Summer Vacation Homework

CLASS – 11th Foundation Section

SURAJ SCHOOL

Admission No._____ Class & Sec _____ Roll No. _____

Name _____ Father Name _____

Respected Parents,
Please do this in Holiday Homework Notebook. Please help your ward in this work.

Subject	❖ ENGLISH
Learning	**Learn short and long type questions / answers of the following lessons and poem** ▪ Lesson 1 - The Portrait of a lady ▪ Lesson 2 - We are not afraid to die.. if we can all be together ▪ Lesson 3 - Discovering Tut :- The Saga Continues. ▪ **Poem 1 A photograph.**
Writing	• **Write down abstract or summary of the following lessons and poem : -** • Lesson 1 The Portrait of a lady • Lesson 2 We are not afraid to die.. if we can all be together.. • Poem 1 A photograph. **Writing Skill** • **Draft the advertisements on the topics :-** • Situation Vacant. • Situation Wanted
Activity	❖ **Prepare the Posters on the following topics : -** i. Need of cleanliness ii. Climate change facts and impact iii. Addiction of mobile phones iv. Pollution ways to tackle it

Subject	❖ Music Hind Vocal
Learning + Writing	1. परिभाषाएं – संगीत, स्वर, सप्तक, अलंकार, ग्राम, वर्ण, कण स्वर, तान, अलाप 2. ताल परिचय – रूपक ताल, झपताल, धमार ताल, 3. रागों का समय सिधांत 4. रागो का शास्त्रीय परिचय – ☑ राग भैरव ☑ राग मालकौस

Subject	❖ Physical Education
Learning + Writing	**Learn and write** Unit 1st Changing Trends and Career Unit 2nd Olympism
Activity	**Yoga Exercise for 21st June**

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Subject ❖ Physics

XI F1 (NEET)

Do all numerical from NCERT,DC Pandey books on below mentioned topics.

1. Trigonometry
2. Differentiation → MCQ from module pyq from 2010 – 2025 questions from H|C verma
3. Integration
4. Vectors
5. Uniform motion
6. Uniform Accelerated motion

Also practice all previous year questions of NEET on above topics.

XI F2 (JEE - MAINS)

Do all numerical from n[illegible]ntioned topics.

1. Trigonometry → MCQ from module pyz from 2010 – 2025 questions from H|C verma
2. Differentiation
3. Integration
4. Vectors
5. Uniform motion
6. Uniform Accelerated motion

Also practice all previous year questions of IIT jee mains, advanced on above topics.

Subject ❖ Chemistry

XI F1 (NEET)

1. Mole concept (Theory + exercise of Cengage module + NCERT + NEET PYQ
2. Concentration term (Theory + exercise of Cengage module + NCERT + NEET PYQ
3. Atomic structure (Theory + exercise of Cengage module + NCERT + NEET PYQ complete till syllabus)

XI F2 (JEE - MAINS)

1. Mole concept (Theory + exercise of Cengage module + NCERT + NEET PYQ
2. Concentration term (Theory + only JEE mains PYQ (2024-2019)
3. Atomic structure (Theory + till syllabus) + JEE MAINS PYQ

Subject ❖ MATHS

1. Sets (All Ncert Questions) , MODULE + PYQ
2. Revise complete Logarithm
3. All type of Inequalities (Linear, Rational, logarithmic etc.)
4. Quadratic equation (MODULE + PYQ)
5. Revise Trigonometric Ratios and equations (MODULE + PYQ)

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Biology

- *Do this Holiday homework in your homework note book.*
- *All parts are compulsory.*
- *Submission of both hard copy as well as soft copy of holidays H.W must be necessary to the concerned subject teacher after completion of holidays.*
- *Make neat and clean properly labeled diagrams.*

Part- A:-

(Multiple Choice Questions)

1. The term cell was given by

a) Robert Hooke
b) Tatum
c) Schwann
d) De Bary

2. The cell is not applied for

a) Algae
b) Bacteria
c) Virus
d) Fungi

3. The membrane around the vacuole is known as

a) Tonoplast
b) Elaioplast
c) Cytoplast
d) Amyloplast

4. Microfilaments are composed of a protein called

a) Tubulin
b) Actin
c) Myosin
d) Chitin

5. A plant cell wall is mainly composed of

a) Protein
b) Cellulose
c) Lipid
d) Starch

6. Glycolipids in the plasma membrane are located at

a) Inner leaflet of the plasma membrane
b) The outer leaflet of the plasma membrane
c) Evenly distributed in the inner and outer leaflets
d) It varies according to cell types

7. Lysosomes are known as "suicidal bags" because

a) Parasitic activity
b) Presence of food vacuole
c) Hydrolytic activity
d) Catalytic activity

8. The properties of integral membrane proteins can be studied by

a) Atomic force microscopy
b) Cryo-sectioning and electron microscopy
c) Freeze-fracture technique and electron microscopy
d) All of the above

9. The fluidity of the plasma membrane increases with

a) Increase in unsaturated fatty acids in the membrane
b) Increase in saturated fatty acids in the membrane
c) Increase in glycolipid content in the membrane
d) Increase in phospholipid content in the membrane

10. Which among the following defines GPI anchored proteins?

a) Integral proteins of the plasma membrane
b) Peripheral proteins of the plasma membrane
c) Proteins that bind to ion-gated channels in the plasma membrane
d) Proteins which randomly bind to lipids of the plasma membrane

11. The resting potential membrane is determined by

a) Potassium-ion gradient
b) Sodium-ion gradient
c) Bicarbonate-ion gradient
d) None

12. The oxygen and carbon dioxide crosses the plasma membrane by the process of

a) Active diffusion
b) Facilitated diffusion
c) Passive diffusion
d) Random diffusion

13. A cell without a cell wall is termed as

a) Tonoplast
b) Protoplast
c) Symplast
d) Apoplast

14. Which is not an example of transmembrane transport between different subcellular compartments?

a) Transport from the stroma into thylakoid space
b) Transport from the cytoplasm into the lumen of the endoplasmic reticulum
c) Transport from the endoplasmic reticulum into the Golgi complex
d) Transport from mitochondrial intermembrane space into the mitochondrial matrix

15. Which is correct regarding the peptides in the Ramachandran Plot?

a) The sequence of the peptide can be deduced
b) It is not possible to conclude whether a peptide adopts entirely helix or entirely beta-sheet conformation
c) Peptides that are unstructured will have all the backbone dihedral angles in the disallowed regions
d) The occurrence of a beta-turn conformation in a peptide can be deduced.

16. The function of the centrosome is

a) Formation of spindle fibres
b) Osmoregulation
c) Secretion
d) Protein synthesis

17. Which cell organelle is involved in apoptosis?

a) Lysosome
b) ER
c) Golgi
d) Mitochondria

18. Phosphatidylserine residues in the plasma membrane are located at

a) Inner leaflet of the plasma membrane
b) The outer leaflet of the plasma membrane
c) Evenly distributed in the inner and outer leaflet
d) None

19. Distribution of intrinsic proteins in the plasma membrane is

a) Random
b) Symmetrical
c) Asymmetrical
d) None

20. Select a foodborne toxin

a) Botulinum toxin
b) Tetanus Toxin
c) Diphtheria toxin
d) Cholera Toxin

21. Which of the following cell organelles is absent in animal cells and present in a plant cell?

(a) Cell wall

(b) Cytoplasm

(c) Vacuoles

(d) Mitochondria

22. Which of the following cell organelles does not contain DNA?

(a) Nucleus

(b) Lysosomes

(c) Chloroplast

(d) Mitochondria

23. Which of the following statements is true about the cell wall?

(a) The cell wall is mainly composed of lipid

(b) The cell wall is mainly composed of starch

(c) The cell wall is mainly composed of protein

(d) The cell wall is mainly composed of cellulose

24. Which of the following statements is true about cell theory?

(a) The Cell theory does not apply to fungi

(b) The Cell theory does not apply to virus

(c) The Cell theory does not apply to algae

(d) The Cell theory does not apply to microbes

25. _____ is a jellylike substance found floating inside the plasma membrane.

(a) Cell sap
(b) Cytoplasm
(c) Karyoplasm
(d) Mitochondria

26. Which of the following cell organelles is called the powerhouse of the cell?

(a) Nucleus

(b) Lysosomes

(c) Chloroplast

(d) Mitochondria

27. Which of the following cell organelles regulates the entry and exit of molecules to and from the cell?

(a) Lysosomes

(b) Golgi bodies

(c) Cell membrane

(d) Mitochondria

28. _____is the study of the cell, its types, structure, functions and its organelles.

(a) Biology

(b) Cell Biology

(c) Microbiology

(d) Biotechnology

29. Which of the following cell organelles is called a suicidal bag?

(a) Lysosomes

(b) Golgi bodies

(c) Cell membrane

(d) Mitochondria

30. Which of the following cell organelles is absent in prokaryotic cells?

(a) Nucleus

(b) Lysosome

(c) Endoplasmic Reticulum

(d) All of the above

31. Which of the following cell organelles is involved in the storage of food, and other nutrients, required for a cell to survive?

(a) Vacuoles

(b) Lysosome

(c) Mitochondria

(d) Cell membrane

32. Which of the following cell organelles is involved in the breakdown of organic matter?

(a) Lysosomes

(b) Cytoplasm

(c) Golgi bodies

(d) Mitochondria

33. _____ is involved in the synthesis of phospholipids.

(a) Mitochondria

(b) Cytoplasm

(c) Endoplasmic Reticulum

(d) Smooth Endoplasmic Reticulum

34. Which of the following cell organelles is present in plant cells and absent in animal cells?

(a) Nucleus

(b) Vacuole

(c) Chloroplast

(d) Cytoplasm

35. Which of the following statements is true about chromosomes?

(a) It is present within the nucleus

(b) It carries genes and helps in inheritance

(c) It is composed of DNA in the form of Chromatin and protein

(d) All of the above

36. Which of the following is a single membrane-bound organelle?

(a) Vacuole

(b) Golgi Apparatus

(c) Endoplasmic Reticulum

(d) All of the above

37. Which of the following cell organelles is present in animal cells and absent in plant cells?

(a) Nucleus

(b) Centrosome

(c) Golgi bodies

(d) All of the above

38. Which of the following is not a double membrane-bound organelle?
(a) Chloroplast
(b) Mitochondria
(c) Endoplasmic Reticulum
(d) All of the above

39. Which of the following statements is true about the Golgi bodies?
(a) It is a sac-like organelle
(b) It is located near the nucleus
(c) It helps in transporting the particles throughout the cell.
(d) All of the above

40. Which of the following statements is true about the Nucleus?
(a) It is absent in prokaryotes
(b) It is called the brain of the cell
(c) It contains DNA and other genetic materials.
(d) All of the above

41. During cell cycle, the DNA synthesis occurs how many times?
(a) All the time (b) Once
(c) Twice (d) Many times

42. Cell growth is a continuous process in terms of
(a) increase in cytoplasmic content
(b) increase in DNA content
(c) increase in protein content
(d) increase in total cellular contents

43. The phase between two succesive M-phase is called
(a) S-phase (b) G_1-phase
(c) G_2-phase (d) Interphase

44. In M-phase, the division of cytoplasm is
(a) cytokinesis (b) cytodivision
(c) diakinesis (d) None of these

45. Which of the following events occurs during G1-phase of the cell cycle?
(a) DNA replication
(b) Growth and normal functioning of cell
(c) DNA transcription
(d) Elimination of unwanted cells

46. During G_1-phase of cell cycle,
(a) DNA content increases to double
(b) DNA content gets reduced to half
(c) Four folds increase in DNA content occur
(d) No change in DNA content

47. An onion root tip has 14 chromosomes in each cell. How many chromosomes the cell would have at
G1-phase?
(a) 28 (b) 14
(c) 62 (d) 7

48. During which phase(s) of cell cycle, amount of DNA in a cell remains at 4C level if the initial amount is denoted as 2C?
(a) G0 and G1 (b) G1 and S
(c) G2 and M (d) Only G2

49. When cell has stalled DNA replication fork, which checkpoint should be predominantly activated?
(a) G_1S (b) G_2 M
(c) M (d) Both G_2 M / and M

50. Cells in G_0-phase
(a) enter the cell cycle (b) suspend the cell cycle
(c) terminate the cell cycle (d) exit the cell cycle

51. Our cell can divide itself once approximately in
(a) 24 hours (b) 24 minutes
(c) 24 seconds (d) 24 days

52. Duration of a cell cycle in yeast is approximately
(a) 80 seconds (b) 90 minutes
(c) 50 minutes (d) 45 minutes

53. How many equational divisions are necessary in a cell of onion root tip to form 128 cells?
(a)74 (b)148 (c)7 (d)None of these

54. Which one of the following precedes reformation of the nuclear envelope during M-phase of the cell cycle?
(a) Transcription from chromosomes and reassembly of the nuclear lamina
(b) Formation of the contractile ring, and formation of the phragmoplast
(c) Formation of the contractile ring, and Transcription from chromosomes
(d) Decondensation of chromosomes, and reassembly

55. What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its roots tip cells?
(a) 11 (b) 82 (c) 63 (d) 34

56. The chromosomes become gradually visible with compaction of chromatin during the meiotic stage
(a) diplotene (b) leptotene
(c) zygotene (d) pachytene

57. A bivalent consists of
(a) Two chromatids and one centromere
(b) Four chromatids and two centromeres
(c) Two chromatids and two centromeres
(d) Four chromatids and four centromeres

58. Meiosis occurs in organisms during
(a) Sexual reproduction
(b) Vegetative reproduction
(c) Both sexual and vegetative reproduction
(d) None of the above

59. Meiosis is characterised by
(a) reduction division
(b) Equal division only
(c) Both reduction and equal division
(d) Homotypic division

60. A bivalent of meiosis-I consists of
(a) Two chromatids and one centromere

(b) Two chromatids and two centromere
(c) Four chromatids and two centromere
(d) Four chromatids and four centromere

Part- B:-

Make a PowerPoint presentation/ small size model according to your roll no/Name on the topic given below:-

General instructions:-

- It should be eco-friendly and light weight.
- No thermocol or polythene should be used.
- Size should be near about 16x20 inches.

Name	Topic
ROLL NO 1-3	Bacterial cell diagram and Chromosomes
ROLL NO 4-6	Mitochondria, Chloroplast diagram
ROLL NO 7-9	Plant Cell and Animal Cell Diagram
ROLL NO 10-11	Fluid Mosaic Model, Golgi Bodies
ROLL NO 12-13	Nucleus, ER
ROLL NO 14-20	Ribosomes, 9+2 arrangement of Cilia and Flagella

Part- C:-

Learn all the Questions of Cell Biology given in your N.C.E.R.T book and Effectual book from the chapters which had been done till our last class.

Part- D:-

Answer the following questions:-

1. **What is the importance of a vacuole in a plant cell?**
2. **What is a satellite chromosome?**
3. **State the characteristics of prokaryotic cells.**
4. **Multicellular organisms exhibit division of labour. Comment.**
5. **Describe the cell theory in brief.**
6. **Differentiate between Rough Endoplasmic Reticulum and Smooth Endoplasmic Reticulum.**
7. List out the main differences between plant cell and animal cell.
8. Comment on the cartwheel structure of centriole with the help of a labeled diagram.
9. Eukaryotic cells have organelles which may
   - a. not be bound by a membrane
   - b. bound by a single membrane
   - c. bound by a double membrane

   Group the various sub-cellular organelles into these three categories.
10. Write the functions of the following
    - a. Centromere
    - b. Cell wall
    - c. Smooth ER
    - d. Golgi Apparatus e. Centrioles

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