

**GS SPECIAL MOCK TEST-16 (ANSWER KEY)**

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

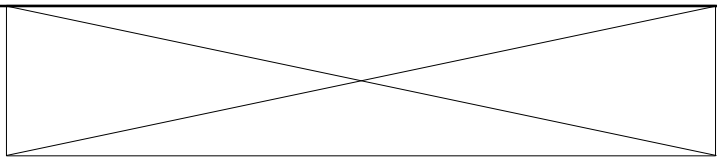
**Note :** If your opinion differ regarding any answer, please message the mock test and Question number to 8860330003

**Note :** If you face any problem regarding result or marks scored, please contact : 9313111777

## GS SPECIAL MOCK TEST- 16 (SOLUTION)

1. (B) Samvat is any of the various Hindu calendars. In India, there are several calendars in use. The Saka Samvat is associated with 78 A.D; Gupta Samvat with 320 A.D; and Hijri Samvat with 622 A.D. The first year of Hijri era was the Islamic year beginning in AD 622 during which the emigration of Muhammad from Mecca to Medina, Known as the Hijra, occurred. The Gregorian calendar, also called the Western calendar and the Christian calendar, is the internationally accepted civil calendar. It was introduced by Pope Gregory XIII, after whom the calendar was named, by a decree signed on 24 February, 1582.
2. (B) Sri Aurobindo wrote The Doctrine of Passive Resistance as a series of articles first appearing in the Indian daily Bande Mataram under the general title of New Thought from April 11 to April 23, 1907. It was here that the doctrine was enunciated and explained. It was brought out in 1948 in book form and named The Doctrine of Passive Resistance.
3. (A) The decision to effect the Partition of Bengal was announced in July 1905 by the Viceroy of India, Lord Curzon. The partition took effect in October 1905 and separated the largely Muslim eastern areas from the largely Hindu western areas. Bengal was reunited in 1911.
4. (C) The Indian Councils Act 1909, commonly known as the Morley-Minto Reforms, was an Act of the Parliament of the United Kingdom that brought about a limited increase in the involvement of Indians in the governance of British India. It effectively allowed the election of Indians to the various legislative councils in India for the first time.
5. (B) Abdul Gaffar Khan: Frontier Gandhi; Dadabhai Naoroji: Grand Old Man of India; Mohandas Karamchand Gandhi: Mahatma; and Rabindra Nath Tagore: Gurudev.
6. (C) The Secretary of State for India was the British Cabinet minister responsible for the government of India, Burma and Aden, and the political head of the India Office. The post was created in 1858 when the East India Company's rule in India ended and British India was brought under the direct administration of the government in London, beginning a period often called the British Raj, Edward Stanley, 15th Earl of Derby, was the first Secretary of State for India.
7. (B) Ram Mohan Roy was an Indian religious, social, and educational reformer who challenged traditional Hindu culture and indicated the lines of progress for Indian society under British rule. He is also called the "maker of Modern India" and "Father of Modern India". He, along with Dwarkanath Tagore and other Bengalis, founded the Brahma Sabha in 1828, which engendered the Brahma Samaj.
8. (B) The Doctrine of Lapse was an annexation policy purportedly devised by Lord Dalhousie who was the Governor General for the East India Company in India between 1848 and 1856. According to the Doctrine, any princely state or territory under the direct influence (paramountcy) of the British East India Company (the dominant imperial power in the subcontinent), as a vassal state under the British Subsidiary System, would automatically be annexed. Subsidiary System, would automatically be annexed if the ruler was either "manifestly incompetent or died without a direct heir."
9. (A) Arya Samaj is a Hindu reform movement founded by Swami Dayananda in Bombay on 7 April, 1875. The membership amounted to 100 persons including Swami Dayanad. On the 24th of June, 1877, the second major Arya Samaj was established at Lahore.
10. (C) The Government of India Act 1935 made provision for the establishment of a "Federation of India", to be made up of both British India and some or all of the "princely states." The parts of the Act intended to establish the Federation of India never came into operation, due to opposition from rulers of the princely states.
11. (B) The doctrine of subsidiary alliance was introduced by Marquess Wellesley, British Governor-General of India from 1798 to 1805. Lord Curzon after becoming the governor general of India sought to introduce the reforms in all fields of administration and also in education. In September 1901, Curzon summoned the highest educational officers of the Government throughout India and representatives of universities at a round table Conference at Shimla. The Conference adopted 150 resolutions which touched almost every conceivable branch of education. This was followed by the appointment of a Commission under the presidency of Sir Thomas Raleigh on 27

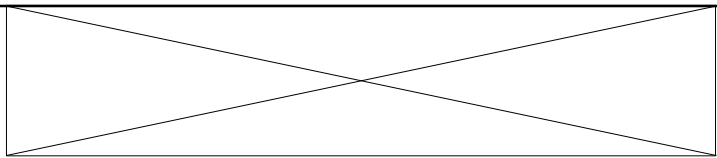
- January, 1905 to enquire into the condition and prospects of universities in India and to recommend proposals for improving their constitution and working. AS a result of he report of the recommendations of the Commission the Indian Universities Act was passed in 1904. The Doctrine of Lapse was an annexation policy purportedly devised by Lord Dalhousie, who was the Governor General for the East India Company in India between 1848 and 1856. The Dual Government of Bengal was a double system of administration, which was introduced by Robert Clvie. The British East India Company obtained the actual power; where as the responsibility and charge of administration was entrusted to the Nawab of Bengal.
12. (B) The Montagu-Chelmsford Reforms were reforms introduced by the British Government in India to introduce self-governing institutions gradually to India. The reforms take their name from Edwin Samuel Montageu, the Secretary of State for India during the latter parts of World War I and Lord Chelmsford, Viceroy of India between 1916 and 1921. The reforms were outlined in Montagu-Chelmsford Report prepared in 1918 and formed the basis of the Government of India Act 1919.
13. (A) Giddha is a popular folk dance of women in Punjab region of India and Pakistan. The dance is often considered derived from the ancient dance known as the ring dance and is just as energetic as Bhangra; at the same time it manages to creatively display feminine grace, elegance and elasticity.
14. (B) Bharatanatyam is a classical Indian dance form originating in the South Indian state of Tamil Nadu. It has its inspirations from the sculptures of the ancient temple of Chidambaram. The Sangeet Natak Akademi currently confers classical status on eight Indian dance styles: Bharatanataym: Tamil Nadu; Kathak: Uttar Pradesh; Kathakali; Kerala; Kuchipudi; Andhra Pradesh' Manipur; Mnaipur; Mohiniyattam; Kerala; Odissi; Odisha; and Sattriya; Assam.
15. (B) Asad Ali Khan was an Indian musician who played the plucked string instrument rudra veena. Khan performed in the style dhrupad and was described as the best living rudra veena player in India. Mallikarjun Mansur was an Indian classical singer of the khyal style in the Jaipur-Atrauli gharana. Ustad Bismillah Khan was an Indian shehnai maestro. He was the third classical musician to be awarded the Bharat Ratna, the highest civilian honour in India and gained worldwide acclaim for playing the shehnai for more than eight decades. Trippu ithura Naranyan Krishnan is a Caratic music violinist.
16. (C) Isohypse is a line on a map that joins points of equal elevation. It is also known as contour line.
17. (B) Greenwich Mean Time (GMT) is a time system originally referring to mean solar time at the Royal Observatory in Greenwich. London, which later became adopted as a global time standard. It is the term in common use in the United Kingdom and countries of the Commonwealth, including Australia, South Africa, India, Pakistan and Malaysia, as well as many other countries in the Old World.
18. (A) The Roaring Forties is the name given to strong westerly winds found in the Southern Hemisphere, generally between the latitudes of 40 and 50 degrees. The strong west-to-east air currents are caused by the combination of air being displaced from the Equator towards the South Pole and the Earth's rotation, and there are few landmasses to serve as windbreaks.
19. (A) A wind rose is a graphic tools used by meteorologists to give a succinct view of how wind speed and direction are typically distributed at a particular location.
20. (C) Frontal rainfall is a type of precipitation which occurs when a warm air mass and a cold air mass meet. Extra-tropical cyclones from as waves along wither fronts before occluding later in their life cycle as cold core cyclones. Cyclogenesis is the development or strengthening of cyclonic circulation in the atmosphere (a low pressure area).
21. (A) The Radcliffe Line was announced on 17 August 1947 as a boundary demarcation line between India and Pakistan upon the Partition of India. It was named after its architect, Sir Cyril Radcliffe, who as chairman of the Border Commissions was charged with equitably dividing 175,000 square miles of territory with 88 million people.
22. (B) Diego Garcia is a tropical, footprint-shaped coral atoll located south of the equator in the central Indian Ocean. It is part of the British Indian Ocean Territory. It is lies in the Chagos Archipelago at the southernmost tip of the Chagos-Laccadive Ridge - a vast submarine range in the Indian Ocean.
23. (D) Durushikhar holds the honor of being not only the highest peak of Mount Abu but



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- the whole or Aravali mountain range. This peak is the home to the temple of Dattatreya, an incarnation of Lord Vishnu.
24. (C) Kullu is a broad open valley formed by the Beas river between Manali and Largi. This valley is famous for its beauty and its majestic hills covered with Pine and Deodar Forest and sprawling Apple Orchards. The economy of Kullu largely depends on tourism, horticulture (apples, plums, pears, and almonds) and handicrafts (shawls, caps, etc.).
25. (D) Meghalaya is bounded on the north by Assam and by Bangladesh on the south.
26. (B) Afghanistan, officially the Islamic Republic of Afghanistan, is a landlocked country forming part of South Asia. It is bordered by Pakistan in the south and the east. Iran in the west, Turkeministan, Uzbekistan and Tajikistan in the north, and China in the far northeast.
27. (B) The largest island in the world is Greenland with 2, 131,000 square kilometer. Greenland is an autonomous country within the kingdom of Denmark. Located between the Arctic and Atlantic Oceans, east of the Canadian Arctic Archipelago. Though physiographically it is a part of the continent to North America, Greenland has been politically and culturally associated with Europe (specifically Norway and later Denmark) for more than a millennium. Australia is considered a continent because it has unique plant and animal life. Antarctica also is a continent-larger than Europe and Australia. Greenland, although quite big, shares the habitat features of Northern America. The smallest island in the world-according to the Guinness Book of Records- is Bishop Rock. It lies at the most south-westerly part of the United Kingdom.
28. (C) The Seine is a 776 km-long river and an important commercial waterway within the Paris Basin in the north of France. The potomac River flows into the Chesapeake Bay, located along the mid-Atlantic coast of the United States. The Rhine is a river that flows from Grisons in the eastern Swiss Alps to the North Sea coast in the Netherlands and is the twelfth longest river in Europe, Germany, Australia, Switzerland, France Netherlands are countries traversed by it. The Danube is a river in Central Europe, the continent's second longest after the Volga. Classified as a n international waterway, it originates in the town of Donaueschingen which is in the Black Forest of Germany at the confluence of the rivers Brigach and Breg. The Danube then flows southeast for 2,872 km, passing through four Central European capitals before emptying into the Balck Sea via the Danube Delta in Romania and Ukraine.
29. (A) A mountain range, or 'mountain belt', is a geographic area containing numerous geologically related mountain. Above sea level the Andes is usually considered the world's longest mountain system; it is 7,000 kilometers in length. The Himalaya Range contains the highest mountains on the Earth's surface, the highest of which is Mount Everest. The world's longest mountain system is known s Ocean Ridge, which is a chain of mountains that runs on the seafloor of five oceans around the world; it has a length of 65,000 kilometers, and the total length of the system is 8,000 kilometers. The Andes is the world's longest mountain system on the surface of a continent; it is 7,000 kilometers in length. To clarify, the Andes is the world's largest chain of mountains above sea level.
30. (B) A dike or dyke in geology is a type of sheet intrusion referring to any geologic body that cuts discordantly across: planar wall rock structures, such as bedding or foliation ; and massive rock formations, like igneous/magmatic intrusions and salt diapirs. Today approximately 27 percent of the Netherlands is actually below sea level. This area is home to over 60 percent of the country's population of 15.8 million people. The Netherlands, which is approximately the size of the U.S. states Connecticut and Massachusetts combined, has a n approximate average elevation of 11 meters. With the help of dikes, the Netherlands (also known as Holland) was able to reclaim land for settlement and also control flooding.
31. (D) The Reserve Bank of India is the main monetary authority of the country and beside that the central bank acts as the bank of the national and state governments. It formulates, implements and monitors the monetary policy as well as it has to ensure an adequate flow of credit to productive sectors. Objectives are maintain price stability and ensuring adequate flow of credit of productive sectors.
32. (A) Statutory liquidity ratio is the amount of liquid assets such as precious metals (Gold) or other approved securities, which a financial institution must maintain as reserves other than the cash. The statutory liquidity ratio is a term most commonly used in India. The objectives of SLR are to

- restrict the expansion of bank credit. They serve to augment the investment of the banks in government securities and ensure solvency of banks.
33. (A) The shareable central taxes include corporation tax, income tax, wealth tax, custom, excise duty and service tax. The taxes, which are not shared with states include some ceases like education and road. Income Tax in India includes all income except the agriculture income that is levied and collected by the central government (List I, Entry 82).
34. (B) National income measures the monetary value of the flow of output of goods and services produced in an economy over a period of time. National income is the total economic activity (production of finished goods and services calculated in monetary value) within the economic territory of a country by its residents during the year of accounting. In other words National income of a country is the Net National Product at factor cost.
35. (D) As per Article 268-A of the Constitution of India, Service tax levied by Union and collected and appropriated by the Union and States. Service tax is a part of Central Excise in India. It is a tax levied on services provided in India, except the State of Jammu and Kashmir. As per article 269, the taxes levied and collected by the union but assigned to the States are: duties in respect of succession to property other than agricultural land; estate duty in respect of property other than agricultural land; terminal taxes on goods or passengers carried by railway, sea or air; taxes on railway fares and freights; taxes on the sale or purchase of newspapers and on advertisements published therein; taxes on the consignment of goods (whether the consignment is to the person making or to any other person), where such consignment takes place in the course of inter State trade or commerce, etc.
36. (C) Originally, the assets of the issue Department were to consist of not less than two-fifths of gold coin, gold bullion or sterling securities provided the amount of gold was not less than Rs. 40 crore in value. There remaining three-fifths of the assets might be held in rupee coins, Government of India rupee securities, eligible bills of exchange and promissory notes payable in India. Due to the exigencies of the Second World War and the post-war period, these provision were considerably modified. Since 1957, the Reserve Bank of India is required to maintain gold and foreign exchange reserves of Rs. 200 crore (2 billion), of which at least Rs. 115 crore should be in gold and Rs. 85 crore in the form of Government Securities. The system as it exists today is known as the minimum reserve system.
37. (C) Bank rate also referred to as the discount rate. Is the rate of interest which a central bank charges on the loans and advances to a commercial bank. Repo (Repurchase) rate is the rate at which the central bank lends short-term money to the banks against securities. A reduction in the repo rate will help banks to get money at a cheaper rate. The reverse repo rate is the rate at which the banks park surplus funds with reserve bank, while the repo rate is the rate at which the banks borrow from the central bank.
38. (C) Operational research is a discipline that deals with the application of advanced analytical methods to help make better decisions. Employing techniques from other mathematical science, such as mathematical modeling, statistical analysis, and mathematical optimization, operations research arrives at optimal or near-optimal solutions to complex decision-making problems. In a nutshell, operations research (O.R.) is the discipline of applying advanced analytical methods of to help make better decisions.
39. (C) Devaluation reduces the export in term of foreign currencies in the world market. As a result the exports are increased so as to increase the revenue of the country. When the exports are increased all efforts are made to increased the production of the country. However, devaluation of currency is in relation to external currencies and external trade. It has effects on a country's international trade by has effects on a country's international trade by alluring traders. But, internal prices remain unaffected.
40. (C) A creditor is a party (e. g. person, organization, company, or government) that has a claim to the services of a second party. It is a person or institution to who money is owed. The second party frequently called a debtor or borrower. An incorporated entity is a separate legal entity that has been incorporated through a legislative or registration process established through legislation. Both bond holders and stock holders are creditors of a corporation.
41. (A) Equilibrium price is a state in economy where the supply of goods matches demand.



- When a major index experience a period of consolidation or sideways momentum, it can be said that the forces of supply and demand are relatively equal and that the market is in a state of equilibrium. In short, it is the market price at which the supply of an item equals the quantity demand.
42. (C) Marginal utility measures the extra utility (or satisfaction) from consuming an additional unit of a product. Total utility is the total satisfaction from the consumption of the product. According to the Law of Diminishing Marginal Utility, total utility increase at a diminishing rate. When marginal utility is 0 this means there is no increase in total satisfaction from the consumption of that unit. So the total unit is at maximum.
43. (C) Paper Gold is a measure of a country's reserve assets in the international monetary system. It is also called Special Drawing Rights (SDR) which is an international reserve asset, created by the IMF in 1969 to supplement its member countries' official reserves. Its value is based on a basket of four key international currencies. SDRs can be exchanged for freely usable currencies. SDRs may actually represent a potential claim on IMF member countries non-gold foreign exchange reserve assets. Which are usually held in those currencies.
44. (C) Sudden and great fluctuations of the barometer at any time of the year indicate unsettled weather for several days, perhaps a fortnight. If the barometer falls two or three-tenths of an inch in four hours, one can expect a gale of wind. If the surface of the mercury in the cistern of the barometer vibrates upon the approach of a storm, the gale can be expected to be sever. In summer, when the barometer falls suddenly, a thunderstorm can be expected, and if it does not rise again upon its cessation, the weather will probably continue unsettled for several days.
45. (D) Graphite has a tendency to behave very much like a metal because the carbon molecules arrange themselves into a lattice structure. The crystal lattice is the same orientation that metal forms, and it allows the free-movement of electrons making it a good electrical conductor. The characteristics possesses by the graphite for conduction is for better than the dry air paper and kerosene and that's what makes it a good conductor.
46. (C) The radiation (light, heat, etc.) travels through the intervening 150,000,000 kilometers in 8 minutes. Radiation is a process in which energetic particles or energetic waves travel through vacuum, or through matter-containing media that are not required for their propagation. Waves of a massive medium itself, Such as water waves or sound waves, are usually not considered to be forms of "radiation" in this sense. By contrast, gravitational waves, which are waves of space-time itself, qualify as a type of radiation. By contrast, most non-ionizing radiations is harmful to organisms only in proportion to the thermal energy deposited, and is conventionally considered harmless at low powers which do not produce significant temperature rise.
47. (C) A fluorescent lamp or fluorescent tube is a gasdischarge lamp that uses electricity to excite mercury vapor, it contains mercury vapor and argon. The excited mercury atoms produce short-wave ultraviolet light that then causes a phosphor to fluoresce, producing visible light. A fluorescent lamp converts electrical power into useful light more efficiently than an incandescent lamp.
48. (D) Magnesium hydroxide is an inorganic compound with the chemical formula  $Mg(OH)_2$ . As a suspension in water, it is often called milk of magnesia because of its milk-like appearance. The solid mineral form of magnesium hydroxide is known as brucite. Magnesium hydroxide is a common component of antacids and laxatives; it interferes with the absorption of folic acid and iron. Magnesium hydroxide has low solubility in water, with a  $K_{sp}$  of  $1.5 \times 10^{-11}$ ; however all of the magnesium hydroxide that does dissolve dissociates.
49. (C) Bronze is a metal alloy consisting primarily of copper usually with tin as the main additive. It is hard and tough, and it was particularly significant in antiquity so much that the Broze Age was named after the metal. However, historical pieces were often made interchangeably of bronzes or brasses with different compositions, so modern museum and scholarly descriptions of older objects increasingly use the more inclusive term "copper alloy" instead. Historically the term latten was used for such alloys.
50. (C) Insulin is a peptide hormone, produced by beta cells of the pancreas, and is central to regulating carbohydrate and fat metabolism in the body. Insulin causes cells in the liver, skeletal muscles, and fat tissue to take up glucose from the blood. In the

- liver and skeletal muscles, glucose is stored as glycogen, and in adipocytes, it is stored as triglycerides.
51. (D) Charles Darwin had proposed "theory of Evolution" The theory of evolution came into view by the reawakening of ancient materialistic philosophies and became widespread in the 19th century. This philosophy supposes that matter is absolute and infinite. This materialistic philosophy does not hold anything to be real except the matter, so it tries to explain the universe and nature through purely material factors.
52. (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 head of the femur articulates with the acetabulum. By most measures the femur is one of the strongest bones in the body.
53. (B) Soybean is a significant and cheap source of protein for animal feeds and many prepackaged meals. Soybeans produce significantly more protein per acre than most other uses of land. The beans contain significant amounts of phytic acid, alpha-linolenic acid, and isoflavones. Together, soybean oil and protein content for about 60% of dry soybeans by weight (protein at 40% and oil at 20%). The remainder consists of 35% carbohydrate and about 5% ash.
54. (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.
55. (C) The Mule is a cross between a donkey stallion (called a jack) and a horse mare. Mules ears are usually somewhat smaller than a donkeys, longer but the same shape as the horse parents. The mule's conformation will be a combination of traits from both parents. The head hip, and legs usually take after the jack. Mules do not have pronounced arches to the neck, even from breeds such as Arabinas or Warm bloods. A slight arch or straight neck is preferable to a ewe, or upward curved neck.
56. (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.
57. (A) Copper sulfate is a chemical compound which is produced commercially by reacting various copper (II) compounds with sulfuric acid. This compound is used in a wide range of industries, from pyrotechnics to viticulture. It is also known as bluestone or blue vitriol. It is also used in agriculture as a treatment for crops and water systems, as it is a fungicide, herbicide, and pesticide. This compound is commonly sprayed on grapes in the form of a water solution to reduce the risk of fungal infestations. Copper sulfate is also used to treat lather, to make germicides, and in electroplating process.
58. (A) Cadmium (Cd), a by-product of zinc production, is one of the most toxic elements to which man can be exposed at work or in the environment. Once absorbed, Cd is efficiently retained in the human body, in which it accumulates throughout life. Cd is primarily toxic to the kidney, especially to the proximal tubular cells, the main site of accumulation. Cadmium accumulates in the kidneys and may sometimes cause kidney failure when it is in excess.
59. (D) Dehydration is the condition where there is acute shortage of water in our body. This occurs when the amount of water leaving our body is greater than the amount consumed. There are three types of dehydration: hypotonic or hyponatremic (primarily a loss of electrolytes, sodium in particular), hypertonic or hypernatremic (primarily a loss of water), and isotonic or isonatremic (equal loss of water and electrolytes). In humans, the most commonly seen type of dehydration by far is isotonic (isonatraemic) dehydration which effectively equates with hypovolemia, but the distinction of isotonic

- from hypotonic or hypertonic dehydration may be important when treating people who become dehydrated.
60. (D) James D Watson and Francis Crick, the two scientists who discovered the structure of DNA in 1953. Watson and Crick took a crucial conceptual step, suggesting the molecule was made of two chains of nucleotides, each in a helix as Franklin had found, but one going up and the other going up and the other going down. Crick had just learned of Chargaff's findings about base pairs in the summer of 1952. He added that to the model, so that matching base pairs interlocked in the middle of the double helix to keep the distance between the chains constant. Watson and Crick showed that each strand of the DNA molecule was a template for the other. During cell division the two strands separate and on each strand a new "other half" is built, just like the one before. This way DNA can reproduce itself without changing its structure except for occasional errors, or mutations.
61. (B) The Sabha Institute of Nuclear Physics (SINP) is an institution of basic research and training in physical and biophysical sciences located in Bidhannagar, Kolkata, India. The institute is named after the famous Indian physicist Meghnad Sabha. This institute is well known to have many amazing equipments related to physics including a Van De Graff's generator. The Institute grew out of the Palit Research Laboratory in Physics of the University of Calcutta. After Professor Meghnad Sabha returned from Allahabad in 1938 to succeed Sir C.V. Raman in the Palit Chair of Physics, he reorganized the post graduate physics curriculum of University of Calcutta to include nuclear physics by 1940 after realising immense potential of the subject for betterment of the country. Soon the necessity of a small-scale cyclotron was felt for gaining a first-hand knowledge in this virgin field which was procured from the fund raised by the help of Jawaharlal Nehru and patronage of J.R.D. Tata.
62. (B) INSAT-3A, a multipurpose satellite built by ISRO was launched by Ariane in April 2003. It is third satellite in INSAT-3 series after INSAT-3B and INSAT-3C. Built at a cost of \$53 mn, it will provide communication, weather and search and rescue services. INSAT 3A was launched by Ariane-5 launch vehicle of Arianespace or April 10, 2003 at 4.22 am IST from Kourou, French Guyana. It was placed into a Geosynchronous Transfer Orbit (GTO), 30 minutes after the lift-off in 3-axis stabilized mode.
63. (C) A geosynchronous satellite is a satellite in geosynchronous orbit, with an orbital period the same as the Earth's rotation period. Such a satellite returns to the same position in the sky after each sidereal day, and over the course of a day traces out a path in the sky that is typically some form of analemma. A geostationary orbit, or Geostationary Earth Orbit (GEO), is a circular orbit 35,786 kilometres above the Earth's equator and following the direction of the Earth's rotation. An object in such an orbit has an orbital period equal to the Earth's rotational period (one sidereal day), and thus appears motionless, at a fixed position in the sky, to ground observers.
64. (D) Garden Reach Shipbuilders and Engineers Limited (GRSE) is one of India's leading shipyards, located in Kolkata, West Bengal. It builds and repairs commercial and naval vessels. Founded in 1884 as a small privately-owned company on the eastern bank of the Hooghly River, it was renamed as Garden Reach Workshop in 1916. The company was nationalized by the Government of India in 1960. It was awarded the Miniratna status, with accompanying financial and operational autonomy in September 2006. Among commercial and scientific ships, GRSE builds oceanographic and hydrographic vessels, marine acoustic research ships, non-propelled dredgers, grab hopper dredgers, trailing suction hopper dredgers, tugboats, and bulk carriers. GRSE built the Brahmaputra class frigates. It also built two of the Khukri class and all the Kora class corvettes. It has been awarded contract to build four Kamorta class corvettes. It built all the Seaward class, Trinkat class, Bangaram class, and Car Nicobar class patrol vessels.
65. (D) The Apollo missions were a series of space missions, both manned and unmanned, flown by NASA between 1961 and 1975. They culminated with a series of manned Moon landings between 1969 and 1972. The first manned flight of Apollo was in 1968 and it succeeded in landing the first humans on Earth's Moon in 1969 through 1972. It was during the Apollo 11 mission that astronauts Neil Armstrong and Buzz Aldrin landed their Lunar Module (LM) on the Moon on July 20, 1969 and walked on its surface while Michael Collins remained in lunar orbit in the command spacecraft, and all three landed safely on



- Earth on July 24.
66. (D) A geostationary orbit, or Geostationary Earth Orbit the Earth's equator and following the direction of the Earth's rotation. An objection in such an orbit has an orbital period equal to the Earth's rotational period (one sidereal day), and thus appears motionless, at a fixed position in the sky, to ground observers. Communications satellites and weather satellites are often given geostationary orbits, so that the satellite antennas that communicate with them do not have to move to track them, but can be pointed permanently at the position in the sky where they stay. A geostationary orbit is a particular type of geosynchronous orbit.
67. (A) The orbit of a planet around the sun is an ellipse, with the Sun in one of the focal points of the ellipse. [This focal point is actually the barycenter of the Sun-planet system; for simplicity this explanation assumes the Sun's mass is infinitely larger than that planet's] Within a planetary system, planets, dwarf planets, asteroids (a.k.a. minor planets), comets, and space debris orbit. A comet in a parabolic or hyperbolic orbit about a barycenter is not gravitationally bound to the star and therefore is not considered part of the star's planetary system. Bodies which are gravitationally bound to one of the planets in a planetary system, either natural or artificial satellites, follow orbits about a barycenter near that planet. Galileo believed that the inertial path of a body around the Earth must be circular. Lacking the idea of Newtonian gravitation, he hoped this would allow him to explain the path of the planets as circular inertial orbits around the Sun. When Newton solved this problem, he showed that there are four possible paths for the planets: circular, elliptical, parabolic and hyperbolic (all are conic curves). The first two curves are closed and the other two are open curves. These results were obtained for the same energy and with the sun at rest.
68. (D) Arundhati Roy (born 24 November, 1961) is an Indian author and political activist who was best known for the 1998 Man Booker Prize for Fiction winning novel *The God of Small Things* (1997) and for her involvement in environmental and human rights causes. Roy's novel became the biggest-selling book by a non-expatriate Indian author. Roy began writing her first novel, *The God of Small Things*, in 1992, completing it in 1996. The book is semiautobiographical and a major part captures her childhood experiences in Aymanam. The publication of *The God of Small Things* catapulted Roy to instant international fame. It received the 1997 Booker Prize for Fiction and was listed as one of the New York Times Notable Books of the Year for 1997. It reached fourth position on the New York Times Bestsellers list for Independent Fiction.
69. (A) *Life of Pi* is a fantasy adventure novel by Yann Martel published in 2001. The protagonist, Piscine Molitor "Pi" Patel, an Indian boy from Pondicherry, explores issues of spirituality and practicality from an early age. He survives 227 days after a shipwreck while stranded on a boat in the Pacific Ocean with a Bengal tiger named Richard Parker. The novel was rejected by at least five London publishing houses before being accepted by Knopf Canada, which published it in September 2001. The UK edition won the Man Booker Prize for Fiction the following year. It was also chosen for CBC Radio's Canada Reads 2003, where it was championed by author Nancy Lee. The French translation, *L'histoire de Pi*, was chosen in the French version of the contest, *Le combat des livres*, where it was championed by Louise Forestier.
70. (B) Lucius Flavius Arrianus 'Xenophon', known in English as Arrian, and Arrian of Nicomedia, was a Greek historian, a public servant, an military commander and a philosopher of the Roman period. *Indica* is also the name of a similar book by Megasthenes that also describes the history of India and was a major source from which Arrian drew. Megasthenes (ca. 350-290 BCE) was a Greek ethnographer and explorer in the Hellenistic period, author of the work *Indica*. He was born in Asia Minor (modern day Turkey) and became an ambassador of Seleucus I of the Seleucid dynasty possibly to Chandragupta Maurya in Pataliputra, India. However the exact date of his embassy is uncertain. Scholars place it before 298 BC, the date of Chandragupta's death.
71. (A) World Environment Day ('WED') is celebrated every year on 5th June to raise global awareness of the need to take positive environmental action. It is run by the United Nations Environment Programme (UNEP). It was the day that United Nations Conference on the Human Environment began. The United Nations Conference on the Human Environment was from 5-16 June 1972. It was established by the United

- Nations General Assembly in 1972. The first World Environment Day was in 1973.
72. (D) National Science Day is celebrated in India on February 28 each year to mark the discovery of the Raman effect by Indian physicist Sir Chandrasekhar Venkata Raman on 28 February 1928. For his discovery, Raman was awarded the Nobel Prize in Physics in 1930. In 1968. The National Council for Science and Technology Communication (NCSTC) asked the Government of India to designate February 28 as National Science Day. The event is now celebrated all over the country in schools, colleges, universities and other academic, scientific, technical, medical and research institutions. On the occasion of the first NSD (National Science Day) on 28 February 1987, the NCSTS announced institution of the National Science Popularization awards for recognizing outstanding efforts in the area of science communication and popularization.
73. (D) The International Confederation of Free Trade Unions (ICFTU) was an international trade union. It came into being on 4 December, 1949 following a split within the World Federation of Trade Unions (WFTU), and was dissolved on 31 October, 2006 when it merged with the World Confederation of Labour (WCL) to form the International Trade Union Confederation (ITUC). Prior to being dissolved, the ICFTU had a membership of 157 million members in 225 affiliated organizations in 148 countries territories.
74. (D) Structural adjustments are the policies implemented by the International Monetary Fund (IMF) and the World Bank (the Bretton Woods Institutions) in developing countries. These policy changes are conditions for getting new loans from the international Monetary Fund (IMF) or World Bank, or for obtaining lower interest rates on existing loans. Conditionalities are implemented to ensure that the money lent will be spent in accordance with the overall goals of the loan. The structural Adjustment Programs (SAPs) are created with the goal of reducing the borrowing country's fiscal imbalances.
75. (B) The permanent members of the United Nations Security Council, also known as the Permanent Five, Big Five, or P5, include the following five governments: China, France, Russia, the United Kingdom, and the United States. The member represent the great powers considered the victors of World War II. The five permanent members of the Security Council were the victorious powers in World War II and have maintained the world's most powerful military forces ever since. They annually top the list of countries with the highest military expenditures; in 2011, they spent over US\$1 trillion combined on defense, accounting for over 60% of global military expenditures (the U.S. alone accounting for over 40%). They are also the only countries officially recognized as "nuclear-weapon states" under the Nuclear Non-Proliferation Treaty (NPT)
76. (B) The United Nations Convention on the Rights of the Child (UNCRC) is a human rights treaty setting out the civil, political, economic, social, health and cultural rights of children. It does not enumerate employment as a right. It deals more with exploitation issues and how they could be prevented.
77. (A) The Test of English as a Foreign Language or TOEFL is a test of an individual's ability to use and understand English in a academic setting designed and administered by Educational Testing Service. It was developed to address the problem on ensuring English language proficiency for non-native speakers wish in to study at American universities. The TOEFL was first administered in 1964 by the Modern Language Association financed by grants from the Ford Foundation and Danforth Foundation.
78. (D) The Keoladeo National Park or Keoladeo Ghana National Park formerly known as the Bharatpur Bird Sanctuary in Bharatpur, Rajasthan, India is a famous avifauna sanctuary that plays host to thousands of birds especially during the winter season. It is known for nesting of its resident birds and visiting migratory birds including water birds. The rare Siberian cranes used to winter in this park but this central population of Siberian Cranes is now extinct.
79. (D) SAARC is dedicated to economic, technological, social, and cultural development emphasizing collective self-reliance. It is an organization for regional cooperation desirous of promoting peace, stability amity and progress in the region through strict adherence to the principles of the United Nations Charter and Non-Alignment, particularly respect for the principles of sovereign equality, territorial integrity, national independence, non-use of force and non interference in the internal affairs of the States and peaceful settlement of all disputes.

80. (A) It was Lord Dalhousie (1848-1856) who ordered work to begin on the Hindustan Tibet Road in June 1850. The system of begari prevalent in the hills, where unpaid labourers were pressed into service including for the transport of timber and files to Shimla is said to have upset the Governor General so deeply that he wanted to improve the road these men trudged.
81. (C) In case of a difference between the two Houses over a non-money bill, the President may call a joint sitting of the Houses to resolve it. The Speaker of the Lok Sabha presides over such sitting.
82. (A) Rajya Sabha membership is limited to 250 members, 12 of whom are nominated by the President of India for their contributions to art, literature, Pradesh.
83. (B) The speaker is elected in the very first meeting of the Lok Sabha after the general elections for a term of 5 years from amongst the members of the Lok Sabha.
84. (A) The Committee on Subordinate Legislation of Lok Sabha consists of 15 members nominated by the Speaker. A Minister is not nominated to this to the House whether the powers to make regulations, rules, sub-rules, by-laws etc. conferred by the Constitution or delegated by Parliament are being properly exercised by the executive within the scope of such delegation.
85. (\*) Under Article 82 of the Constitution, the Parliament by law enacts a Delimitation Act after every census. After coming into force commencement of the Act. The central Government constitutes a Delimitation Commission. This Delimitation Commission demarcates the boundaries of the Parliamentary Constituencies as per provisions of Delimitation Act. Delimitation commissions have been set up four times in the past - In 1952, 1963, 1973 and 2002 under Delimitation Commission acts of 1952, 1962, 1972 and 2002. The present delimitation of constituencies had been done on the basis of 2001 census figures under the provisions of Delimitation Act, 2002.
86. (B) The Speaker may, at any time, resign from office by writing under her hand to the Deputy Speaker. The Speaker can be removed from office only on a resolution of the House passed by a majority of all the then members of the House.
87. (C) Justice Leila Seth was the first woman judge on the Delhi High Court in 1978 and the first woman to become Chief Justice of a state High Court. In 1991, she was appointed the Chief Justice of Himachal Pradesh.
88. (A) Mandamus is a judicial remedy which is in the form of an order from a superior court to any government subordinate court, corporation of public authority to do or forbear from doing some specific act which that body is obliged under law to do or refrain from doing, as the case may be, and which is in the nature of public duty and in certain cases of a statutory duty. It cannot be issued to compel an authority to do something against statutory provision. It may be a command to do an administrative action or not to take a particular action.
89. (A) The Estimates Committee, constituted for the first time in 1950, is a Parliamentary is convened unless approved by it earlier.
90. (A) Judicial activism has brought the Right to Privacy within the realm of Fundamental Rights. The Supreme Court of India has construed "right to privacy" as a part of the Fundamental Right to "protection of life and personal liberty" under Article 21 of the Constitution, which states "no person shall be deprived of his life or personal liberty except according to procedures established by law". In the context of personal liberty, the Supreme Court has observed "those who feel called upon to deprive other persons of their liberty in the discharge of what they conceive to be their duty must strictly and scrupulously observe the forms and rules of the law".
91. (C) The Vidhan Parishad (or Legislative Council) is the upper house in those states of India that have a bicameral legislature. As of 2011, six (out of twenty eight) states have a Legislative Council: Andhra Pradesh, Bihar, Jammu and Kashmir, Karnataka, Maharashtra, and Uttar Pradesh. The existence of a Legislative Council has proven politically controversial. A number of states that have had their Council abolished have subsequently requested its reestablishment; conversely, proposals for the reestablishment of the Council for a state have also met with opposition. Proposals for abolition or reestablishment of a state's Legislative Council require confirmation by the Parliament of India.
92. (A) Liberty is the quality individuals have to control their own actions. Sociologists define the active exercise of freedom and rights as essential to liberty. There must be an independent and impartial judiciary for the protection and preservation and individual liberty. The judiciary must be

- independent of executive and legislative control.
93. (B) The Legislative Council or the Vidhan Parishad is the Upper Chamber of the State Legislature. AS mentioned in the constitution the total membership of the Legislative Council shall not be less than forty and more than one third of the total number of member of the Legislative Assembly of the concerned state. One-third of the members of this House are elected by the Legislative Assembly from amongst persons who are not its members. One-third of its members "are elected buy the local bodes like Munici-palities or District Boards of any other local authority as specified by the law of the Parliament. One-twelfth of the members are elected by graduates of at least three years standing. One-twelfth of the members are elected by teachers of secondary schools having at least three years experience. About one-sixth of the members are nominated by the Governor from among persons possessing special knowledge and experience in the field of art, science, literature, social service and cooperative movement.
94. (C) Concurrent list consists of 52 items (previously 47 items). Marriage and divorce, transfer of property other than agricultural land, education, contracts, bankruptcy and insolvency, etc, come under this list.
95. (D) The constitution vests the residuary power i.e., the power to legislate with respect to any matter not enumerated in any one of the three lists in the union legislatures (Act. 248). It has been left to the courts to determine finally as to whether a particular matter falls under the residuary, power or not.
96. (C) Eldrick Tont "Tiger" Woods is an American professional golfer whose achievements to date rank him among the most successful golfers of all time. Formerly the World No. 1, he was the highest-paid athlete in the world according to Forbes for several years. Woods has broken numerous golf records. He has been world number one for the most consecutive weeks and for the greatest total number of weeks of any other golfer. He has been awarded PGA Player of the Year a record ten times, the Byron Nelson Award for lowest adjusted scoring average a record eight times, and has the record of leading the money list in nine different seasons. He has won 14 professional major golf championships, the second highest of any player (jack Nicklaus leads with 18), and 74 PGA Tour events, 2nd
- all time behind Sam Snead.
97. (A) The government of India launched the Sports Fund for Pension to Meritorious Sportspersons in 1994. Under the scheme, pension is given to sportspersons, who win medals in the Olympic Games and gold medals in Asian games. While Olympic medalists are given pension @ Rs. 2000/ per month, gold medalists of Asian games are given pension @ Rs. 1500/ per month. Pension is given from the age of 30 till life. The scheme is being operated through the Life Insurance Corporation of India.
98. (C) In basketball, free throws or foul shots are unopposed attempts to score points from a restricted area on the court (the free throw line; informally known as the foul line), and are generally awarded after a foul on the shooter by the opposing team. Each successful free throw is worth one point. Free throws can normally be date at a high percentage by good players. In the NBA, most players make between 70-80% of their attempts. There are many situations when free throws can be awarded. The first and most common is when a players is fouled while in the act of shooting. If the foul causes the player to miss the shot, the player receives two or three free throws depending on whether the shot was taken in front of or behind the three-point line.
99. (C) The marathon is a long-distance running event with an official distance of 42.195 kilometers (26 miles and 385 yards), that is usually run as a road race. The event was instituted in commemoration of the fabled run of the Greek soldier Pheidippides, a messenger from the Battle of Marathon, to Athens. The marathon was one of the original modern Olympic events in 1896, though the distance did not become standardized until 1921.
100. (D) Batting Crease or Popping Crease is drawn parallel to the bowling crease at a distance of 4 feet or 121.92 cms. A run is completed each time the two batsmen cross this crease at their opposite ends. As mentioned above for a Bowling Crease, if a bowler oversteps this crease in his delivery stride then the delivery is declared as a no-ball. This crease comes into picture during the ruling of run outs and stump outs. A batsman has a choice of standing outside the batting crease. He can be stumped out by the wicket keeper if he is out of this crease or on it after plying a delivery as long as the ball is in play.