glass, leaded glass, heat absorbing glass, low e glass, etc. Supercooling is the process of chilling a liquid below its freezing point, without it becoming solid. অস্বাভাবিক
26. (d) The Bhopal gas tragedy involved the leakage of poisonous methyl isocyanate (MIC) gas and other chemicals at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh, on the night of 2–3 December 1984. It is considered the world's worst industrial disaster. অস্বাভাবিক
27. (a) Ammonia gas that dissolves in water forms a solution of ammonium hydroxide (NH₄OH). This solution (including the gas) is a strong base and will make the solution alkaline.

$$\text{H}_2\text{O} + \text{NH}_3 \rightleftharpoons \text{OH}^- + \text{NH}_4^+$$
28. (b) The chemistry of the nitrogenous bases is really the key to the function of DNA. It allows something called complementary base pairing. Cytosine can form three hydrogen bonds with guanine, and adenine can form two hydrogen bonds with thymine. অস্বাভাবিক
29. (b) Sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are the principal pollutants that cause acid rain. SO₂ and NO_x emissions released to the air react with water vapor and other chemicals to form acids that fall back to Earth. Power plants burning coal and heavy oil produce over two-thirds of the annual SO₂ emission. অস্বাভাবিক
30. (d) Heavy water is deuterium oxide (2H₂O). It is a form of water that contains a larger than normal amount of the hydrogen isotope deuterium (2H or D, also known as heavy hydrogen), rather than the common hydrogen-1 isotope (1H or H, also called protium) that makes up most of the hydrogen in normal water.
31. (d) Trimix is a breathing gas, consisting of oxygen, helium and nitrogen, and is often used in deep commercial diving. The helium is included as a substitute for some of the nitrogen, to reduce the narcotic effect of the breathing gas at depth. It helps to reduce nitrogen narcosis and to avoid the dangers of oxygen toxicity. With a mixture of three gases, it is possible to create mixes suitable for different depths or purposes by adjusting the proportions of each gas.
32. (b) The basicity of an acid is the number of hydrogen ions (H⁺) which can be produced by the ionization of one molecule of the acid in aqueous solution. For example, the basicity of hydrochloric acid is 1 since one molecule of HCl produces one H⁺ ion in solution. Similarly, the basicity of Disodium phosphate (Na₂HPO₄) is one since it has one H⁺ displaceable ion.
33. (c) Linseed oil and castor oils are used mainly as drying agents in paints and varnishes. Linseed oil is generally used in the manufacture of oil paints, drying oil finish or varnish in wood finishing, as a pigment binder in oil paints, as a plasticizer and in the manufacture of linoleum.
34. (b) The gaseous air pollutants of primary concern in urban settings include sulfur dioxide, nitrogen dioxide, and carbon monoxide; these are emitted directly into the air from the combustion of fossil fuels. Smoke, a collection of airborne solid and liquid particulates and gases emitted when a material undergoes combustion, is also a pollutant. Hydrocarbon is an organic compound consisting entirely of hydrogen and carbon. অস্বাভাবিক
35. (d) Heart is the only organ in the body which never rest throughout the entire life. The heart is a hollow muscle that pumps blood throughout the blood vessels by repeated, rhythmic contractions. It is found in all animals with a circulatory system (including all vertebrates). The vertebrate heart is principally composed of cardiac muscle and connective tissue. The average human heart, beating at 72 beats per minute, will beat approximately 2.5 billion times during an average 66 year lifespan. অস্বাভাবিক
36. (d) Lichens are used as air pollution indicators, especially of the concentration of sulfur dioxide in the atmosphere. If air is very badly polluted with sulphur dioxide there may be no lichens present, just green algae may be found. If the air is clean, shrubby, hairy and leafy lichens become abundant. অস্বাভাবিক
37. (a) Plant and animal cells have several differences and similarities. Animal cells do not have chloroplasts but plant cells do. Animal cells are round and irregular in shape while plant cells have fixed, rectangular shapes. Chloroplasts are organelles found in plant cells and other eukaryotic organisms that conduct photosynthesis and other chemical reactions. Chloroplasts capture the sun's light energy, store it in the energy storage molecules ATP and NADPH and use it in the process called photosynthesis to make organic molecules from carbon dioxide and free oxygen from water.

38. (b) Veterinary medicine is widely practiced, both with and without professional supervision. Professional care is most often led by a veterinary physician (also known as a vet, veterinary surgeon or veterinarian), but also by paraveterinary workers such as veterinary nurses or technicians. This can be augmented by other paraprofessionals with specific specialism such as animal physiotherapy or dentistry, and species relevant roles such as farriers. অ্যাচিভর্স
39. (c) Edward Anthony Jenner, (17 May, 1749 – 26 January, 1823) was an English physician and scientist from Berkeley, Gloucestershire, who was the pioneer of smallpox vaccine. He is often called “the father of immunology”, and his work is said to have “saved more lives than the work of any other man”. Jenner contributed papers on angina pectoris, ophthalmia, and cardiac valvular disease and commented on cowpox. অ্যাচিভর্স
40. (b) A compound leaf has a fully subdivided blade, each leaflet of the blade separated along a main or secondary vein. Because each leaflet can appear to be a simple leaf, it is important to recognize where the petiole occurs to identify a compound leaf. Compound leaves are a characteristic of some families of higher plants, such as the Fabaceae. The coconut palm produces a crown of pinnately compound yellowgreen leaves called fronds. Each frond reaches 15 to 17 feet in length. অ্যাচিভর্স
41. (b) William Harvey was an English physician, who described completely and in detail the systemic circulation and properties of blood being pumped to the body by the heart, though earlier writers had provided precursors of the theory. After his death the William Harvey Hospital was constructed in the town of Ashford, several miles from his birthplace of Folkestone. He is not well recognized for his accomplishments in today’s society. অ্যাচিভর্স
42. (b) The femur (pl. femurs or femora), or thigh bone, is the most proximal (closest to the center of the body) bone of the leg in tetrapod vertebrates capable of walking or jumping, such as most land mammals, birds, many reptiles such as lizards, and amphibians such as frogs. In vertebrates with four legs such as dogs and horses, the femur is found only in the rear legs. The femur is the largest bone in the human body. The head of the femur articulates with the acetabulum. By most measures the femur is one of the strongest bones in the body. অ্যাচিভর্স
43. (b) Hay fever involves an allergic reaction to pollen. A similar reaction occurs with allergy to mold, animal dander, dust, and other allergens that you breathe in. Allergic rhinitis is a group of symptoms affecting the nose. These symptoms occur when you breathe in something you are allergic to, such as dust, dander, insect venom, or pollen. An allergen is something that triggers an allergy. When a person with allergic rhinitis breathes in an allergen such as pollen or dust, the body releases chemicals, including histamine. অ্যাচিভর্স
44. (c) Severe acute respiratory syndrome (SARS) is a serious form of pneumonia. It is caused by a virus that was first identified in 2003. Infection with the SARS virus causes acute respiratory distress (severe breathing difficulty) and sometimes death. SARS was first seen in China. World Health Organization (WHO) physician Dr. Carlo Urbani identified SARS as a new disease in 2003. He diagnosed it in a 48-year-old businessman who had traveled from the Guangdong province of China, through Hong Kong, to Hanoi, Vietnam. The businessman and the doctor who first diagnosed SARS both died from the illness. There are normally thirty-three (33) vertebrae in humans, including the five that are fused to form the sacrum (the others are separated by intervertebral discs) and the four coccygeal bones that form the tailbone. The upper three regions comprise the remaining 24, and are grouped under the names cervical (7 vertebrae), thoracic (12 vertebrae) and lumbar (5 vertebrae), according to the regions they occupy. অ্যাচিভর্স
45. (d) The vertebral column, also known as backbone or spine, is a bony structure found in Vertebrates. It is formed from the vertebrae. অ্যাচিভর্স
46. (b) Newborns are vaccinated within 48 hours of birth with 0.05 ml and 0.1 ml of freeze dried BCG vaccine procured from Guindy Madras manufactured using Copenhagen 1331 strain containing 0.69 million culturable particles/0.1 ml. BCG vaccine is a live bacterial vaccine given for protection against tuberculosis, mainly severe forms of childhood tuberculosis. It is given along with the zero dose of oral polio vaccine. It is given to all children as part of EPI schedule as recommended by government of India. অ্যাচিভর্স

47. (d) Glaucoma is an eye disease in which the optic nerve is damaged in a characteristic pattern. This can permanently damage vision in the affected eye(s) and lead to blindness if left untreated. It is normally associated with increased fluid pressure in the eye (aqueous humour). The term “ocular hypertension” is used for people with consistently raised intraocular pressure (IOP) without any associated optic nerve damage. Conversely, the term ‘normal tension’ or ‘low tension’ glaucoma is used for those with optic nerve damage and associated visual field loss, but normal or low IOP. ଫ୍ଲୋରିନ
48. (a) yawning occurs when one’s blood contains increased amounts of carbon dioxide and therefore becomes in need of the influx of oxygen (or expulsion of carbon dioxide) that a yawn can provide. A yawn is a reflex of simultaneous inhalation of air and stretching of the eardrums, followed by exhalation of breath. Pandiculation is the act of yawning and stretching simultaneously. ଫ୍ଲୋରିନ
49. (c) Vitamin K is a group of structurally similar, fat-soluble vitamins that are needed for the post-translational modification of certain proteins required for blood coagulation and in metabolic pathways in bone and other tissue. They are 2-methyl-1,4-naphthoquinone (3-)derivatives. This group of vitamins includes two natural vitamins: vitamin K₁ and vitamin K₂. Vitamin K₁, also known as phylloquinone, phytonadione, or phytonadione, is synthesized by plants, and is found in highest amounts in green leafy vegetables because it is directly involved in photosynthesis. It may be thought of as the “plant form” of vitamin K. It is active in animals since animals can easily convert it to vitamin K₂.
50. (c) Darwin’s finches are a group of about 15 species of passerine birds. They often are classified as the subfamily Geospizinae or tribe Geospizini. They were first collected by Charles Darwin on the Galápagos Islands during the second voyage of the Beagle. All are found only on the Galápagos Islands. The birds vary in size from 10 to 20 cm and weigh between 8 and 38 grams. The smallest are the warbler-finches and the largest is the Vegetarian Finch. The most important differences between species are in the size and shape of their beaks, and the beaks are highly adapted to different food sources. The birds are all dull-coloured.
51. (b) Fluorine is the element that is associated with teeth disorder because the presence of sodium fluoride in drinking water at the level of 2 ppm may cause mottled enamel in teeth, skeletal fluorosis, and may be associated with cancer and other diseases. However, topically applied fluoride (toothpaste, dental rinses) has been shown to help reduce dental caries. ଫ୍ଲୋରିନ
52. (c) Pepper plant is a vine. It is a climber and hence it needs support of some other plant (called standard) to climb. Pepper plants have long, vigorous vines and can reach twelve to fifteen feet high. The plants need a strong trellis or structure to scramble over. In addition to its culinary value, pepper makes a lovely houseplant with its glossy, evergreen leaves.
53. (a) Red Blood cells contain haemoglobin which is what the oxygen binds with to form oxyhaemoglobin which is then transported to the different cells around the body. Oxygen bonds with the haemoglobin when it is at high partial pressure and then is released when there is a lower partial pressure of oxygen. At high altitudes there is lower atmospheric pressure of oxygen. This means that the current number of red blood cells in the body cannot meet the cells demands for oxygen. Due to the lower partial pressure of oxygen a process called polycythemia occurs, which is an increase in the body’s red blood cell count. The body increases its red blood cell count because this means there is more haemoglobin available to bond with oxygen molecules meaning more oxygen can be transported to the cells in the body, therefore helping to meet the oxygen demands of the body even with less oxygen in the air. ଫ୍ଲୋରିନ
54. (d) In vitro fertilisation is a process by which an egg is fertilised by sperm outside the body: in vitro. IVF is a major treatment for infertility when other methods of assisted reproductive technology have failed. The process involves monitoring a woman’s ovulatory process, removing ovum or ova (egg or eggs) from the woman’s ovaries and letting sperm fertilize them in a fluid medium in a laboratory. When a woman’s natural cycle is monitored to collect a naturally selected ovum (egg) for fertilisation, it is known as natural cycle IVF. The fertilised egg (zygote) is then transferred to the patient’s uterus with the intention of establishing a successful pregnancy. The first successful birth

- of a “test tube baby”, Louise Brown, occurred in 1978. শ্রীচন্দ্র
55. (b) Vitamin B₁₂ also called cobalamin, is a watersoluble vitamin with a key role in the normal functioning of the brain and nervous system, and for the formation of blood. Vitamin B₁₂ is found in foods that come from animals, including fish and shellfish, meat (especially liver), poultry, eggs, milk, and milk products. While lacto-ovo vegetarians usually get enough B₁₂ through consuming dairy products, vegans will lack B₁₂ unless they consume B₁₂-containing dietary supplements or B₁₂-fortified foods.
56. (a) Xerophthalmia is a medical condition in which the eye fails to produce tears. It may be caused by a deficiency in vitamin A and is sometimes used to describe that lack, although there may be other causes. Xerophthalmia caused by a severe vitamin A deficiency is described by pathologic dryness of the conjunctiva and cornea. The conjunctiva becomes dry, thick and wrinkled. If untreated, it can lead to corneal ulceration and ultimately to blindness as a result of corneal damage. শ্রীচন্দ্র
57. (d) Antibiotics, also known as antimicrobial drugs, are drugs that fight infections caused by bacteria. Alexander Fleming discovered the first antibiotic, penicillin, in 1927. The term “antibiotic” originally referred to a natural compound produced by a fungus or another microorganism that kills bacteria which cause disease in humans or animals. Some antibiotics may be synthetic compounds (not produced by microorganisms) that can also kill or inhibit the growth of microbes. শ্রীচন্দ্র
58. (b) Genetically, modified foods (GM foods) are foods derived from genetically modified organisms (GMOs), such as genetically modified crops or genetically modified fish. GMOs have had specific changes introduced into their DNA by genetic engineering techniques. These techniques are much more precise than mutagenesis (mutation breeding) where an organism is exposed to radiation or chemicals to create a non-specific but stable change. Other techniques by which humans modify food organisms include selective breeding; plant breeding, and animal breeding, and somaclonal variation. শ্রীচন্দ্র
59. (d) Human skin colour is primarily due to the presence of melanin in the skin. Skin colour ranges from almost black to white with a pinkish tinge due to blood vessels underneath. Variation in natural skin colour is mainly due to genetics, although the evolutionary causes are not completely certain. Melanin is produced by cells called melanocytes in a process called melanogenesis. Melanin is triggered by an enzyme called tyrosinase, which creates the color of skin, eyes, and hair shades. Melanin controls the amount of ultraviolet (UV) radiation from the sun that penetrates the skin by absorption. While UV radiation can assist in the production of vitamin D, excessive exposure to UV can damage health. শ্রীচন্দ্র
60. (a) Camels have broad, flat, leathery pads with two toes on each foot. When the camel places its foot on the ground the pads spread, preventing the foot from sinking into the sand. When walking, the camel moves both feet on one side of its body, then both feet on the other. This gait suggests the rolling motion of a boat, explaining the camel’s ‘ship of the desert’ nickname. The pad supports the animal on loose sand in much the same way that a snowshoe helps a person walk on snow.
61. (d) Saccharin is an artificial sweetener. The basic substance, benzoic sulfilimine, has effectively no food energy and is much sweeter than sucrose, but has a bitter or metallic aftertaste, especially at high concentrations. It is used to sweeten products such as drinks, candies, cookies, medicines, and toothpaste. Saccharin derives its name from the word saccharine, meaning of, relating to, or resembling that of sugar. শ্রীচন্দ্র
62. (a) Yellow fever (also known as Yellow Jack and Bronze John) is an acute viral hemorrhagic disease. The virus is a 40 to 50 nm enveloped RNA virus with positive sense of the Flaviviridae family. The yellow fever virus is transmitted by the bite of female mosquitoes (the yellow fever mosquito, *Aedes aegypti*, and other species) and is found in tropical and subtropical areas in South America and Africa, but not in Asia. The only known hosts of the virus are primates and several species of mosquito.
63. (c) In molecular biology, the term double helix refers to the structure formed by double-stranded molecules of nucleic acids such as DNA and RNA. The term entered popular culture with the publication in 1968 of *The Double Helix: A Personal Account of the Discovery of the Structure of DNA*, by James

- Watson. It was in 1901, that Austrian-American immunologist and pathologist Karl Landsteiner discovered human blood groups. Karl Landsteiner's work made it possible to determine blood groups and thus paved the way for blood transfusions to be carried out safely. For this discovery he was awarded the Nobel Prize in Physiology or Medicine in 1930. Edward Anthony Jenner was an English physician and scientist from Berkeley, Gloucestershire, who was the pioneer of smallpox vaccine. Penicillin is a group of antibiotics derived from *Penicillium* fungi. The discovery of penicillin is attributed to Scottish scientist and Nobel laureate Alexander Fleming in 1928. শ্রীচিভর্ষ
64. (c) Colour-blindness is the inability to distinguish the differences between certain colours. This condition results from an absence of colour-sensitive pigment in the cone cells of the retina, the nerve layer at the back of the eye. A person with colour-blindness has trouble seeing red, green, blue, or mixtures of these colors. The most common type is red-green colour blindness, where red and green are seen as the same color.
65. (a) Blood type AB is the universal recipient because individuals who have blood type AB does not have the antibodies. They do not have the anti-A or Anti-B antibodies. They can receive all types of blood types: A, B, O, AB. শ্রীচিভর্ষ
66. (d) In physiology and medicine, hypotension is abnormally low blood pressure, especially in the arteries of the systemic circulation. Hypotension is the opposite of hypertension, which is high blood pressure. Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps out blood. If it is lower than normal, then it is called low blood pressure or hypotension. Severely low blood pressure can deprive the brain and other vital organs of oxygen and nutrients, leading to a lifethreatening condition called shock. Decreased cardiac output despite normal blood volume, due to severe congestive heart failure, large myocardial infarction, heart valve problems, heart attack, heart failure, or extremely low heart rate (bradycardia), often produces hypotension and can rapidly progress to cardiogenic shock. শ্রীচিভর্ষ
67. (c) Poliomyelitis, often called polio or infantile paralysis, is an acute, viral, infectious disease spread from person to person, primarily via the fecal-oral route. শ্রীচিভর্ষ
68. (c) Landfill is the most common and the oldest method for waste disposal management, incineration is the second largest method for waste disposal management in most of the countries around the world. শ্রীচিভর্ষ
69. (b) A typical adult human skeleton consists of 206 bones. These include: 22 Cranial and Facial Bones; 6 Ear Bones; 1 Throat Bone; 4 Shoulder Bones; 25 Chest Bones; 26 Vertebral Bones; 6 Arm and Forearm bones; 54 Hand Bones; 2 Pelvic Bones; 8 Leg Bones; and 52 Foot Bones.
70. (a) Starch or amyllum is a carbohydrate consisting of a large number of glucose units joined by glycosidic bonds. Sugar from molasses or sugarcane, fruits or starch is first converted to glucose and fructose in presence of an enzyme called invertase. শ্রীচিভর্ষ
71. (a) The CPU or Central Processing Unit is the "brain" of the computer, it is the 'compute' in computer. Computer CPUs (processors) are composed of thin layers of thousands of transistors. Transistors are tiny, nearly microscopic bits of material that will block electricity when the electricity is only a weak charge, but will allow the electricity pass through when the electricity is strong enough.
72. (c) Human immunodeficiency virus (HIV) is a lentivirus (a member of the retrovirus family) that causes acquired immunodeficiency syndrome (AIDS). Mumps (epidemic parotitis) is a viral disease of the human species, caused by the mumps virus. Poliomyelitis is an acute, viral, infectious disease spread from person to person, primarily via the fecal-oral route.
73. (b) Hemophilia is a group of hereditary genetic disorders that impair the body's ability to control blood clotting or coagulation, which is used to stop bleeding when a blood vessel is broken. It has been associated with royal families due to inbreeding, and is sometimes called the 'Royal Disease,' Queen Victoria of England had this disease. However, it can occur in any family as a result of genetic mutation or a change in the genetic code. শ্রীচিভর্ষ
74. (b) Tortoise's are cold blooded reptile's and require heat, which they regulate by moving in and out of the sun during the day. A tortoise can maintain a higher body temperature in the wild at night by digging into soil which has been heated by the sun during the day. শ্রীচিভর্ষ
75. (b) *Entamoeba histolytica* is an anaerobic parasitic protozoan, part of the genus *Entamoeba*. When cysts are swallowed they cause infections by

- excysting (releasing the trophozoite stage) in the digestive tract. The infection can lead to amoebic dysentery or amoebic liver abscess.
76. (c) Embryonic stem cells are distinguished by two distinctive properties: (a) their pluripotency, and (b) their ability to replicate indefinitely. They are capable of propagating themselves indefinitely. This allows embryonic stem cells to be employed as useful tools for both research and regenerative medicine, because they can produce limitless numbers of themselves for continued research or clinical use. অ্যাচিভমেন্ট
77. (b) High levels of uric acid in the blood can cause solid crystals to form within joints. This causes a painful condition called gout. If gout remains untreated, these uric acid crystals can build up in the joints and nearby tissues, forming hard lumpy deposits called tophi. অ্যাচিভমেন্ট
78. (d) Molars are the posterior most and most complicated kind of tooth in most mammals. Adult humans have twelve molars, in four groups of three at the back of the mouth. The third, rearmost molar in each group is called a wisdom tooth. অ্যাচিভমেন্ট
79. (c) In onions, the bulbs consist of very short stems with closely packed leaves arranged in concentric circles round the stem. These leaves are swollen with stored food. The inner leaves are fleshy while the outer ones are dry. This is called as tunicated bulb since the concentric leaf bases form a complete covering or tunic. অ্যাচিভমেন্ট
80. (b) The placenta is an organ that connects the developing fetus to the uterine wall to allow nutrient uptake, waste elimination, and gas exchange via the mother's blood supply. It allows the transfer of nutrients and oxygen from the mother to the fetus and the transfer of waste products and carbon dioxide back from the fetus to the maternal blood supply. Nutrient transfer to the fetus occurs via both active and passive transport. অ্যাচিভমেন্ট
81. (b) India's 1st Forest Healing centre was inaugurated by noted environmentalist Joginder Bisht in the pine dominated forest located at Ranikhet in Kalika Uttarakhand. It was developed by the Research Wing of Uttarakhand Forest Department in an area of around 13 acres. The forest is inspired from the Japanese technique of forest bathing (shinrin-yoku) and ancient Indian traditions. It is themed on 'be silent, go slow, think less and feel more'.
82. (d) Ladakh Lieutenant Governor R K Mathur inaugurated the 1st Solar Lift Irrigation Scheme of Kargil Renewable Energy Development Agency (KREDA) at Latoo Village, Kargil. It is the last Village on Line of Control (LoC). The 50 Kw Solar Photovoltaic Plant, is the 1st Prototype of the Solar Lift Irrigation System in Ladakh. অ্যাচিভমেন্ট
83. (d) Rajasthan Government is set to implement its Universal Health Scheme from May 1, 2021. The scheme named 'Mukhyamantri Chiranjeevi Yojana' will provide free annual medical insurance of up to INR 5 Lakh for every family in the State. Free insurance will be provided to all families under BPL (Below Poverty Line), NFSA (National Food Security Act) & SECC categories (Socio-Economic Caste Census). Others can pay 50% premium & join the scheme. অ্যাচিভমেন্ট
84. (c) Indian PM Narendra Modi visited Bangladesh from March 26-27, 2021 at the invitation of Bangladesh Prime Minister Sheikh Hasina. The government of India announced 1000 Shuborno Jayanti Scholarships for Bangladeshi Students for pursuing education/courses in India.
85. (b) The Ministry of Information and Broadcasting appointed Jaideep Bhatnagar, 1986-batch Indian Information Service (IIS) officer as the Principal Director General (DG) of Press Information Bureau (PIB). He has been serving as the Director General, News Services Division of All India Radio (AIR) since August 2020. অ্যাচিভমেন্ট
86. (b) International Boxing Association (AIBA) has appointed 6-time Boxing World Champion Mary Kom as the chairperson of the AIBA Champion and Veterans Committee. She was elected by the mail vote of the Board Member of AIBA. Olympic medalist Michael Philip Carruth of Ireland was appointed as the Vice Chairperson of the committee by the board of directors. Mary Kom is the 1st Indian Female athlete to win the gold medal in Commonwealth & Asian Games. অ্যাচিভমেন্ট
87. (b) On 10th March 2021, Tirath Singh Rawat, Members of Parliament (Lok Sabha), was sworn in as the 9th Chief Minister (CM) of Uttarakhand following the resignation of Trivendra Singh Rawat on 9th March 2021 following the unease over his governance. Tirath Singh Rawat was the 1st Education Minister of Uttarakhand. অ্যাচিভমেন্ট
88. (d) On March 26, 2021, Pakistan conducted a successful flight test of 'Shaheen 1-A' (Hatf IV) a Nuclear capable Surface-to-Surface

- ballistic missile. It has a range of 900 Kms. This is the 4th Successful missile test by Pakistan in 2021. শ্রীচিভর্ষ
 ‘Shaheen-III’ – Nuclear-Capable Surface-to-Surface Ballistic Missile.
 ‘Ghaznavi (Hatf-III)’ – Nuclear-Capable Surface-to-Surface Ballistic Missile.
 “Babur” – Short Range Surface-to-Surface Ballistic Missile.
89. (a) SpaceX successfully tested its ‘Starship SN10’ prototype rocket after two failed attempts. The rocket successfully up to an altitude of 10,000 Kms & safely landed back on the ground, but exploded six minutes after the landing. Starship is being developed by SpaceX to get people & payloads to moon, Mars & other distant destinations. শ্রীচিভর্ষ
90. (c) Japan’s “Fugaku” the World’s Most Powerful Supercomputer that topped the Top 500 list for 2 consecutive years is now fully operational. The supercomputer that was developed for 6 years by Japanese scientific research institute RIKEN and Fujitsu was used in projects to combat COVID-19 pandemic. This will work towards the Japanese government’s vision of an ultra-smart Society 5.0.”PARAM-Siddhi AI” is India’s fastest Supercomputer. শ্রীচিভর্ষ
91. (c) Indian Wrestler Vinesh Phogat won the Gold Medal in the Women’s 53 Kg Category of XXIV Outstanding Ukrainian Wrestlers and Coaches Memorial Tournament held at Kyiv (also known as Kiev), Ukraine. She is the only Indian Woman Wrestler to have qualified for the Tokyo Games. শ্রীচিভর্ষ
92. (d) On 2nd March, 2021, Jammu & Kashmir retained the top spot in the 2nd Edition of Khelo India Winter Games, with 11 Gold, 18 Silver and 5 Bronze Medals, that was held at Gulmarg, J&K. Following the success of the event, the venue for 3rd edition of Khelo India Winter Games was set at Gulmarg, J&K. Both the 1st & 2nd editions are held at Gulmarg, J&K. শ্রীচিভর্ষ
93. (c) West Indies limited-overs format skipper Kieron Pollard became the third batsman in the history of international cricket after Herschelle Gibbs (South Africa) and Yuvraj Singh (India) to hit six 6s in an over. He achieved the feat in the first T20I of the three-match series against Sri Lanka here at the Coolidge Cricket Ground in Antigua. শ্রীচিভর্ষ
94. (c) Mercedes Driver Lewis Hamilton (Great Britain) won the 2021 Bahrain Grand Prix also known as Formula 1 Gulf Air Bahrain Grand Prix 2021, which was held at Bahrain on March 28, 2021. It is the inaugural GP of the 2021 Formula One World Championship. শ্রীচিভর্ষ
95. (a) National Book Award Winner Evan Osnos has authored a new Book “Joe Biden: American Dreamer” a biography of American President, Joe Biden that features both the personal and public life of Joe Biden. Other works by Evan Osnos: শ্রীচিভর্ষ
- Joe Biden: The Life, the Run, and What Matters Now
 - Age of Ambition: Chasing Fortune, Truth, and Faith in the New China
96. (b) The English translation of Anant Vijay’s book named ‘Dynasty to Democracy: The Untold Story of Smriti Irani’s Triumph’ is set to launch by March 15. The book narrates Smriti Irani’s victory in Amethi, Uttar Pradesh during the 2019 Lok Sabha election. শ্রীচিভর্ষ
97. (d) Actor, Screenwriter, and Playwright Susmita Mukherjee have authored her 2nd book titled “Baanjh: Incomplete Lives of Complete Women”. The book is a collection of 11 short stories that portray the lives of women from various social backgrounds. Her debut novel was “Mee and Juhibaby”.
98. (c) Anshuman Singh, former governor of Rajasthan passed away at the age of 86 in Lucknow, Uttar Pradesh. He passed away due to COVID-19 related pneumonia. He was born in 1935 in Allahabad, Uttar Pradesh. শ্রীচিভর্ষ
99. (b) The World Health Organisation (WHO) annually observes “World Hearing Day” across the globe on 3rd March to raise awareness on how to prevent deafness and hearing loss and to promote hearing care across the globe. The World Hearing Day 2021 on 3rd march 2021 is celebrated under the theme “Hearing care for ALL! Screen. Rehabilitate. Communicate”.
100. (a) United Nations (UN)’s International Women’s Day (IWD) is annually observed across the globe on 8th March to recognise the achievements of the women regardless of their nation, ethnic, language, culture, economic or political. The theme of International Women’s Day 2021 is “Women in leadership: Achieving an equal future in a COVID-19 world”. Globally, India ranks 3rd with the 39% of women in senior management. শ্রীচিভর্ষ