

N.SRIRAM..SSPGHSS	TEST NO:1
SSLC-SCIENCE (E/M)	MARKS=20

1. Define inertia. Give its classification.
2. Classify the types of force based on their application.
3. If a 5 N and a 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force
4. Differentiate mass and weight.
5. Define moment of a couple.
6. State the principle of moments.
7. State Newton's second law.
8. Why a spanner with a long handle is preferred to tighten screws in heavy vehicles?
9. While catching a cricket ball the fielder lowers his hands backwards. Why?
10. How does an astronaut float in a space shuttle?

N.SRIRAM..SSPGHSS	TEST NO:2
SSLC-SCIENCE (E/M)	MARKS=20

1. What is refractive index?
2. State Snell's law.
3. Draw a ray diagram to show the image formed by a convex lens when the object is placed between F and 2F.
4. Define dispersion of light
5. State Rayleigh's law of scattering
6. Differentiate convex lens and concave lens.
7. What is power of accommodation of eye?
8. What are the causes of 'Myopia'?
9. Why does the sky appear in blue colour?
10. Why are traffic signals red in colour?

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N.SRIRAM..SSPGHSS	TEST NO:3
SSLC-SCIENCE (E/M)	MARKS=20

1. Define one calorie.
2. Distinguish between linear, arial and superficial expansion.
3. What is co-efficient of cubical expansion?
4. State Boyle's law
5. State-the law of volume
6. Distinguish between ideal gas and real gas.
7. What is co-efficient of real expansion?
8. What is co-efficient of apparant expansion?
9. Define the unit of current.
10. What happens to the resistance, as the conductor is made thicker?

N.SRIRAM..SSPGHSS	TEST NO:4
SSLC-SCIENCE (E/M)	MARKS=20

1. Why is tungsten metal used in bulbs, butnot in fuse wires?
2. Name any two devices, which are working on the heating effect of the electric current.
3. Define electric potential and potential difference.
4. What is the role of the earth wire in domestic circuits?
5. State Ohm's law.
6. Distinguish between the resistivity and conductivity of a conductor.
7. What connection is used in domestic appliances and why?
8. What is a longitudinal wave?
9. What is the audible range of frequency?
10. What is the minimum distance needed for an echo?

N.SRIRAM..SSPGHSS	TEST NO:5
SSLC-SCIENCE (E/M)	MARKS=20

1. What will be the frequency sound having 0.20 m as its wavelength, when it travels with a speed of 331 m s<sup>-1</sup>?
2. Name three animals, which can hear ultrasonic vibrations.
3. Why does sound travel faster on a rainy day than on a dry day?
4. Why does an empty vessel produce more sound than a filled one?
5. Air temperature in the Rajasthan desert can reach 46°C. What is the velocity of sound in air at that temperature? (V<sub>0</sub>= 331 m s<sup>-1</sup>)

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6. Explain why, the ceilings of concert halls are curved.
7. Mention two cases in which there is no Doppler effect in sound?
8. Who discovered natural radioactivity?
9. Which radioactive material is present in the ore of pitchblende?
10. Write any two elements which are used for inducing radioactivity?

N.SRIRAM..SSPGHSS	TEST NO:6
SSLC-SCIENCE (E/M)	MARKS=20

1. Write the name of the electromagnetic radiation which is emitted during a natural radioactivity.
2. If A is a radioactive element which emits an  $\alpha$  - particle and produces  $^{104}_{84}\text{Rf}^{259}$ . Write the atomic number and mass number of the element A.
3. What is the average energy released from a single fission process?
4. Which hazardous radiation is the cause for the genetic disease?
5. What is the amount of radiation that may cause death of a person when exposed to it?
6. When and where was the first nuclear reactor built?
7. Give the SI unit of radioactivity.
8. Which material protects us from radiation?
9. Write any three features of natural and artificial radioactivity.
10. Define critical mass.

N.SRIRAM..SSPGHSS	TEST NO:7
SSLC-SCIENCE (E/M)	MARKS=14

1. Define one roentgen.
2. State Soddy and Fajan's displacement law.
3. Give the function of control rods in a nuclear reactor.
4. In Japan, some of the new born children are having congenital diseases. Why?
5. Mr. Ramu is working as an X - ray technician in a hospital. But, he does not wear the lead aprons. What suggestion will you give to Mr. Ramu?
6. What is stellar energy?
7. Give any two uses of radio isotopes in the field of agriculture?

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N.SRIRAM..SSPGHSS	TEST NO:8
SSLC-SCIENCE (E/M)	MARKS=20

1. Define: Relative atomic mass.
2. Write the different types of isotopes of oxygen and its percentage abundance.
3. Define: Atomicity
4. Give any two examples for heterodiatomic molecules.
5. What is Molar volume of a gas?
6. Find the percentage of nitrogen in ammonia.
7. A is a reddish brown metal, which combines with O<sub>2</sub> at < 1370 K gives B, a black coloured compound. At a temperature > 1370 K, A gives C which is red in colour. Find A,B and C with reaction.
8. A is a silvery white metal. A combines with O<sub>2</sub> to form B at 800oC, the alloy of A is used in making the aircraft. Find A and B
9. What is rust? Give the equation for formation of rust.
10. State two conditions necessary for rusting of iron.

N.SRIRAM..SSPGHSS	TEST NO:9
SSLC-SCIENCE (E/M)	MARKS=20

1. Define the term: Solution
2. What is mean by binary solution
3. Give an example each i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas
4. What is aqueous and non-aqueous solution? Give an example.
5. Define Volume percentage
6. The aquatic animals live more in cold region Why?
7. Define Hydrated salt.
8. A hot saturated solution of copper sulphate forms crystals as it cools. Why?
9. Classify the following substances into deliquescent, hygroscopic. Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride, and Gypsum salt.
10. When an aqueous solution of potassium chloride is added to an aqueous solution of silver nitrate, a white precipitate is formed. Give the chemical equation of this reaction.

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N.SRIRAM..SSPGHSS	TEST NO:10
SSLC-SCIENCE (E/M)	MARKS=20

1. Why does the reaction rate of a reaction increase on raising the temperature?
2. Define combination reaction. Give one example for an exothermic combination reaction.
3. Differentiate reversible and irreversible reactions
4. Name the simplest ketone and give its structural formula.
5. Classify the following compounds based on the pattern of carbon chain and give their structural formula: (i) Propane (ii) Benzene (iii) Cyclobutane (iv) Furan
6. How is ethanoic acid prepared from ethanol? Give the chemical equation.
7. How do detergents cause water pollution? Suggest remedial measures to prevent this pollution?
8. Differentiate soaps and detergents.
9. Give an account on vascular bundle of dicot stem.
10. Write a short note on mesophyll.

N.SRIRAM..SSPGHSS	TEST NO:11
SSLC-SCIENCE (E/M)	MARKS=20

1. Draw and label the structure of oxysomes.
2. Name the three basic tissues system in flowering plants.
3. What is photosynthesis and where in a cell does it occur?
4. What is respiratory quotient?
5. Why should the light dependent reaction occur before the light independent reaction?
6. Write the reaction for photosynthesis?
7. Give the common name of the *Hirudinaria granulosa*.
8. How does leech respire?
9. Write the dental formula of rabbit.
10. How many pairs of testes are present in leech?

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N.SRIRAM..SSPGHSS	TEST NO:12
SSLC-SCIENCE (E/M)	MARKS=20

1. How is diastema formed in rabbit?
2. What organs are attached to the two bronchi?
3. Which organ acts as suction pump in leech?
4. What does CNS stand for?
5. Why is the teeth of rabbit called heterodont?
6. How does leech suck blood from the host?
7. Why are the rings of cartilages found in trachea of rabbit?
8. List out the parasitic adaptations in leech.
9. Name two layered protective covering of human heart.
10. What is the shape of RBC in human blood?

N.SRIRAM..SSPGHSS	TEST NO:13
SSLC-SCIENCE (E/M)	MARKS=20

1. Why is the colour of the blood red ?
2. Which kind of cells are found in the lymph?
3. Name the heart valve associated with the major arteries leaving the ventricles.
4. Mention the artery which supplies blood to the heart muscle.
5. What causes the opening and closing of guard cells of stomata during transpiration?
6. What is cohesion?
7. Trace the pathway followed by water molecules from the time it enters a plant root to the time it escapes into the atmosphere from a leaf.
8. What would happen to the leaves of a plant that transpires more water than its absorption in the roots?
9. Describe the structure and working of the human heart.
10. Why is the circulation in man referred to as double circulation?

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N.SRIRAM..SSPGHSS	TEST NO:14
SSLC-SCIENCE (E/M)	MARKS=20

1. What are heart sounds? How are they produced?
2. What is the importance of valves in the heart?
3. Who discovered Rh factor? Why was it named so?
4. How are arteries and veins structurally different from one another?
5. Why is the Sinoatrial node called the pacemaker of heart?
6. Differentiate between systemic circulation and pulmonary circulation.
7. The complete events of cardiac cycle last for 0.8 sec. What is the timing for each event?
8. Define stimulus.
9. Name the parts of the hind brain.
10. What are the structures involved in the protection of brain?

N.SRIRAM..SSPGHSS	TEST NO:15
SSLC-SCIENCE (E/M)	MARKS=20

1. Give an example for conditioned reflexes.
2. Which acts as a link between the nervous system and endocrine system?
3. Define reflex arc.
4. Voluntary and involuntary actions.
5. Medullated and non-medullated nerve fibre.
6. Which hormone promotes the production of male flowers in Cucurbits?
7. Write the name of a synthetic auxin.
8. Which hormone induces parthenocarpy in tomatoes?
9. What is the hormone responsible for the secretion of milk in female after child birth?
10. Name the hormones which regulates water and mineral metabolism in man

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N.SRIRAM..SSPGHSS	TEST NO:16
SSLC-SCIENCE (E/M)	MARKS=20

1. Which hormone is secreted during emergency situation in man?
2. Which gland secretes digestive enzymes and hormones?
3. Name the endocrine glands associated with kidneys.
4. What are synthetic auxins? Give examples.
5. What is bolting? How can it be induced artificially?
6. Bring out any two physiological activities of abscisic acid
7. What will you do to prevent leaf fall and fruit drop in plants?  
Support your answer with reason.
8. What are chemical messengers?
9. Write the differences between endocrine and exocrine gland.
10. What is the role of parathormone?

N.SRIRAM..SSPGHSS	TEST NO:17
SSLC-SCIENCE (E/M)	MARKS=20

1. What are the hormones secreted by posterior lobe of the pituitary gland?  
Mention the tissues on which they exert their effect.
2. Why are thyroid hormones refered as personality hormone?
3. Which hormone requires iodine for its formation? What will happen if intake of iodine in our diet is low?
4. If one pollen grain produces two male gametes, how many pollen grains are needed to fertilize 10 ovules?
5. In which part of the flower germination of pollen grains takes place?
6. Name two organisms which reproduces through budding.
7. Mention the function of endosperm.
8. Name the hormone responsible for the vigorous contractions of the uterine muscles.
9. What is the enzyme present in acrosome of sperm?
10. When is World Menstrual Hygiene Day observed?

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N.SRIRAM..SSPGHSS	TEST NO:18
SSLC-SCIENCE (E/M)	MARKS=20

1. What will happen if you cut planaria into small fragments?
2. Why is vegetative propagation practiced for growing some type of plants?
3. How does binary fission differ from multiple fission?
4. Define triple fusion.
5. Write the characteristics of insect pollinated flowers.
6. Name the secondary sex organs in male
7. What is colostrum? How is milk production hormonally regulated ?
8. How can menstrual hygiene be maintained during menstrual days?
9. What is the need for contraception ?
10. Name the part of the human female reproductive system where the following occurs.
  - a. Fertilization
  - b. Implantation.

N.SRIRAM..SSPGHSS	TEST NO:19
SSLC-SCIENCE (E/M)	MARKS=20

1. How does developing embryo gets its nourishment inside the mother's body?
2. Identify the parts A, B, C and D



3. Write the events involved in the sexual reproduction of a flowering plant.
  - a. Discuss the first event and write the types.
  - b. Mention the advantages and the disadvantages of that event.
4. Why are the human testes located outside the abdominal cavity? Name the pouch in which they are present .
5. Luteal phase of the menstrual cycle is also called the secretory phase. Give reason.

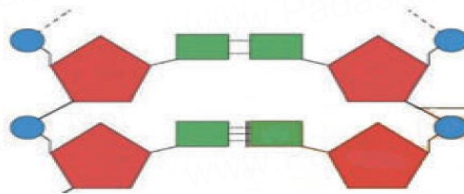
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6. Why are family planning methods not adopted by all the people of our country?
7. What is a cross in which inheritance of two pairs of contrasting characters are studied?
8. Name the conditions when both the alleles are identical?
9. A garden pea plant produces axial white flowers. Another of the same species produced terminal violet flowers. Identify the dominant trait?
10. What is the name given to the segments of DNA, which are responsible for the inheritance of a particular character?

N.SRIRAM..SSPGHSS	TEST NO:20
SSLC-SCIENCE (E/M)	MARKS=20

1. Name the bond which binds the nucleotides in a DNA.
2. Why did Mendel select pea plant for his experiments?
3. What do you understand by the term phenotype and genotype?
4. What are allosomes?
5. What are Okazaki fragments?
6. Why is euploidy considered to be advantageous to both plants and animals?
7. A pure tall plant (TT) is crossed with pure dwarf plant (tt), what would be the F1 and F2 generations? Explain.
8. Explain the structure of a chromosome.
9. Label the parts of the DNA in the diagram given below. Explain the structure briefly.



10. A human hand, a front leg of a cat, a front flipper of a whale and a bat's wing look dissimilar and adapted for different functions. What is the name given to these organs?

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N.SRIRAM..SSPGHSS	TEST NO:21
SSLC-SCIENCE (E/M)	MARKS=20

1. Which organism is considered to be the fossil bird?
- 2 What is the study of fossils called?
3. The degenerated wing of a kiwi is an acquired character. Why is it an acquired character?
4. Why is Archaeopteryx considered to be a connecting link?
5. Define Ethnobotany and write its importance.
6. How can you determine the age of the fossils?
7. Give the name of wheat variety having higher dietary fibre and protein.
8. Semi-dwarf varieties were introduced in rice. This was made possible by the presence of dwarfing gene in rice. Name this dwarfing gene.
9. Define genetic engineering.
10. Name the types of stem cells.

N.SRIRAM..SSPGHSS	TEST NO:22
SSLC-SCIENCE (E/M)	MARKS=20

1. What are transgenic organisms?
2. State the importance of biofertiliser.
3. Discuss the method of breeding for disease resistance.
4. Name three improved characteristics of wheat that helped India to achieve high productivity.
5. Name two maize hybrids rich in amino acid lysine
6. Distinguish between a). somatic gene therapy and germ line gene therapy b). undifferentiated cells and differentiated cells
7. State the applications of DNA fingerprinting technique.
8. How are stem cells useful in regenerative process?
9. Differentiate between outbreeding and inbreeding.
10. What are psychotropic drugs ?

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N.SRIRAM..SSPGHSS	TEST NO:23
SSLC-SCIENCE (E/M)	MARKS=20

1. Mention the diseases caused by tobacco smoke.
2. What are the contributing factors for Obesity?
3. What is adult onset diabetes?
4. What is metastasis?
5. How does insulin deficiency occur?
6. What are the various routes by which transmission of human immuno deficiency virus takes place ?
7. How is a cancer cell different from a normal cell ?
8. Differentiate between Type-1 and Type-2 diabetes mellitus
9. Why is a dietary restriction recommended for an obese individual ?
10. What precautions can be taken for preventing heart diseases ?

N.SRIRAM..SSPGHSS	TEST NO:24
SSLC-SCIENCE (E/M)	MARKS=20

- 1.What will happen if trees are cut down?
- 2.What would happen if the habitat of wild animals is disturbed?
- 3.What are the agents of soil erosion?
- 4.Why fossil fuels are to be conserved?
- 5.Solar energy is a renewable energy. How?
- 6.How are e-wastes generated?
- 6.What is the importance of rainwater harvesting?
- 7.What are the advantages of using biogas?
- 8.What are the environmental effect caused by sewage?
- 9.What are the consequences of deforestation?
- 10.What is Scratch?
- 11.Write a short note on editor and its types?
- 12.What is Stage?
- 13.What is Sprite?

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