

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**.
3. When a **light ray** enters from **air into glass**, it's **wavelength decreases**.
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**.
9. **Polonium** was **discovered by Madam Marie Curie**. She named the newly discovered element Polonium in honour of her native land Poland.
10. **Discovery/Invention**
 - (i) **Transistor** W. Shockley (1958)
 - (ii) **Typewriter** Sholz (1868)
 - (iii) **Air Conditioner** Wills Heavyland Carrier
 - (iv) **Dynamo** Hypolite Pixie (1832)
 - (v) **Microphone** Berline (1877)
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.**
22. (i) An instrument used to examine internal parts of the body – Endoscope
(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.
26. **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.



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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.
33. **Atomic reactor 'Kamini' in Madras** (Chennai) is the reactor made completely by the **Indian technique**.
34. **Work function (ϕ) or threshold energy of a metal is that minimum energy** which is required 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**.
58. **Methyl alcohol** (CH_3OH) is also called **wood alcohol, or wood spirit**
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 shrunked and become small. The chlorophyll of leaves gets destroyed. **The factor of this disease is Tobacco 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 solanacearum* bacteria. In this disease, conduction system of the plant is affected.
(b) Bacterial blight of Rice: This disease is **caused by Xanthomonas oryzae bacteria**. **Yellow-greenish 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**

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65. Synthesis of Vitamin-D takes place by the ultra violet rays present in the sunlight through 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**.
74. (i) Father of Modern Botany – **Linnaeus**
 (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.



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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_2 . It is obtained by passing Chlorine through Calcium hydroxide.

$$\text{Ca(OH)}_2 + \text{Cl}_2 \rightarrow \text{CaOCl}_2 + \text{H}_2\text{O}$$
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** ($\text{CaSO}_4 \cdot 1/2 \text{H}_2\text{O}$). 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.
 $1 \text{ Farad} = 1 \text{ coulomb/volt}$.

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.
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.



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