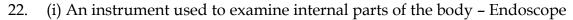


## 100 EXCEPTIONALLY IMPORTANT GENERAL SCIENCE ONE LINER NOTES

## FOR SSC CHSL EXAM 2018

- 1. The **colors** in thin films of **soap bubbles** are seen due to **interference of light.**
- 2. **Light radiation** is both of wave and particle nature.
- When a **light ray** enters from **air into glass**, **it's wavelength decreases**. 3.
- 4. An air bubble in water acts as a concave lens.
- 5. **Steel** is used for making **permanent magnets**.
- 6. **Lenz's law** is based on **energy conservation**.
- 7. Transformer is used for stepping up or stepping down the a.c voltage.
- 8. **Thorium** is used as a fuel in the fast breeder reactor of **kalpakkam**.
- Polonium was discovered by Madam Marie Curie. She named the newly discovered element 9. Polonium in honour of her native land Poland. INI COMPAN
- Discovery/Invention 10.
  - **Transistor** W. Shockley (1958 (i)
  - (ii) **Typewriter** Sholz (1868)
  - (iii) Air Conditioner Wills Heavyland Carrier
  - Hypolite Pixie (1832) (iv) Dynamo
  - Microphone Berline (1877) (v)
- 11. **Cadmium** being a good absorber of neutrons is used as a **controller in nuclear reactor**.
- 12. The 'Apsara' reactor in India is called the swimming pool reactor' because in it heavy water is used as a moderator.
- 13. **Cobalt 60** is generally used in radiation therapy because it emits **gamma rays**.
- 14. **Infinite images of an object** are formed that is placed **between two parallel mirrors.**
- 15. Velocity of light, amplitude and wavelength changes in refraction of light but frequency remains unchanged.
- 16. **Pitch of sound** is determined by **its frequency**.

- 17. Longitudinal waves can't be polarized.
- 18. Refractive index of red light is lesser than the refractive index for violet light.
- 19. Thermal energy is more largely produced in India in comparison to other forms of energy.
- 20. Atomic bomb is based on nuclear fission and hydrogen bomb is based on nuclear fusion.
- 21. Lysosome destroys itself in such a process so it is called suicide vesicle (bag) of the cell.

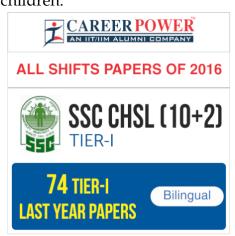


- (ii) A device used to measure atmospheric pressure Manometer
- (iii) An instrument used for measuring Solar radiation is called Pyrheliometer
- 23. Chloroplast is called Kitchen of cell.
- 24. **Ribosome** is called the **factory of protein**.
- 25. (a) Chlorine was first discovered by Scheele (1774).
  - (b) It is used as a germicide, disinfectant, bleaching agent in paper and textile industry
  - (c) Chlorine being an acidic gas turns moist blue litmus paper to red and then bleaches it.
- Pineal body is found near diencephalon of brain and is also known as third eye or epiphysis cerebri. Hormone Melatonin is secreted by Pineal Body. It regulates the development of **gonads** and slows menstrual cycle in females.
- 27. Vitamins and Mineral Deficiency Diseases:
  - (i) Anemia: It is caused due to deficiency of Mineral Iron.
  - (ii) Rickets: It is caused due to deficiency of Vitamin D
  - (iii) BeriBeri: It is caused due to deficiency of vitamin B
  - (iv) Kwashiorkar: It is caused due to deficiency of Protein.
- 28. **Gluten enteropathy** is the **inability to absorb gluten**, a protein found in wheat.
- 29. The small intestine is the major site for digestion and absorption of nutrients. It is about 22 feet (6.7 metres) long.
  - Part of small intestine. (i) Duodenum (ii) Jejunum (iii) Ileum
- 30. The largest component of the Lymphatic System is the spleen which is located to the left of and behind the stomach.
- 31. The changing of weather on earth is caused due to it being tilted on its axis at 23.5° and revolution around the sun.



- 32. **Positron** was discovered by **Anderson**. It is an anti-particle of electron. Its mass is equal to that of electron but charge is opposite to electron.
- Atomic reactor 'Kamini' in Madras (Chennai) is the reactor made completely by the Indian 33. technique.
- Work function ( $\phi$ ) or threshold energy of a metal is that minimum energy which is required 34. to bring a free electron from interiors of the metal to its surface.
- 35. Various types of colored designs may be seen by a Kaleidoscope.
- 36. Angiosperms are the closed seeded plants. These are most highly developed plants which bear flowers, having conspicuous accessory and essential whorls.
- 37. The term 'Genetics' was coined by Bateson (1906). Genetics is the study of principles and mechanism of the phenomenon of heredity and variations.
- 38. The speed of revolution of Earth round the sun is maximum when Earth is nearest to the sun.
- 39. Bolometer is an instrument that detects the presence of infrared rays.
- 40. Doppler's effect is related with the change in frequency of sound and not its intensity.
- 41. Endoscopy, a technique used for the testing of the internal organs of the body and stomach, is based on the phenomenon of total internal reflection.
- 42. National Science day is celebrated on 28 February, (In the memory of the discovery of Raman effect by Sir C.V. Raman).
- 43. An air bubble in water acts as a concave lens.
- 44. 'Titanium' is called the metal of future.
- 45. **Cobalt-60** radioactive isotope is **used to control Leukemia**.
- 46. Uranus takes 84 years to complete one revolution round the Sun.
- 47. The **Head office of ISRO** is in **Bengaluru**.
- 48. Oxygen was discovered by Joseph Priestley in 1774.
- 49. Thermal decomposition of alkanes is called Cracking.
- 50. The chemical element with the **lowest melting point** is **Helium**.
- 51. Fuse wire is made of lead and tin.
- 52. **A transformer** works on the **principle of electromagnetic induction.** It brings about a change in the potential of an alternating current.

- 53. (i) **Soft iron** is used for making **electromagnets**.
  - (ii) Steel is used for making permanent magnets.
- 54. Param is the first Super Computer of India.
- 55. Water Gas is a mixture of Carbon Monoxide and Hydrogen. It is obtained by passing water vapour over red hot carbon. It is widely used in the manufacture of ammonia and methyl alcohol.
- 56. **Lithium** is the **strongest reducing agent.**
- 57. Aqua regia is mixture of one part of nitric acid and three parts of hydrochloric acid.
- Methyl alcohol (CH<sub>3</sub>OH) is also called wood alcohol, or wood spirit 58.
- 59. Crescograph is an instrument used in recording growth of plants. It was invented by Dr. J. C. Bose.
- 60. (i) **Radio waves** are reflected from **ionosphere**.
  - (ii) Light takes 1.25 seconds to reach Earth from the moon.
- 61. In some plants fruits are developed from ovary **without fertilization**. This type of fruit is called parthenocarpy. Normally these types of fruits are seedless. Example – Banana, Papaya, Orange, Grapes, Pine-apple etc.
- 62. Plant diseases
  - (i) Viral Diseases: (a) Mosaic disease of tobacco: In this disease leaves get shrinked and become small. The chlorophyll of leaves gets destroyed. The factor of this disease is Tabacco Mosaic Virus (TMV).
  - (ii) Bacterial Diseases: (a) Wilt of Potato: It is also known as ring disease because brown ring is formed on the xylem. The factor of this disease is Pseudomonas solonacearum bacteria. In this disease, conduction system of the plant is affected.
  - (b) Bacterial blight of Rice: This disease is caused by Xanthomonas oryzae bacteria. Yellowgreenish spot is seen on both sides of leaves.
- 63. **Lack of proteins** Causes kwashiorkor and Marasmus disease in children.
  - Kwashiorkor: In this disease, hands and legs of children get slimmed and the stomach comes out.
  - **Marasmus:** In this disease, muscles of children are loosened.
- 64. Vitamin was invented by Sir F. G. Hopkins. **The term Vitamin** was coined by Funk.
  - (a) Vitamin soluble in water: Vitamin-B & Vitamin-C.
  - (b) Vitamin soluble in fat: Vitamin-A, Vitamin-D, Vitamin-E and Vitamin-K



- Synthesis of Vitamin-D takes place by the ultra violet rays present in the sunlight through 65. cholesterol of skin. Vitamin-K is synthesized in our colon by the bacteria and from there it is absorbed.
- 66. Fish is first class protein as it contains essential amino acid.
- 67. Medical Instrument.
  - (a) **Pacemaker:** It is a small device that is placed in the chest to control abnormal heart beat.
  - (b) **Electro Cardiograph (ECG):** To find the abnormality of heart.
  - (c) **Magnetic Resonance Imaging (MRI):** Used to find out any abnormality in whole body.
  - (d) **Auto analyses:** Use to examine glucose, urea and cholesterol.
- 68. Globin is a proteinous compound. With haeme it is extremely capable of combining with oxygen and carbon dioxide.
- 69. The **iron compound** found in hemoglobin as **haematin**.
- 70. **Number of RBC** is measured by an instrument called **hemocytometer**.
- 71. **Some animals** release chemicals called **pheromones** which can be detected by other members.
- 72. Disease caused by RNA ¬- Containing viruses
  - (i) Enteroviruses Polio, Aseptic Meningitis.
  - (ii) Rhinoviruses Common Cold.
  - (iii) Paramyxo viruses Mumps
  - (iv) **Retroviruses** Aids, Leukemias
- 73. The largest component of the lymphatic system is the spleen which is located to the left of and behind the stomach.
- (i) Father of Modern Botany Linnaeus 74.
  - (ii) Father of Mycology Micheli
  - (iii) Father of Blood Circulation William Harvey.
  - (iv) Father of Medicine Hippocrates.
  - (v) Father of Modern Genetics T. H. Morgan
- 75. Pancreatic and cells produce pancreatic juice that contains protein digesting enzymes e.g. Chymotrypsin, trypsin carbohydrase's carboxy peptidase.
- 76. Bile is initially concentrated and stored in the gall bladder. It is a watery greenish fluid mixture containing bile salts, phospholipids bile pigments and cholesterol.



- 77. **Rocket propulsion** is based on the **conservation of linear momentum.**
- 78. The velocity of escape from Earth's gravitation into space is 11.2 km/sec.
- 79. **Doppler's effect** is also applicable on light waver.
- 80. In astigmatism, a person cannot distinctly see the horizontal and vertical lines simultaneously at a normal distance.
- 81. **Solder** is an alloy formal by **mixing 50% of lead and tin respectively.**
- 82. The **chemical formula of bleaching powder** is **CaOCL<sub>2</sub>**. It is obtained by passing Chlorine through Calcium hydroxide.

 $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2 + H_2O$ 

83. **Bakelite** is obtained by **heating phenol and formaldehyde in the presence of sodium hydroxide.** 

It is used in making radio and television cases, buckets etc.

- 84. (i) **Duralumin** is an alloy which comprise 95% **aluminium**, 4% **copper**, 0.5% **magnesium** and 0.5% **manganese** 
  - (ii) **Gun metal** is an alloy comprising 55% copper, 10% tin and 2% zinc.
  - (iii) German Silver contains 24-35% zinc and 10-35% Nickel.
- 85. **Plaster of Paris is a hemihydrate** (CaSO<sub>4</sub>. 1/2 H<sub>2</sub>O). When Gypsum is heated at 120°, Plaster of Paris is obtained.

Uses:-

In plastering of fractures.

In chalks and insulators

In making statues, toys, moulds etc.

- 86. **Planck's constant and angular momentum** have the **same units.**
- 87. The weight of an object **increases** on taking it **from the equator towards the pole at Sea level**.
- 88. Lunic-II was the first spaceship to land on moon.
- 89. The average density on Earth is **5.5 cubic centimeter.**
- 90. **Flow of fluids is measured in Cusec** which is equal to 1 cubic foot/sec.

 $1 \text{ cusec} = 0.028317 \text{ m}^3/\text{sec.}$ 

- 91. **Soap decreases the surface tension of solution** hence clothes get cleansed.
- 92. Indian Institute of Astrophysics is in KodaiKanal (Tamil Nadu).
- 93. The capacitance (C) of a conductor is defined as the ratio of the charge (Q) given to the rise in potential (V) of the conductor. C = Q/V

The unit of capacitance is Farad.

1 Farad = 1 coulomb/volt.

- 94. If a **lens** is immersed in a liquid, the refractive index of which is less than the refractive index of the material of the lens (such as water) then the focal length of the lens increases and the power decreases, but the nature of the lens remains unchanged.
- 95. When the position of the object is between **center of curvature** and **focus**, **image gets formed between center of curvature** and **infinity**, **magnified in size and of real and inverted nature**.
- RRB 2018

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- 96. Most of the **weather disturbances** take place in **troposphere.**
- 97. **Goniometer** is used to measure the angle of the crystal.
- 98. **-40° C and -40° F** exhibit the same temperature.
- 99. A thermos flask prevents the heat loss by conduction, convection and radiation.
- 100. **Pineal Body** is found near diencephalon of brain and is also known as third eye. Hormone Melatonin is secreted by Pineal body.

