



*SRI SARADA COLLEGE OF EDUCATION  
(AUTONOMOUS), SALEM - 16*

*Criteria - II : Teaching Learning and Evaluation*

*KEY INDICATOR : 2.4.COMPETENCY AND SKILL DEVELOPMENT*

*Metric No : 2.4.5. Adequate skills are developed in students for effective use of ICT for teaching learning process in respect of*

*2.4.5. (D) Any other Relevant Information*

*Effective use of ICT for Teaching -Learning Process*

**Sri Sarada College of Education (Autonomous), Salem – 636 016**

Re-Accredited with 'A' Grade by NAAC (III Cycle)  
Affiliated to Tamil Nadu Teachers Education University, Chennai

# Preparation of Lesson Plan

**Sri Sarada College of Education, Salem - 16.**

## STUDENT TEACHING PROFILE

Date: 18.09.2022

Name of Student Teacher : S. HANUSHAVARTHINI

Standard : IX - C

Name of Co-operating School : SRI SARADA VIDYALAYA HR. SEC. SCHOOL

Period : VII

Name of Supervisor : MRS. PRABAVATHY. N

Subject / Topic : ENGLISH / PRIMARY AUXILIARY VERB

WEIGHTAGE	ASPECTS	RATINGS									
		Not at all correct	Seldom correct	Usually correct	Mostly correct	Fully correct					
5	<b>I. LESSON PLAN :</b> (1) Instructional Objectives (1. Appropriateness 2. Attainability 3. Adequacy 4. Clarity)	0	1	2	3	4	5	6	7	8	20
5	(2) Content : Concepts/Facts/Principles, Terms, Etc., (1. Adequacy 2. Organization 3. Effectiveness 4. Relevance 5. Richness)	0	1	2	3	4	5	6	7	8	20
5	(3-A) Learning Activities : (1. Appropriateness 2. Adequacy 3. Accuracy 4. Originality 5. Variety)	0	1	2	3	4	5	6	7	8	25
5	(3-B) Learning Aids : (1. Appropriateness 2. Originality)	0	1	2	3	4	5	6	7	8	20
5	(4) Review : Evaluation / Assignments (1. Overall coverage 2. Appropriateness 3. Accuracy)	0	1	2	3	4	5	6	7	8	20
10	<b>II. TEACHING LEARNING SITUATION :</b> (1) Introduction : (1. Relevance 2. Sufficiency 3. Interest Aroused)	0	1	2	3	4	5	6	7	8	70
10	(2) Learning Experiences : (Pupil Participation)	0	1	2	3	4	5	6	7	8	60
10	(3) Techniques : (1. Effectiveness 2. Relevance 3. Originality)	0	1	2	3	4	5	6	7	8	70
5	(4) Use of Aids : (1. Effectiveness 2. Black board work)	0	1	2	3	4	5	6	7	8	35
5	(5) Review and Evaluation : (Effectiveness)	0	1	2	3	4	5	6	7	8	30
15	(6) Development of Lesson : (1. Sustained pupil interest and continued pupil participation 2. Attainment of objectives 3. Accuracy of content 4. Sequential and Logical 5. Budgeting of Time)	0	1	2	3	4	5	6	7	8	120
5	(7) Teacher - Pupil Co-operation (1. Interaction 2. Sympathy 3. Enthusiasm)	0	1	2	3	4	5	6	7	8	35
5	<b>III. TEACHER</b> (1) Appearance, Manners and Movement : (1. Neat 2. Language 3. Controlled)	0	1	2	3	4	5	6	7	8	30
5	(2) Communication (1. Expression 2. Language 3. Speech 4. Voice)	0	1	2	3	4	5	6	7	8	35
5	(3) Class Management (Effective dealing of situations)	0	1	2	3	4	5	6	7	8	40
<b>IV FINAL MARKS BASED ON I, II &amp; III</b>											630

78.75

*M. Prabhathy*

Signature of Supervisor

## LESSON PLAN FOR ENGLISH GRAMMAR

NAME OF THE STUDENT TEACHER : S.HANUSHAVARTHINI

NAME OF THE SCHOOL : SRI SARADA VIDYALAYA GIRLS HR. SEC. SCHOOL,  
SALEM - 16.

CLASS : IX - F "

SUBJECT : ENGLISH (GRAMMAR)

TOPIC : PRIMARY AUXILIARY VERBS

DURATION : 45 MINUTES

### General Instructional Objectives:

The Pupil

- i) acquires knowledge and develops understanding of using primary auxiliary verbs
- ii) recognizes the new teaching item
- iii) applies the newly learnt grammar item in the language use

### Specific Instructional Objectives:

The Pupil

- i) identifies what is primary auxiliary verb
- ii) understands the forms of primary auxiliary verbs
- iii) understands about its usage and types
- iv) constructs sentences using primary auxiliary verbs
- v) identifies the primary auxiliary verbs in the given sentences

### Teaching Aids:

- \* Charts showing the classification of verbs,
- \* Flipcharts showing the primary auxiliary verbs.

### ICT Tools:

- \* <https://youtu.be/IOzd71R1yvw>
- \* [https://diksha.gov.in/play/content/do\\_3130164437480652801458](https://diksha.gov.in/play/content/do_3130164437480652801458)
- \* [https://kahoot.it/challenge/01602934?challenge-id=70616448-C377-49ed-8572-0e779ebfa55e\\_1680690988290](https://kahoot.it/challenge/01602934?challenge-id=70616448-C377-49ed-8572-0e779ebfa55e_1680690988290)

Steps	Specification	Learning experience	Evaluation
i) Motivation	Pupil recognizes the construction of primary auxiliary verbs	The teacher motivates the children by asking the following questions. Tr: Anyone stand up and	What is a verb?

introduce yourself.

Stu: I am Akila

Tr: Good. What do you do in your freetime?

Stu: I like to do craftworks mam

Tr: Good. Have you completed your homework?

Stu: Yes mam. I have completed my homework.

Tr: Good. What are the verbs that we have used so far?

Stu: am, is, do, have mam

Pupil identifies the components of the teaching item.

Tr: Good. 'am', 'is', 'are' are Be verbs  
'do', 'does', 'did' are Do verbs  
'has', 'have', 'had' are Have verbs

Stu: Okay mam

Tr: Now, let me show you a video which explains the auxiliary verbs.

Tr: Arila, come here. What are you doing?

Stu: I am writing mam

Tr: Well, which is the

Tell something about your friend

ii) Presentation

a) Classroom situation

Pupil grasp the meaning and usage of the structure through

the classroom  
situation.

verb in this sentence?

Stu: 'Am' mam

Tr: Good. It is a 'Be' verb

The 'Be' verbs include  
am, is, was, are, were.

Stu: Okay mam.

Tr: Sava, tell something  
about your friend.

Stu: Meera is my friend and  
she likes to do farming  
mam

Tr: Good. Which is the verb  
in this sentence?

Stu: 'Do' mam.



Tr: Very good. 'Do' verbs  
also includes 'does', 'do',  
'did'.

Stu: Okay mam

Tr: Nithya, do you have a pen?

Stu: Yes mam, I do have a pen.

Tr: Here, 'Have' is the verb,  
The 'Have' form verbs  
also includes 'Have', 'Has',  
'Had'.

Tr: For your better  
comprehension, let me  
show you **a video** which  
explains the auxiliary verbs.

constructs own  
sentences using  
primary auxiliary  
verb

Construct more  
sentences using  
primary auxiliary  
verbs.

b) Real life situation

Pupil grasps the meaning and the usage of the structure through real life situation.

Tr: Why can't everyone in your class score above 80 mark?

stu: We are trying our best to score more marks mam.

Tr: Good. Can you tell which is the verb in this sentence?

stu: 'Are' is the 'Be' verb mam

Tr: Good. What should you want to do to get good marks?

stu: We have to do our duties on time mam.

Tr: Good. Which is the verb that is present in this sentence?

Stu: 'Do' is the verb mam

Tr: Good. What are the other things that you have to do to get good marks?

Stu: We have to pay attention while reading mam

Tr: Good. Which is the verb in this sentence?

Stu: 'Have' is the verb mam

Tr: Good.

Pupil understands the structure of primary auxiliary verbs.

Frame sentences using primary auxiliary verbs.

iii) Review

Pupil recalls the different forms of primary auxiliary verb.

Fill in the blanks with appropriate primary auxiliary verbs.

- i) — this your bag?
- ii) Where — she work now?
- iii) — you received the invite?
- iv) — you see him yesterday?
- v) They — playing in the garden.

Fill in the blanks with appropriate primary auxiliary verb.

- i) Is this your bag?
- ii) Where does she work now?
- iii) Have you received the invite?
- iv) Did you see him yesterday?
- v) They are playing in the garden.

iv) Follow up

Pupil write down some examples for primary auxiliary verbs.

The teacher gives some assignment to be done at home.

Attempt a quiz using the given link before 8.00 PM.

Write a few sentences using Primary auxiliary verbs.

<https://kahoot.it/challenge/01602934?challenge-id=70616448-C377-49ed-8572-0e779ebfa55e-1680690988290>

*Q. S. V.*

SIGNATURE OF THE STUDENT  
TEACHER

*K. Kamala Devi*  
30/9/2022

SIGNATURE OF THE TEACHER  
Dr. K. KAMALA DEVI, M.A., M.Phil., M.Ed., Ph.D.  
Assistant Professor of English  
Sri Sarada College of Education  
(Autonomous)  
Salem - 636 012  
EDUCATOR

# Developing Assessment Tools for Both Online & Offline Learning

## SRI SARADA COLLEGE OF EDUCATION

(AUTONOMOUS)  
SALEM - 636 016.



**B.Ed., Course**  
**Test and Measurement**


### Bonafide Certificate

Name of the Student Teacher : S. SOWDHESWARI

Register Number : 2021P35

Optional Subject : 1 PHYSICAL SCIENCE

2 TAMIL

  
Signature of the Student Teacher

  
Signature of the Internal Examiner  
06/01/2023

Signature of the External Examiner

Date : 04-01-2023

Station : Salem

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# TEST AND MEASUREMENT

## INTRODUCTION

↳ Assessment is a process by which information is obtained relative to some known objective or goal. It is a broad term that includes testing. A test is a special form of assessment.

↳ According to Fenton (1996), "Assessment is the collection of relevant information that may be relied on for making decisions."

↳ It is an important part of the process of regional accreditation and is done at multiple levels including the classroom, program and institution.

↳ According to Hanna, "Evaluation is the process of gathering and interpreting evidence on changes in the behaviour of all students as they progress through school,"

↳ If evaluation is successful it will determine the match between intended outcomes and actual outcomes. Evaluation of a program considers not only student learning but also research activities, community service and cost-effectiveness.

# TEST

L.J. Cronbach, in his book *essentials of psychological testing* (1970) defines a test as a systematic procedure for observing and describing one or a more characteristics of a person with the aid of either a numerical scale or a category system.

## OBJECTIVES OF TESTS

- ↳ To identify the interests of the students.
- ↳ To identify the underachievers.
- ↳ To improve learning and teaching techniques.
- ↳ To identify the gifted students.
- ↳ To obtain data for diagnostic purposes.

## RELATIVE IMPORTANCE OF TESTING

\* Tests are used in the guidance programme as they have the following merits as compared with other techniques of guidance.

- ↳ They are objective
- ↳ They are economical techniques of collecting information
- ↳ They are less time consuming

## SIX FOLD CLASSIFICATION OF TEST

- ↳ Subjective test and objective test
- ↳ Criterion - referenced test and norm - referenced
- ↳ Standardized and non - standardized test
- ↳ Maximum performance test and typical performance tests
- ↳ Select - response tests and supply response tests
- ↳ Speed tests and Power tests

# MEASUREMENT

\* Guilford, "Measurement means the description of data in terms of number and this, in turn, means taking advantage of the many benefits that operations with number and mathematical thinking provide".

\* Campbell, "Measurement means assignment of numbers to objects or events according to rules".

\* Tyler (1963), "Measurement means assignment of numerals according to rules".

# IMPORTANCE OF EDUCATIONAL MEASUREMENT

- ↳ To help the teachers to evaluate their teaching programmes.
- ↳ To help in marking, programming, prediction, curriculum evaluation and planning.
- ↳ To help in measuring attitude, achievement, interest and personality traits of learners.
- ↳ To identify the weaknesses of the learners.

# FUNCTIONS OF MEASUREMENT

- ⇒ Prediction
- ⇒ Helping Evaluation
- ⇒ Diagnosis
- ⇒ Curriculum Development
- ⇒ Classification
- ⇒ Guidance & Counselling
- ⇒ Helping Administration

## SCALES OF MEASUREMENT

\* Four types of scales are used in the measurement. This classification is given by Stevens. They are also called as levels of measurement which is expressed in terms of quantitative phenomena. These are following:

- ⇒ Nominal or classificatory scales.
- ⇒ Ordinal or Ranking scales
- ⇒ Interval scales
- ⇒ Ratio scales

## CHARACTERISTICS OF MEASUREMENT

\* Physical Sciences Measurement is accurate and precise, where as educational and psychological measurements are subjective relative and not precise.



\* The units in Physical measurements are fundamental; but in case of mental measurement are derived.

\* There is no absolute or arbitrary zero-point in case of mental measurement. Mental measurement is relative to some standard or norm.

\* The instrument used in educational and psychological measurements are never exact, rather they are approximates.

\* Measurement is always concerned with certain attributes or variables or features of an object. It is these attributes or features of the object which are measured and not the object itself.

## CHARACTERISTICS OF GOOD TEST

- ↳ It can be tried out and selected on the basis of its difficulty level and discriminating power.
- ↳ It should possess description of measure behaviour in realistic and practical terms.
- ↳ It provides equivalent and comparable forms of the tests.
- ↳ A test manual has to be prepared, which can act as a guide for administering & scoring.

## CHARACTERISTICS OF ACHIEVEMENT TESTS

- ⇒ Reliability
- ⇒ Validity
- ⇒ Acceptability
- ⇒ Flexibility
- ⇒ Objectivity



OPTIONAL  
SUBJECT - 1

PHYSICAL  
SCIENCE



# WEIGHTAGE TABLE

## Objectivewise weightage table

S.No	Objectives	Marks out of (50)	Marks out of (100)
1.	Knowledge	04	08
2.	Understand	20	40
3.	Application	20	40
4.	Skill	06	12
<b>Total</b>		<b>50</b>	<b>100</b>

## Contentwise weightage table

S.No	Content	Marks out of (50)	Marks out of (100)
1.	Properties of Matter	27	54
2.	Heat and Thermodynamics	23	46
<b>Total</b>		<b>50</b>	<b>100</b>

## Questionwise weightage table

S.NO	Types of questions	Mark out of (50)	Mark out of (100)
1.	objective, type	15	30
2.	very short answer	12	24
3.	long answer	15	30
4.	essay type	08	16
<b>Total</b>		<b>50</b>	<b>100</b>

## Weightage to difficulty level

S.No	Objectives	Marks		Percentage
		50	100	
1.	Easy	18	36	36%
2.	Moderate	22	44	44%
3.	Hard	10	20	20%
<b>Total</b>		<b>50</b>	<b>100</b>	<b>100%</b>

# BLUEPRINT

Objectives	Knowledge	Understand	Application	Skill	Total
Content	objective type	1(2)	1(3)	objective type	1(7)
	very short answer	2(2)	1	very short answer	2(3)
	long answer	5(1)	5(1)	long answer	5(1)
	essay type	-	4(1)	essay type	4(1)
Properties of Matter	objective type	1(2)	1(2)	objective type	1(8)
	very short answer	2(1)	2(1)	very short answer	2(3)
Heat and Thermodynamic	objective type	1(1)	1(2)	objective type	1(3)
	very short answer	1	2(1)	very short answer	2(1)
Total	4	20	20	6	50

MUNICIPAL GIRLS HIGHER SECONDARY SCHOOL  
GUGAI, SALEM

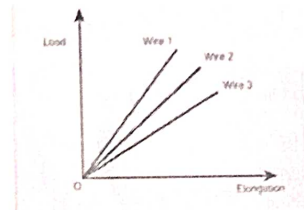
CLASS: XI Standard  
SUBJECT: Physics

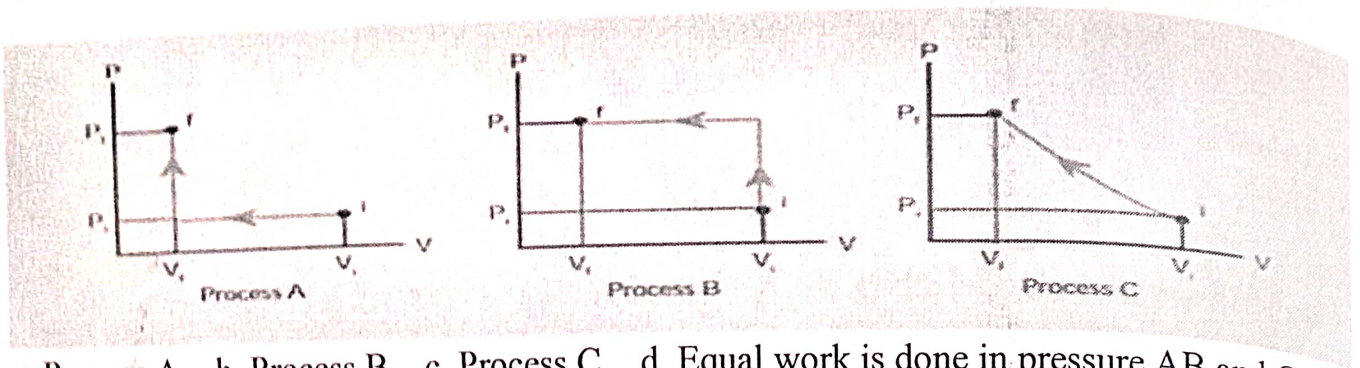
MAX.MARKS: 50  
TIME: 1 ½ hours

PART-I

Answer the following questions by selecting the most appropriate answer:

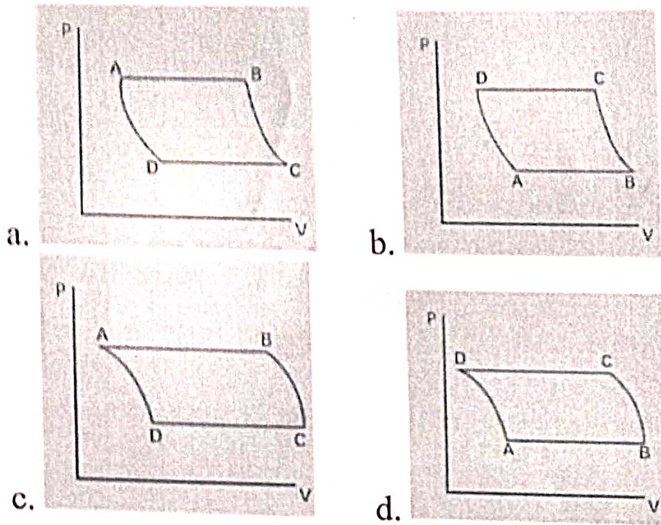
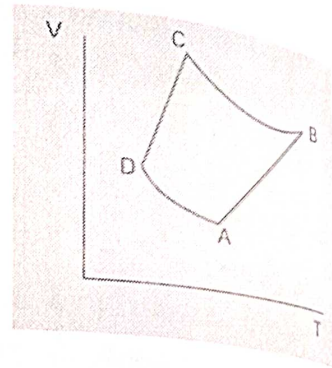
1. Consider two wires X and y. The radius of wire X is 3 times the radius of y. If they are stretched by the same load then the stress on y is  
a. Equal to that on X    b. Twice that on X    c. Nine times that on X    d. Half that on X
2. The load elongation graph of three wires of the same material is shown in figure. Which of the following wire is the thickest?  
a. Wire 1  
b. Wire 2  
c. Wire 3  
d. All of them have same thickness
3. For a given material, the rigidity modulus is  $(1/3)^{\text{rd}}$  of Young's modulus. Its poisson ratio is  
a. 0    b. 0.25    c. 0.3    d. 0.5
4. Which of the following is not a scalar?  
a. Viscosity    b. Surface tension    c. Pressure    d. Stress
5. The following four wires are made of the same material. Which of these will have the largest extension. When the same tension is applied?  
a. Length = 200cm, diameter=0.5mm    b. Length = 200cm, diameter=1mm  
c. Length = 200cm, diameter=2mm    d. Length = 200cm, diameter=3mm
6. In horizontal pipe of non uniform cross section, water flows with the velocity of  $1\text{ms}^{-1}$  at a point where the diameter of the pipe is 20cm. The velocity of water ( $1.5\text{ms}^{-1}$ ) at a point where the diameter of the pipe is (in cm)  
a. 8    b. 16    c. 24    d. 32
7. The wettability of a surface by a liquid depends primarily on  
a. Viscosity    b. Surface tension    c. Density    d. Angle of contact between the surface and the liquid
8. The graph between volume and temperature in Charles law is  
a. An ellipse    b. A Circle    c. A Straight-line    d. A Parabola
9. When a circle tires suddenly burst, the air inside the tyre expands. This process is  
a. Isothermal    b. Adiabatic    c. Isobaric    d. Isochoric
10. An ideal gas passes from one equilibrium state  $(P_1, V_1, T_1, N)$  to equilibrium state  $(2P_1, 3V_1, T_2, N)$ . Then,  
a.  $T_1 = T_2$     b.  $T_1 = T_2/6$     c.  $T_1 = 6T_2$     d.  $T_1 = 3T_2$
11. When a uniform rod is heated, which of the following quantity of the rod will increase  
a. Mass    b. Weight    c. Centre of mass    d. Moment of inertia
12. Identify the state variables given here?  
a. Q, T, W    b. P, T, U    c. Q, W    d. P, T, Q
13. An ideal refrigerator has a freezer at a temperature  $-12^\circ\text{C}$ . The coefficient of performance of the engine is 5. The temperature of the air (to which the heat ejected) is  
a.  $50^\circ\text{C}$     b.  $45.2^\circ\text{C}$     c.  $40.2^\circ\text{C}$     d.  $37.5^\circ\text{C}$ .
14. An ideal gas is taken from  $(P_i, V_i)$  to  $(P_f, V_f)$  in three different ways. Identify the process in which the work done on the gas the most.





a. Process A   b. Process B   c. Process C   d. Equal work is done in pressure AB and C

15. The VT diagram of an ideal gas which does through a reversible cycle A-B-C-D is shown below. (Processes D-A and B-C are adiabatic) The corresponding PV diagram for the process is (all figures of schematic)



**PART-II**

Answer all the questions:

16. Define stress and the strain
17. Define poisson's ratio
18. State Bernoulli's theorem
19. State Stefan-Boltzmann law
20. Apply first law for a) an isothermal b) adiabatic c) isobaric processes
21. Draw the PV diagram for a) isothermal process b) adiabatic process c) isobaric d) isochoric process

**PART-III**

Answer all the questions:

22. State and To Prove Bernoulli Theorem for a flow of incompressible non -Viscous and Streamlined flow of Fluid.
23. A Cylinder of length 1.5 m and diameter 4 cm is fixed at one end. At tangential force of  $4 \times 10^5 \text{ N}$  is applied at the other end. If the rigidity modulus of the cylinder is  $6 \times 10^{10} \text{ Nm}^{-2}$  then, calculate that twist to produce in the cylinder.
24. Explain in detail Newton's law of cooling

Answer all the questions:

**PART-IV**

25. i) State and Prove Pascal's law in Fluids
- ii) Derive Mayer's Relation for an ideal gas



# ANSWER KEYS

## PART-I

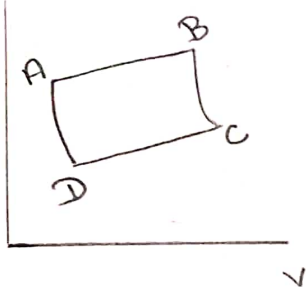
Answer the following questions by selecting the most appropriate answer:

1. c) Nine times that on  $\pi$
2. a) wire 1
3. d) 0.5
4. d) stress
5. a) length = 200 cm, diameter = 0.5 mm
6. b) 16
7. d) Angle of contact between the surface and the liquid
8. c) A straight-line
9. b) Adiabatic
10. b)  $T_1 = \frac{T_2}{b}$
11. d) Moment of inertia
12. b) P, T, U

13. c)  $40.2^{\circ}\text{C}$

14. a) Process A

15. a) P



### PART-II

Answer all the questions:

16. stress: The restorative force per unit area is called stress. Its SI unit is  $\text{Nm}^{-2}$

strain: The ratio between the change in size to the original size is called strain. It has no unit and dimensionless quantity

17. When we stretch a rubber band in one direction [elongation]. It becomes thinner in perpendicular direction [contraction].

The ratio between the relative contraction [lateral strain] to the relative stress [longitudinal stress] is called Poisson's ratio and it is denoted as  $\mu$

Length of the wire = L

Diameter of the wire = D

Increase in length = l

Decrease in diameter = d

$$\text{Poisson's ratio} = \frac{\text{lateral strain}}{\text{longitudinal stress}}$$

$$\mu = - \left[ \frac{d}{D} \right] \left[ \frac{L}{l} \right]$$

18. According to Bernoulli's theorem, the sum of the pressure energy, kinetic energy and potential energy per unit mass of an incompressible, non-viscous fluid in a streamed flow remain a constant.

$$\frac{P}{\rho g} + \frac{1}{2} \frac{v^2}{g} + h = \text{Constant}$$

19. Stefan-Boltzmann law state that total amount of heat radiated per second per unit area of a black body is directly proportional to the fourth power of the absolute temperature.

$$E \propto T^4$$

$$E = \sigma T^4$$

$\sigma$  is known as stefan's constant

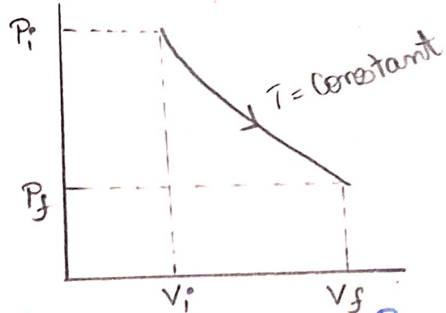
Its value is  $5.67 \times 10^{-8} \text{ W m}^{-2} \text{ K}^{-4}$

20. \* The first law of Thermodynamic in Isothermal Process,  $Q = W$

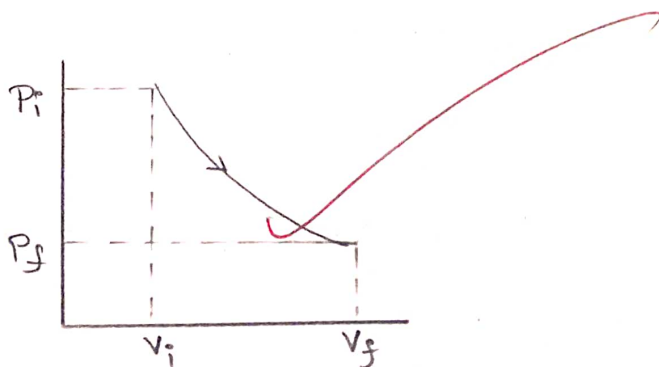
\* The first law of Thermodynamic in adiabatic Process,  $\Delta U = -W$

\* The first law of thermodynamic in isobaric Process,  $\Delta U = Q - P\Delta V$

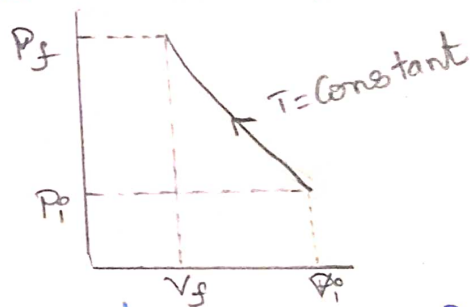
21. Isothermal Expansion



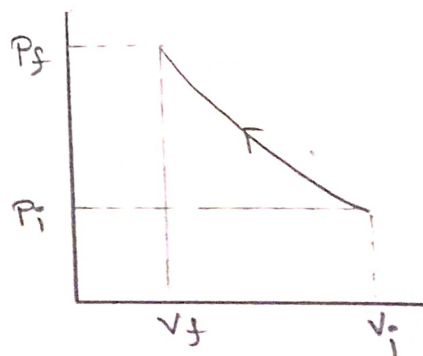
Adiabatic Expansion



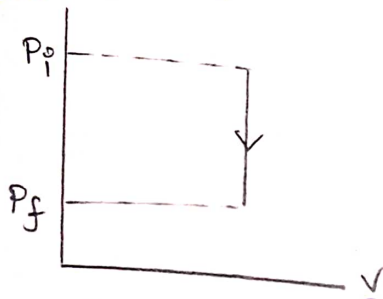
Isothermal Compression



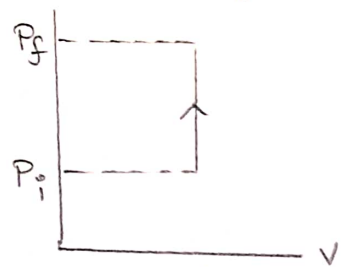
Adiabatic Compression



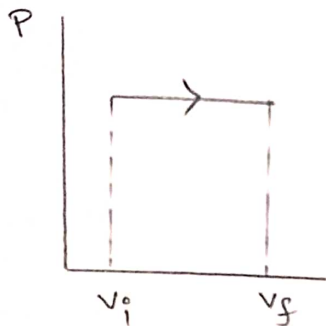
Isochoric expansion



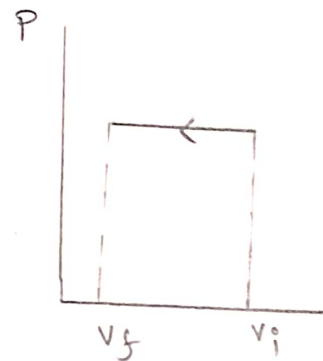
Isochoric Compression



Isoobaric expansion



Isoobaric Compression



### PART - III

Answer all the following

22. According to Bernoulli's theorem, the sum of the pressure energy, kinetic energy and potential energy per unit mass of an incompressible, non-viscous fluid in a streamed line remain a constant.

$$\frac{P}{\rho g} + \frac{1}{2} v^2 + gh = \text{constant}$$

Proof: Let we consider a flow a liquid through the pipe AB.

Area of the pipe at A =  $a_A$

Pressure at A =  $P_A$

Volume of the liquid at A =  $V_A$

The  $V$  is the volume of the liquid at a time  $t$ , and that time the liquid leaving the same time.

Force of the liquid at a point A,

$$F_A = P_A a_A$$

Distance at the point A

$$d = V_A t$$

Work done at A is,  $W = F_A d = P_A a_A V_A t = P_A a_A d$

$$W = P_A V$$

Pressure energy of the liquid A,

$$E_{PA} = P_A V \left[ \frac{m}{m} \right] = \frac{P_A m}{\frac{m}{V}} = \frac{P_A m}{\rho}$$

Kinetic energy of the liquid A,

$$KE_A = \frac{1}{2} m V_A^2$$

Potential energy of the liquid A,

$$PE_A = m g h_A$$

Total energy in the point A,

$$E_A = E_{PA} + KE_A + PE_A$$

$$= \frac{P_A m}{\rho} + \frac{1}{2} m v_A^2 + mgh_A \rightarrow \textcircled{1}$$

Total energy in a point B,

$$E_B = E_{PB} + KE_B + PE_B$$

$$= \frac{P_B m}{\rho} + \frac{1}{2} m v_B^2 + mgh_B \rightarrow \textcircled{2}$$

From  $\textcircled{1}$  &  $\textcircled{2}$

$$\frac{P_A m}{\rho} + \frac{1}{2} m v_A^2 + mgh_A = \frac{P_B m}{\rho} + \frac{1}{2} m v_B^2 + mgh_B$$

$$\text{(or)} \quad \frac{P_A}{\rho} + \frac{1}{2} v_A^2 + gh_A = \frac{P_B}{\rho} + \frac{1}{2} v_B^2 + gh_B$$

$$\text{(or)} \quad \frac{P}{\rho} + \frac{1}{2} v^2 + gh = \text{Constant}$$

It is otherwise called,

$$\frac{P}{\rho g} + \frac{1}{2} \frac{v^2}{g} + h = \text{Constant}$$

When a liquid flow in a horizontal pipe,

$$\frac{P}{\rho g} + \frac{1}{2} \frac{v^2}{g} = \text{Constant}$$

$$23. \quad \eta_R = \frac{\left[ \frac{F_E}{A} \right]}{\theta}$$

$$\eta_R = \frac{\left[ \frac{F_E}{\pi r^2 l} \right]}{\theta}$$

$$\theta = \frac{F_E}{\pi r^2 l \eta_R}$$

$$= \frac{4 \times 10^5}{\pi r^2 l \eta_R}$$

$$= \frac{4 \times 10^5}{3.14 \times 2 \times 10^{-2} \times 2 \times 10^{-2} \times 15.2 \times 6 \times 10^{10}}$$

$$= \frac{10^{-1}}{3.14 \times 1.5 \times 6}$$

$$\theta = 3.538 \times 10^{-2} \text{ rad}$$

24. Newton's Law of Cooling states that the rate of loss of heat is directly proportional to the difference in the temperature of the body and its surrounding.

$$\frac{dQ}{dt} \propto -[T - T_s]$$

Proof: The temperature of the object loss heat to the surrounding. ✓



- mass of the object =  $m$
- specific heat capacity =  $s$
- temperature of the object =  $T$
- temperature of the surrounding =  $T_s$

The temperature of the object  $dT$ , Fall the heat at a time  $dt$ .

$$dQ = msdT$$

$$\frac{dQ}{dt} = ms \frac{dT}{dt} \rightarrow \textcircled{1}$$

First law of thermodynamics,

$$\frac{dQ}{dt} \propto - [T - T_s]$$

$$\frac{dQ}{dt} = -a [T - T_s] \rightarrow \textcircled{2}$$

$-a$  = proportion constant

from equ  $\textcircled{1}$  &  $\textcircled{2}$

$$-a [T - T_s] = ms \frac{dT}{dt}$$

$$-\frac{a}{ms} dt = \frac{dT}{T - T_s}$$

Integral both sides,

$$\frac{-a}{ms} \int dt = \int \frac{dT}{T - T_s}$$

$$\int \frac{dT}{T - T_s} = \frac{-a}{ms} \int dt$$

$$\log_e [T - T_s] = \frac{-a}{ms} t + b_1$$

exponential,

$$T - T_s = e^{\frac{-a}{ms} t + b_1}$$

$$= e^{\frac{-a}{ms} t} \cdot e^{b_1}$$

$$= T_s + b_2 \cdot e^{\frac{-a}{ms} t}$$

$$e^{b_1} = b_2$$

### PART - IV

Answer all the following

25(i) Pascal's law state that, when a pressure of a liquid is increase at a particular point, this increased pressure is transmitted in the entire liquid and its undiminished in all

direction.

Application of a Pascals law:

The Practical application of a Pascals law in the hydraulic lift which is used to lift a heavy load with a small force. It is a force multiplier.

It consist of two cylinder A and B connected to each other by a horizontal pipe filled with a liquid.

It is filled with functionalness piston of cross sectional area  $A_1$  &  $A_2$  [ $A_2 > A_1$ ]

Suppose a downward force is applied in smaller piston B, the pressure of the piston A is increased

$$\text{to } P = \frac{F_1}{A_1}$$

According to pascals law, the pressure is transmitted in the larger piston.

$$F_2 = \frac{F_1}{A_1} \times A_2 = \frac{A_2}{A_1} \times F_1$$

By changing the force on the smaller piston B, the force on the piston A is increased to  $\frac{A_2}{A_1}$  this factor is called mechanical advantage of a lift.

(ii) The "M" is the molecular ideal gas container. The gas is heated at constant volume, Q of heat the gas at the time dt (ie) no work is done (W=0). The internal energy is formed.

$C_{v1}$  is the molar specific heat capacity at constant volume.

$$Q = \mu C_{v1} dT$$

The internal energy is changed, at first law of thermodynamics,

$$dU = Q - W$$

$$dU = Q = \mu C_{v1} dT \rightarrow \text{①}$$

The gas is heated at constant temperature,

$C_p$  is the molar specific heat capacity at constant pressure, the Q heat of temperature is produced,

$$Q = mC_p dT \rightarrow (2)$$

$$W = PdV \rightarrow (3)$$

Sub (1) & (2) & (3) in  $dU = Q - W$

$$mC_v dT = C_p m dT - PdV$$

The ideal gas equ

$$PV = nRT$$

differentiate both sides,

$$PdV = nRdT$$

$$mC_v dT = mC_p dT - nRdT$$

$$C_v = C_p - R$$

$$R = C_p - C_v$$

# MARK LIST

S.No	Name	Mark obtained By 50	Mark obtained By 100
1.	Akshaya . A	39½	79
2.	Boornikameera . K	39	78
3.	Deepika . S.S	47	94
4.	Devadharsini . M	46	92
5.	Gayathri . R	39½	79
6.	Gayathri . S	43	86
7.	Hasini . E	49	98
8.	Hasini . V	44½	89
9.	Janani . S	31½	63
10.	Janani . S	42½	85
11.	Janani . V	36	72
12.	Jeevitha . K	28	56
13.	Kabirajya . A	42	84
14.	Kavya . S	42	84
15.	Kavya . B	32½	65
16.	Kavyadharsa . M	48	96
17.	Kattaswari . G	48	96
18.	Madhusree . R	31	62
19.	Manimegalai . M	41	82

20.	Meemakshi . M	$26\frac{1}{2}$	53
21.	MohanaPriya . K	$39\frac{1}{2}$	79
22.	Monika . A.R	24	48
23.	Monika . G	$44\frac{1}{2}$	89
24.	Monisha . V	45	90
25.	Naveena . V	$46\frac{1}{2}$	93
26.	Nisha . S	$46\frac{1}{2}$	93
27.	PadmaPriya . S	44	88
28.	Ramya . V	$45\frac{1}{2}$	91
29.	Rasika . D	$40\frac{1}{2}$	81
30.	Reyalini . M	$32\frac{1}{2}$	65
31.	Sankasi . S	31	62
32.	Shalini . S	$40\frac{1}{2}$	81
33.	Sivaharini . E	$36\frac{1}{2}$	73
34.	Soumitra . P	$41\frac{1}{2}$	83
35.	Thelochine . S.J	$47\frac{1}{2}$	95
36.	Thelochini . S.J	$43\frac{1}{2}$	87
37.	Vaishnavi . S	33	66
38.	Vanitha . R	$47\frac{1}{2}$	95
39.	Veni . R	47	94
40.	Yogeshwari . U	$38\frac{1}{2}$	67

# FREQUENCY DISTRIBUTION

79, 78, 94, 92, 79, 86, 98, 89, 63, 85, 72, 56, 84,  
 84, 65, 96, 96, 62, 82, 53, 79, 48, 89, 90, 93, 93, 88,  
 91, 81, 65, 62, 81, 73, 83, 95, 87, 66, 95, 94, 67

Class Interval	Tally	Frequency
41-50		1
51-60		2
61-70		7
71-80		6
81-90		13
91-100		11
		40



Class Interval	Lower limit	Mid Point $x$	$f$	$cf$	$d = \frac{x-A}{i}$	$d^2$	$fd$	$fd^2$
41-50	40.5 - 50.5	45.5	1	1	-2	4	-2	4
51-60	50.5 - 60.5	55.5	2	3	-1	1	-2	2
61-70	60.5 - 70.5	65.5	7	10	0	0	0	0
71-80	70.5 - 80.5	75.5	6	16	1	1	6	6
81-90	80.5 - 90.5	85.5	13	29	2	4	26	52
91-100	90.5 - 100.5	95.5	11	40	3	9	33	99

$\Sigma fd = 61$     $\Sigma fd^2 = 163$

$\Sigma f = 40$

## Central Tendency:

### 1. Mean ( $\bar{x}$ )

$$\bar{x} = A + \left[ \frac{\sum fd}{\sum f} \right] \times i$$

A = Assumed Average

$\sum fd$  = Total deviations multiplied with respective frequency

$\sum f$  = total frequency

i = Common factor

$$A = 65.5 \quad \sum fd = 61 \quad \sum f = 40 \quad i = 10$$

$$= 65.5 + \left[ \frac{61}{40} \right] \times 10$$

$$= 65.5 + 1.525 \times 10$$

$$= 65.5 + 15.25$$

$$\bar{x} = 80.75$$

## ii) Median ( $M_n$ )

$$M_n = l + \left[ \frac{\frac{N}{2} - cf}{f} \right] \times i$$

$l$  = lower limit of the median class

$cf$  = cumulative frequency

$f$  = simple frequency of the median class

$i$  = common factor

$$l = 80.5 \quad \frac{N}{2} = \frac{40}{2} = 20 \quad cf = 16$$

$$f = 13 \quad i = 10$$

$$= 80.5 + \left[ \frac{20 - 16}{13} \right] \times 10$$

$$= 80.5 + \left[ \frac{4}{13} \right] \times 10$$

$$= 80.5 + 0.307 \times 10$$

$$= 80.5 + 3.07$$

$$M_n = 83.57$$

iii) Mode ( $M_d$ )

$$\text{Mode} = 3 \times \text{Median} - 2 \times \text{Mean}$$

$$\text{Median} = 83.57$$

$$\text{Mean} = 80.75$$

$$\begin{aligned} M_d &= 3 \times 83.57 - 2 \times 80.75 \\ &= 250.71 - 161.5 \end{aligned}$$

$$M_d = 89.21$$

# Measure of Dispersion

## i) Range

$$\begin{aligned} \text{Range} &= \text{Highest Mark} - \text{Lowest Mark} \\ &= 98 - 48 \end{aligned}$$

$$\text{Range} = 50$$

## ii) Quartile Deviation (QD)

$$QD = \frac{Q_3 - Q_1}{2}$$

$$Q_3 = l_3 + \left[ \frac{\frac{3N}{4} - cf}{f} \right] \times i$$

$$Q_1 = l_1 + \left[ \frac{\frac{N}{4} - cf}{f} \right] \times i$$

Find Q<sub>3</sub> value;

$l_3$  = lowest limit of the median class

$cf$  = Cumulative frequency

$f$  = simple frequency of the median class

$i$  = Common factor

$$l_3 = 90.5 ; \frac{3N}{4} = \frac{3 \times 40}{4} = 30 ; f = 11$$

$$Cf = 29 ; i = 10$$

$$Q_3 = 90.5 + \frac{(30 - 29)}{11} \times 10$$

$$= 90.5 + \frac{1}{11} \times 10$$

$$= 90.5 + 0.09 \times 10$$

$$= 90.5 + 0.9$$

$$Q_3 = 91.409$$

Find  $Q_1$  Value;

$l_1$  = Lowest limit of the median class

$Cf$  = Cumulative frequency

$f$  = total frequency

$i$  = Common factor

$$l_1 = 60.5 ; \frac{N}{4} = \frac{40}{4} = 10 ; f = 7$$

$$Cf = 3 ; i = 10$$

$$\begin{aligned}
 Q_1 &= 60.5 + \frac{(10-3)}{7} \times 10 \\
 &= 60.5 + \frac{7}{7} \times 10 \\
 &= 60.5 + 1 \times 10 \\
 &= 60.5 + 10
 \end{aligned}$$

$$Q_1 = 70.5$$

$$Q_D = \frac{Q_3 - Q_1}{2}$$

$$Q_3 = 91.409$$

$$Q_1 = 70.5$$

$$= \frac{91.409 - 70.5}{2}$$

$$= \frac{20.909}{2}$$

$$Q_D = 10.454$$



### iii) Standard deviation ( $\sigma$ )

$$\sigma = \sqrt{\frac{\sum fd^2}{\sum f} - \left[\frac{\sum fd}{\sum f}\right]^2 \times i}$$

$\sum fd^2$  = Squared total deviations multiplied with respective frequency

$\sum fd$  = total deviations multiplied with respective frequency

$\sum f$  = Total frequency

$i$  = Common factor

$$\sum fd^2 = 163 ; \quad \sum fd = 61 ; \quad \sum f = 40 ; \quad i = 10$$

$$= \sqrt{\frac{163}{40} - \left(\frac{61}{40}\right)^2 \times 10}$$

$$= \sqrt{4.075 - \frac{3721}{1600} \times 10}$$

$$= \sqrt{4.075 - 2.325 \times 10}$$

$$= \sqrt{1.75 \times 10}$$

$$= 1.322 \times 10$$

$$\sigma = 13.22$$



# ITEM ANALYSIS

S.NO	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Havini . E	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2.	Kavyadhavsha . M	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3.	Kotteawari . G	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
4.	Thelechina . S . J	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5.	Varitha . R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6.	Veri . R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7.	Deepika . S . S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8.	Naveena . V	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
9.	Nisha . S	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10.	Devadharshini . M	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11.	Ramya . V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12.	Munisha . V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		12	12	12	12	12	12	12	12	12	12	12	11	11	12	12

S.No	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
29.	Sivaharini . E	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1
30.	Jamari . V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31.	Yogeshwar . U	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
32.	Vaishnavi . S	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0
33.	Reyalini . M	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34.	Kavya . B	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
35.	Jamari . S	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1
36.	Madhusheel . R	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
37.	Sambasi . S	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
38.	Jeevitha . K	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39.	Meenakshi . M	1	1	0	1	1	0	1	1	0	0	0	0	0	0	1
40.	Menika . A . R	1	1	0	1	1	1	1	1	1	0	0	0	0	0	1
		12	12	10	10	12	11	11	10	11	8	8	10	8	8	11

Difficulty Level

$$N_H = N_L = 12$$

Questions	$R_H$	$R_L$	$\frac{R_H + R_L}{N_H + N_L} \times 100$
1.	12	12	100
2.	12	12	100
3.	12	10	91.66
4.	12	10	91.66
5.	12	12	100
6.	12	11	95.83
7.	12	11	95.83
8.	12	10	91.66
9.	12	11	95.83
10.	12	8	83.33
11.	12	8	83.33
12.	11	10	87.5
13.	11	8	79.16
14.	12	8	83.33
15.	12	11	95.83

i) 0-20%. Hard (0)

ii) 20-80%. Moderate (1)

iii) 80-100%. Easy (14)

# Discriminative Index

$$N_H = 12$$

Questions	$R_H$	$R_L$	$\frac{R_H - R_L}{N_H}$
1.	12	12	0
2.	12	12	0
3.	12	10	0.16
4.	12	10	0.16
5.	12	12	0
6.	12	11	0.08
7.	12	11	0.08
8.	12	10	0.16
9.	12	11	0.08
10.	12	8	0.33
11.	12	8	0.33
12.	11	10	0.08
13.	11	8	0.25
14.	12	8	0.33
15.	12	11	0.08

i) 0-0.19 Eliminate the items (11)

ii) 0.20-0.29 Modify the items (1)

iii) 0.30-0.39 slightly modify the items (3)

iv) 0.40-above Good items (0)

# SPEARMAN RANK CORRELATION

S.No	Subject 1	$R_1$	Subject 2	$R_2$	$D = R_1 - R_2$	$D^2$
1.	43	31	79	26	5	25
2.	52	24	78	28	-4	16
3.	52	24	94	6.5	17.5	306.25
4.	58	17.5	92	10	7.5	56.25
5.	54	22	79	26	-4	16
6.	45	28.5	86	17	11.5	132.25
7.	60	13	98	1	12	144
8.	56	20	89	13.5	6.5	42.25
9.	38	35.5	63	35	0.5	0.25
10.	66	5	85	18	-13	169
11.	44	30	72	30	0	0
12.	39	34	56	38	-4	16
13.	48	27	84	19.5	7.5	56.25
14.	52	24	84	19.5	4.5	20.25
15.	59	15.5	65	33.5	-18	324
16.	76	2.5	96	2.5	0	0
17.	78	1	96	2.5	-1.5	2.25
18.	41	32.5	62	86.5	-4	16
19.	61	10.5	82	22	-11.5	132.25

20.	34	39	53	39	0	0
21.	58	17.5	79	26	-8.5	72.25
22.	38	35.5	48	40	-4.5	20.25
23.	62	9	89	13.5	-4.5	20.25
24.	49	26	90	12	14	196
25.	72	4	93	8.5	-4.5	20.25
26.	61	10.5	93	8.5	2	4
27.	63	7.5	88	18	-7.5	56.25
28.	59	15.5	91	11	4.5	20.25
29.	63	7.5	81	22.5	-16	256
30.	36	37	65	33.5	3.5	12.25
31.	34	39	62	36.5	2.5	6.25
32.	64	6	81	23.5	-17.5	306.25
33.	34	39	73	29	10	100
34.	56	20	83	21	-1	1
35.	60	13	95	4.5	8.5	72.25
36.	76	2.5	87	16	-13.5	182.25
37.	56	20	66	32	-12	144
38.	45	28.5	95	4.5	24	576
39.	60	13	94	6.5	6.5	42.25
40.	41	32.5	67	31	1.5	2.25

$$\Sigma D^2 = 3,584.5$$

$$r = 1 - \frac{6 \sum D^2}{N(N^2 - 1)}$$

$r$  = Rank Coefficient of Correlation

$\sum D^2$  = sum of the square of the differences of two ranks

$N$  = Total number of students

$$\sum D^2 = 3,584.5 ; N = 40$$

$$= 1 - \frac{6 \times 3584.5}{40(40 - 1)}$$

$$= 1 - \frac{21,507}{40(1600 - 1)}$$

$$= 1 - \frac{21507}{40 \times 1599}$$

$$= 1 - \frac{21507}{63960}$$

$$= 1 - 0.336$$

$$r = 0.664$$

The Coefficient of Correlation is 0.664. Here, it is Positive Rank Correlation.

# Histogram And Frequency Distribution

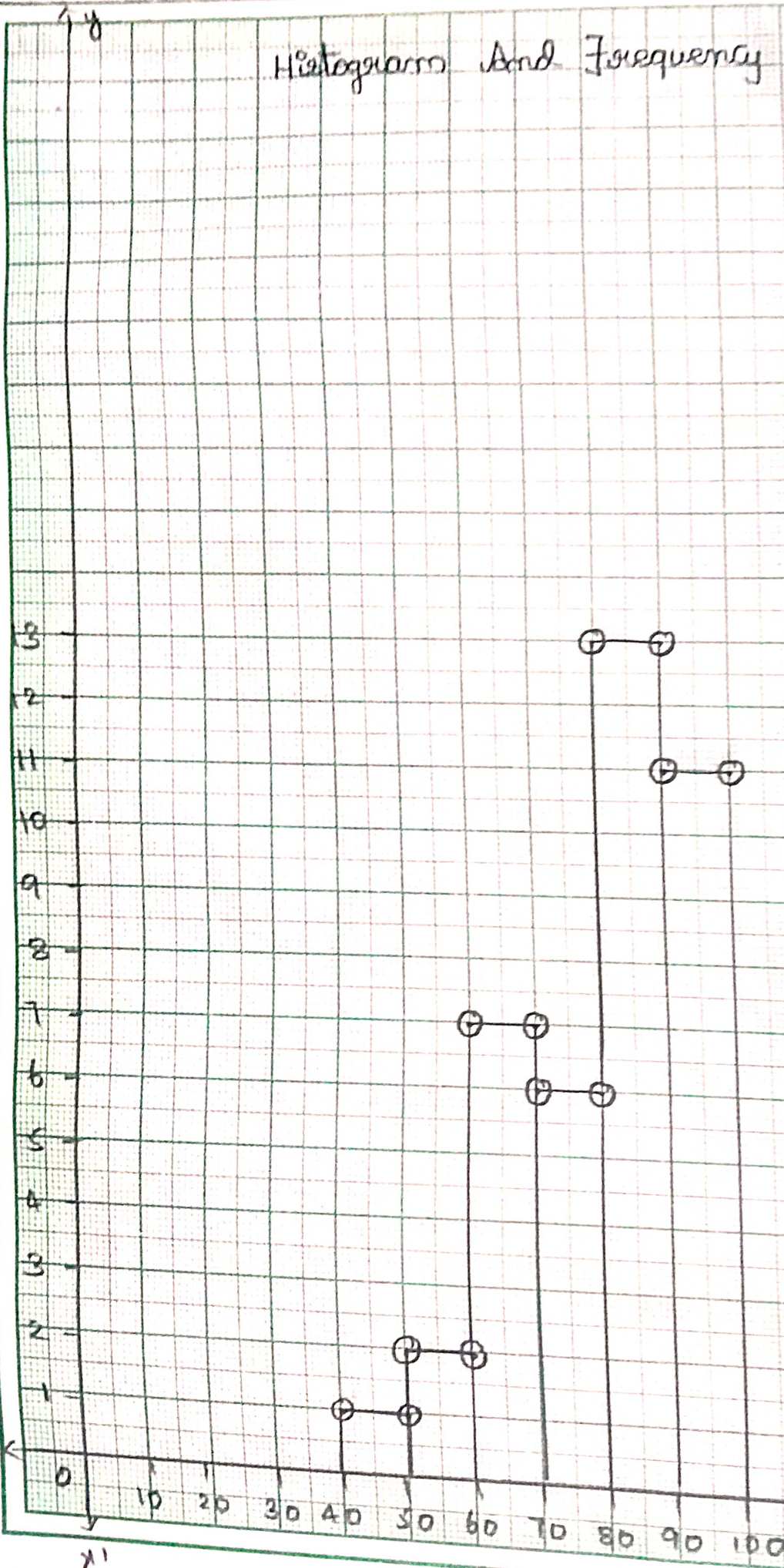
Scale:

x axis 1cm = 10 units

y axis 1cm = 1 unit

frequency

LF

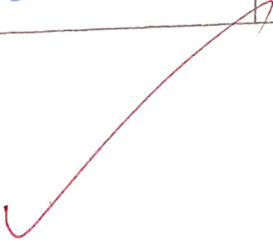


class interval



## Histograms And Frequency Distribution

S.NO	Class Interval	Frequency
1.	41-50	1
2.	51-60	2
3.	61-70	7
4.	71-80	6
5.	81-90	13
6.	91-100	41

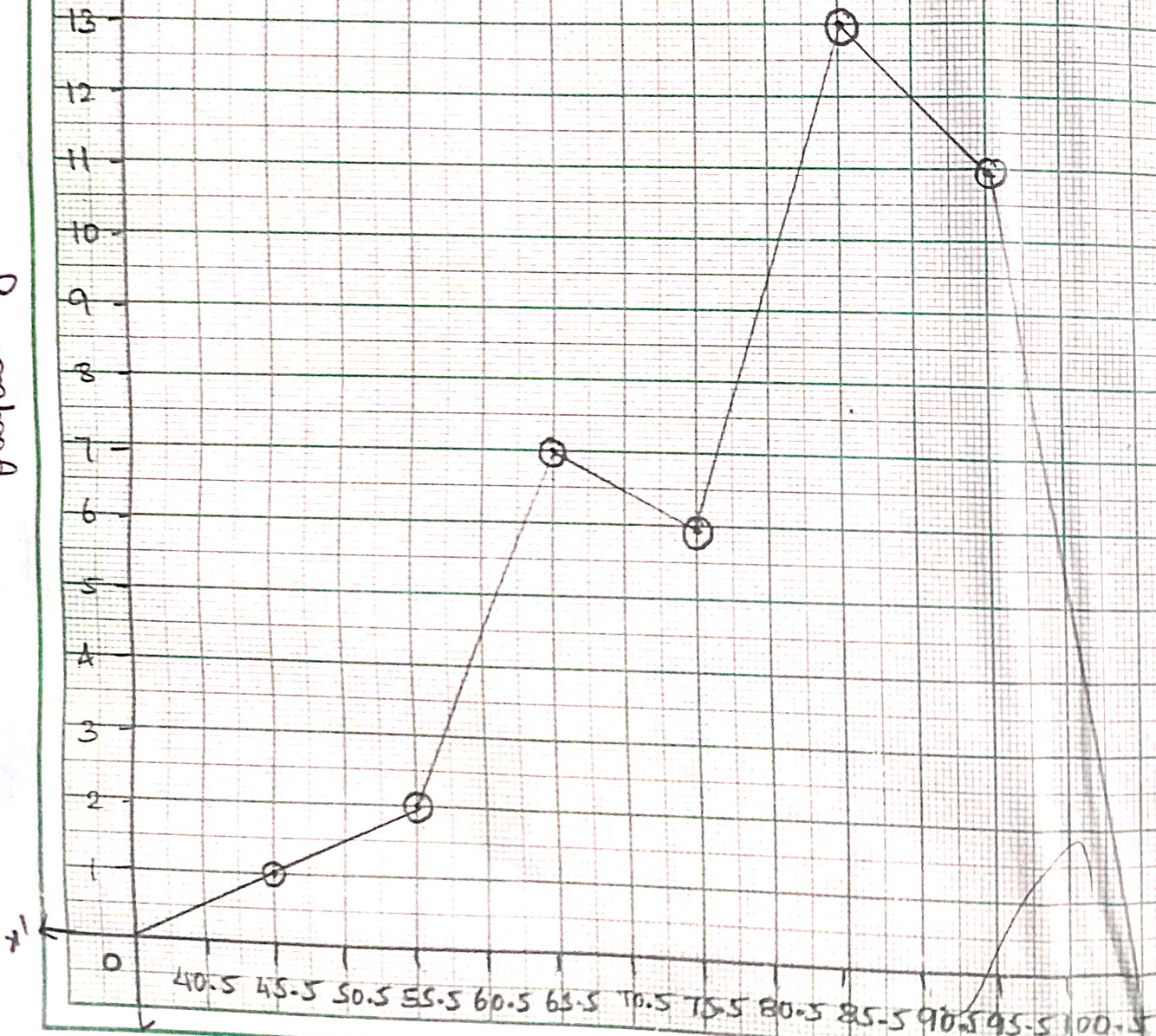


# Frequency Polygon

Scale:

x axis 1cm = 5 units

y axis 1cm = 1 unit

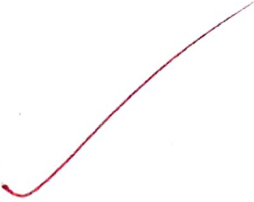


Pyrambani

Mid Point

## Frequency Polygon

S.NO	class Interval	Mid Point	Frequency
1.	41-50	45.5	1
2.	51-60	55.5	2
3.	61-70	65.5	7
4.	71-80	75.5	6
5.	81-90	85.5	13
6.	91-100	95.5	11



# Cummulative Frequency Curve

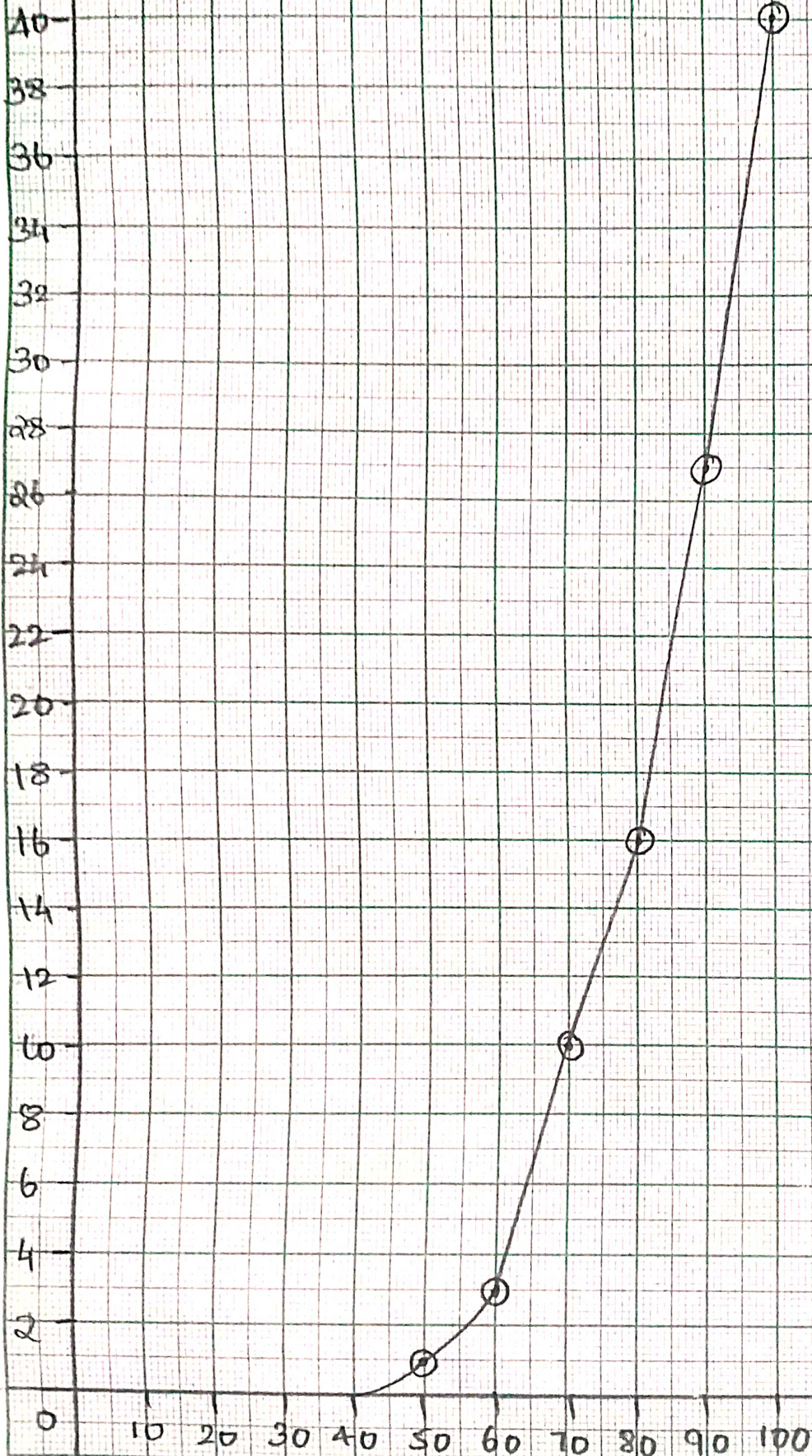
Scale:

x axis 1cm = 10 units

y axis 1cm = 2 units

Cummulative Frequency

cf

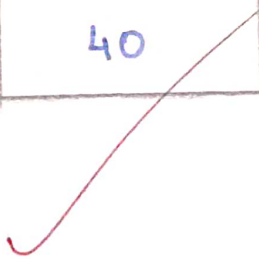


x

upper limit

Cummulative  
Frequency Curves

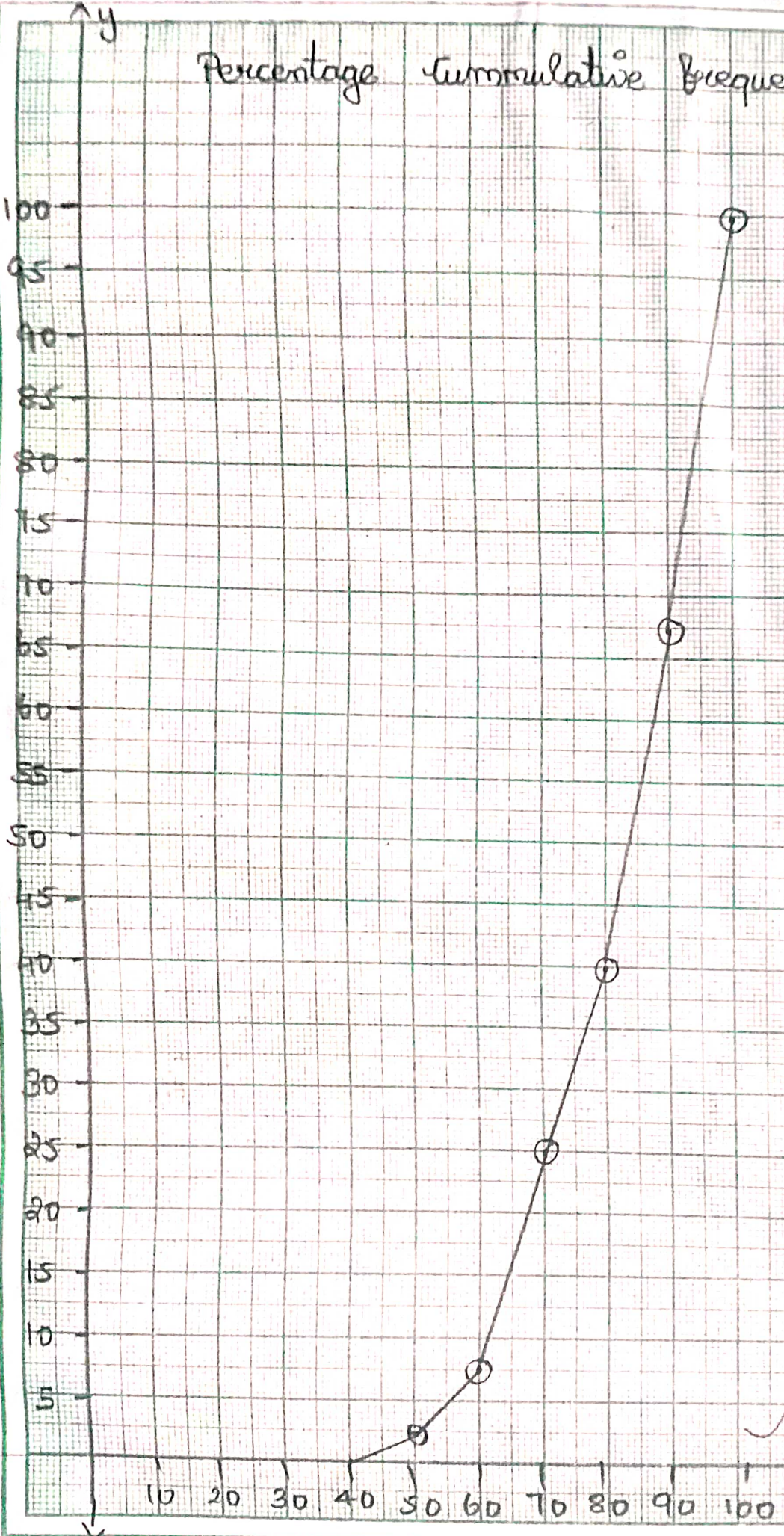
S.No	class interval	frequency	Cummulative frequency	UPPER limit
1.	41-50	1	1	50
2.	51-60	2	3	60
3.	61-70	7	10	70
4.	71-80	6	16	80
5.	81-90	13	27	90
6.	91-100	11	40	100



# Percentage Cumulative Frequency Curve

Cumulative Frequency Percentage

x axis 1cm = 10 units  
y axis 1cm = 5 units



5

x

upper limit

## Percentage Cumulative

### Frequency Curve

S.NO	class interval	frequency	Cummulative frequency	UPPER limit	Cummulative frequency Percentage
1.	41-50	1	1	50	3
2.	51-60	2	3	60	8
3.	61-70	7	10	70	25
4.	71-80	6	16	80	40
5.	81-90	13	27	90	68
6.	91-100	11	40	100	100

விருப்பப்பாடம்-2

தமிழ்



# திட்டவடிவம்

1. நோக்கங்கள் அடிப்படையில் மதிப்பீடுகள்

நோக்கங்கள்	மதிப்பீடுகள் [50]	மதிப்பீடுகள் [100]
அறிதீது கொள்ளுதல்	06	12
4ரிதீது கொள்ளுதல்	24	48
பரராடடுதல்	08	16
திறன் வளர்த்தல்	12	24
<b>மொத்தம்</b>	<b>50</b>	<b>100</b>

2. பாடப்பொருள் அடிப்படையில் மதிப்பீடுகள்

பாடப்பொருள்	மதிப்பீடுகள் [50]	மதிப்பீடுகள் [100]
செய்யுள்	19	38
உரைநடை	11	22
கலைக்கணம்	20	40
<b>மொத்தம்</b>	<b>50</b>	<b>100</b>

3. வினாக்கள் ( அடைவுச்சீர்தரணை ) அடிப்படையில்  
மதிப்பெண்கள்

வினாக்கள்	மதிப்பெண்கள் [50]	மதிப்பெண்கள் [100]
4 நேர வினா	10	20
குறுவினா	16	32
சிறுவினா	16	32
நெடுவினா	08	16
<b>மொத்தம்</b>	<b>50</b>	<b>100</b>

4. கடினநிலை அடிப்படையில் மதிப்பெண்கள்

கடினநிலை	மதிப்பெண்கள்		சதவீதம்
	50	100	
எளிமை	16	32	32%
நடுநிலை	20	40	40%
கடினம்	14	28	28%
<b>மொத்தம்</b>	<b>50</b>	<b>100</b>	<b>100%</b>

# திட்டப்படம்

நிகழ்ச்சிகள்	அறிந்து கொள்ளுதல்				பரிந்து கொள்ளுதல்				பாடமுதல்				நிறன் ஊர்ந்தல்				மொத்தம்			
	4	கு	நி	நெ	4	கு	நி	நெ	4	கு	நி	நெ	4	கு	நி	நெ	4	கு	நி	நெ
பாடப்பொருள்	1(2)	2(1)	-	-	1(3)	2(1)	4(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
செய்யுள்	1(2)	2(1)	-	-	1(3)	2(1)	4(1)	-	-	-	-	-	-	-	-	-	-	-	-	-
உரைநடை	1(2)	-	-	-	1(1)	2(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
இலக்கணம்	-	-	-	8(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>மொத்தம்</b>	<b>6</b>	<b>6</b>	<b>24</b>	<b>8</b>	<b>24</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>50</b>	<b>50</b>	<b>12</b>	<b>50</b>	<b>12</b>	<b>50</b>	<b>12</b>	<b>50</b>	<b>12</b>	<b>50</b>	<b>12</b>	<b>50</b>

சேலம் நகராட்சி மகளிர் மேல்நிலைப்பள்ளி, குகை

நேரம்: 1½ மணி

மதிப்பெண்: 50

10×1=10

பாடம்: தமிழ்

வகுப்பு: பத்தாம் வகுப்பு

கோடிட்ட இடத்தை பிறப்புக்:

1. காந்தியடிகள் "சத்தியாகிரகம்" என்னும் அறப்போர் முறையை தொடங்கிய ஆண்டு\_\_\_\_\_

அ. 1806 ஆ. 1906 இ. 1916 ஈ. 1919

2. "மாமலர்" - இலக்கணக் குறிப்பு தருக

அ. வினைத்தொகை ஆ. தொழில் பெயர்

இ. உரிச்சொல் தொடர் ஈ. வினையாலனையும் பெயர்

3. பொன்னர் பூட்டுதல் நடத்தப்படும் மாதம்\_\_\_\_\_

அ. சித்திரை ஆ. ஆனி இ. ஆடி ஈ. தை

4. பாடாண்திணை பிரித்து எழுதுக

அ. பாடாண்+திணை ஆ. பாடாண்+ஆண்+திணை

இ. பாடு+ஆண்+திணை ஈ. பாட+ஆண்+திணை

5. படத்தில் இடம்பெற்றுள்ள பூ எவ்வகைத் திணைக்கு உரியது?

அ. வெச்சித் திணை

ஆ. வஞ்சித்திணை

இ. நொச்சித்திணை

ஈ. வாகைத்திணை



6. மேன்மை தரும் அறம் என்பது\_\_\_\_\_

அ. கைமாறு கருதாமல் அறம் செய்வது

ஆ. மறுபிறப்பில் பயன்பெறாமல் என்ற நோக்கில் அறம் செய்வது

இ. புகழ் கருதி அறம் செய்வது

ஈ. பதில் உதவி பெறுவதற்காக அறம் செய்வது

7. "விட்டை துடைத்து சாயம் அடித்தல்" இவ்வடி குறிப்பிடப்படுவது\_\_\_\_\_

அ. காலம் மாறுவதை ஆ. விட்டை துடைப்பதை

இ. வண்ணம் பூசுவதை ஈ. இடையறாது அறப்பணி செய்தல்

8. உலகமே வறுமையுற்றிலும் கொடுப்பவன் என்றும் பொருள்களின் இருப்பைக் கூட அறியாமல் கொடுப்பவன் என்றும் பாராட்டப்படுவோர்\_\_\_\_\_

அ. உதியன்: சேரலாதன் ஆ. அதின்: பெரும்பான்மைப்

இ. பேகன்: கிள்ளிவளவன் ஈ. நெடுஞ்செழியன்: திருமுடி கட்காரி

9. காலக்கணிதம் கவிதையில் இடம்பெற்ற தொடர்\_\_\_\_\_

அ. இகழ்ந்தால் என்மனம் இறந்துவிடாது

ஆ. என்மனம் இகழ்ந்தால் இறந்துவிடாது

இ. இகழ்ந்தால் இறந்துவிடாது என்மனம்

ஈ. என்மனம் இறந்துவிடாது இகழ்ந்தால்

10. சிலப்பதிகாரத்திலும் மணிமேகலையிலும் அமைந்துள்ள பாவினம்\_\_\_\_\_

அ. அகவற்பா ஆ. வெண்பா இ. வஞ்சிப்பா ஈ. கலிப்பா

குறுவினா:

11. பாசவர், வாசவர், பல்நிண விலைஞர், உமணர் - சிலப்பதிகாரம் காட்டும் இவ்வணிகர்கள் யாவர்? 8x2=16

12. மயங்கிய - பகுபத உறுப்பிலக்கணம் தருக.

13. நொச்சித்திணை என்றால் என்ன?

14. கலைச்சொற்கள்

அ. Consulate ஆ. Irrigation இ. Belief ஈ. Renaissance

15. அவையம் - குறிப்பு வரைக

16. போர் அறம் பற்றி சிறுகுறிப்பு எழுதுக

17. குறள்வெண்பாவின் இலக்கணத்தை எழுதி எடுத்துக்காட்டு தருக

18. காலக் கழுதை கட்டெறுமானதும் கவிஞர் செய்வது யாது?

சிறுவினா 4x4=16

19. "தலையைக் கொடுத்தேனும் தலைநகரைக் காப்போம்" -இடஞ்சுட்டி பொருள் விளக்குக.

20. "தூசும் துகிரும்" - எனத் தொடங்கும் சிலப்பதிகாரம் மனப்பாடச் செய்யுளை எழுதுக.

21. அலகிட்டு வாய்ப்பாடு தருக

செயற்கை அறிந்தக் கடைத்தும் உலகத்

தியற்கை அறிந்து செயல்.

22. கொடையின் சிறப்பை இலக்கியங்கள் எவ்வாறு போற்றுகின்றன.

நெடுவினா 8x1=8

23. அ. புறத்திணை வகைகளை அட்டவணை மூலம் விளக்குக.

ஆ. வெண்பா, ஆசிரியப்பா ஆகியவற்றின் பொது இலக்கணத்தை அட்டவணை எழுதுக மூலம்

## விடைகள்

காடிபட்ட இடத்தை நிறுப்புக:

1. 1906
2. உரிச்சொல் தொட்டி
3. சித்திரை
4. பாடு + ஆணை + திணை
5. வாகைத் திணை
6. கைமாறு கருதாமல் அறம் செய்வது
7. இடையறாது அறப்பண் செய்தல்
8. அதியன் : பெருநீச்சித்திரனார்
9. இகழ்ந்தால் என்மனம் இறந்ததுவிடாது
10. அகவநீபா

குறுவினா :

11. பாசுவர் - வெற்றிவை விற்பவர்
- வாசுவர் - நறுமண பொருட்களை விற்பவர்
- பல்திறை விலைநர் - குறைகிணை விற்பவர்
- உமணர் - உப்பு விற்பவர்

12. மயங்கிய - மயங்கு + இ(ன்) + ய் + அ

மயங்கு - பகுத்

இ(ன்) - அறந்தகால இடைநிலை

ய் - உடன்படுமெய்

அ - பெயரெச்சி விகுத்

13. மண்ணைக் காக்கக் கோட்டைகள் கட்டப்படன

கோட்டையைக் காத்தல் வேண்டி, உள்ளிருந்தே முநியூகையிட்ட  
பகையரசனோடு நொச்சிப்புவைச் சூழப் போயிருவது  
நொச்சித்திணை அகும்.

14. A. Consulate - துணைத்தூதரகம்

ஆ. Investigation - பாசனம்

இ. Belief - நம்பிக்கை

ஈ.) Renaissance - மறுமலர்ச்சி

15. \* அறம் கடறும் மன்றங்கள் அரளிள் ஆட்கிக்குத்

துணை புரிந்தன.

\* மதுரையிலிருந்து அவையம் பற்றி மதுரைக்

காங்கு குறிப்பிடுகிறது.

\* மதுரை அலையயம் சூலாபீகாலை போல்  
நடுநிலை மிக்கது.

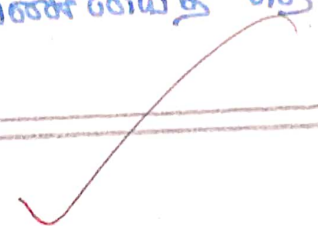
16. தமிழர் போர் செய்வதிலும் அறநெறி உடையவர்களாக  
இந்தனர். போர் அறம் என்பது, வீரமந்திரம்,  
கீறம், முதியோர் போன்றவற்றை எதிர்நீத்து போர்  
செய்யாமல் இருப்பது.

17. குறள் வெண்பா என்பது வெண்பாவின் பொது  
கூட்டுகணம் அமையப் பெற்று இரண்டு அடிகளாய்  
உடும். முடிவு நான்கு சீராகவும், இரண்டாம் அடி  
மூன்று சீராகவும் உடும்.

(எ-கா) கற்க கசடற கற்பவை கற்றபின்  
நிற்க அதற்கு தக.

18. \*காலகீகமுதை கட்பெறும்பானது என்பது காலம்  
மாந் உயது முதிர்ந்தலைக் குறிப்பது ஆகும்.

\* உயது முதிர்ந்தது உடலும் உடல் உறுப்புகளும்  
உலுவிழ்ந்தாலும் அறப்பணியைத் தொடர்ந்து செய்கிறார்.





சிறுவினா

19. **இடம் :** "ம.பொ.சி" யின் தன் உரலாற்றும் பகுதியில் சிற்றகல் ஒள் எண்ணும் தலைப்பில் இடம் பெற்றுள்ளன.

**பொருள் :** ஆதிதிர மாநிலம் பிரியும்போது சென்னை தான் அதன் தலைநகராக இருக்க வேண்டும் என்று ஆதிதிர மாநிலத் தலைவர்கள் வாடும்பினர். அதனை எதிர்க்கும் ம.பொ.சி கூறிய கூற்று இது.

**விளக்கம் :** தந்தை செங்கல்வராயன் ஒரு கூட்டத்தைக் கூட்டினர். அப் பொழுது, தம்மு் மாநிலத்தின் தலைநகர் "சென்னை" என்று தீர்மானத்தை முன்மொழிந்தனர். முன்மொழிந்தது, "தலைநகராக ரிகாடுத்தேனும் தலைநகராக காப்போம்" என்று ம.பொ.சி முடிவாகினார். 25.03.1953 இல் பிரதமர் நேடு , சென்னை தம்முட்க்கே என்ற உறுதிமொழியை , நாடாளுமன்றத்தில் நடுவண்புகள் சார்பில் வெளியிட்டார்.



20. சூதம் சூகிரம் ஆரமு அகிலும்  
 மாசாறு சூதும் மணியும் பொண்ணும்  
 அருங்கல வெறுக்கையொடு அளந்துகடை அந்யா  
 ஊமீதலை மயங்கிய நனந்தலை மறுகும்;  
 பாஸ்கை தெரிந்து பகுதிப் பண்டமொடு;  
 கூலம் குவிந்த கூல வீதியும்.

- இளங்கோவழகர்

21. செயற்கை - நிரை + நொர் - ஹர்மா  
 அறிந்தக - நிரை + நொர் - ஹர்மா  
 கடைத்தும் - நிரை + நொர் - ஹர்மா  
 உலகத் - நிரை + நொர் - ஹர்மா  
 தியற்கை - நிரை + நொர் - ஹர்மா  
 அறிந்து - நிரை + நொர் - ஹர்மா  
 செயல் - நிரை - ஹர்மா

22. வீரத்தையப் போலவே கொடையும் தமிழர்களால்  
 உரும்பப்படலது - ஒரு மனிதன் தன்னுடைய மகிழ்ச்சியை  
 மறுத்து மற்றவர் மகிழ்ச்சியை நாடுவதுதான் உண்மையான





மகிழ்ச்சி. அதாவது தான் மகிழ்ச்சியை நாடுவதுதான்  
 உண்மையான மகிழ்ச்சி. அதாவது தான் மகிழ்ச்சியை  
 மறப்பதுதான் மகிழ்ச்சி. அரியணை எண்பது கருதாது,  
 தயங்காது கொடுத்தாலும் எ.தலாஹி உரும்  
 சிவப்புகீடு வகுந்தாமையுமீ நான்தோறும் கொடுத்தாலும்  
 கொடைப்பெருமைகளாகப் பேசப்படுகின்றன.

3. அ)

- வெட்சி திணை - ஆநிறை கவந்தல்
- கரந்தைத் திணை - ஆநிறை மீட்டல்
- வந்தித் திணை - மண்ணாசை காரணமாகப் பனகவரீ  
 - நாட்டைக் கைப்பற்றுதல்
- காந்தித் திணை - மாற்றரசனோடு எதிர்த்தியும் போரிடல்
- நொச்சித் திணை - கோட்டையின் உள்ளிடுந்தே  
 போரிடல்
- உழுநெடுத் திணை - கோட்டையினை சுற்றி வளைத்தல்
- துய்ப்பைத் திணை - கருநாட்டு அரசர்களும் ஒருவரோடு  
 ஒருவர் போர்புரிதல்
- வானகத்திணை - வெற்றி பெற்ற மண்ணை மகிழ்வது.



பாடாணி திணை - ஆண்பகணின் வீரம், கவீகி,  
செல்வம், புகழ், கருணை முதலியன  
பொற்றிபாடுவது

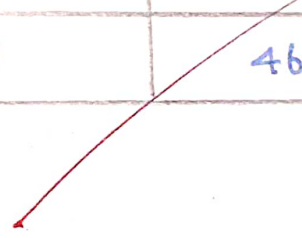
பொதுவியல் திணை - வெட்சி. முதல் பாடாணி வரை  
பொதுவானதும் கூறப்படாதனவும்.

பொது வகைகளை	வெண்பா	ஆசிரியப்பா
ஓசை	செப்பல் ஓசை பெற்று வரும்.	அகவல் ஓசை பெற்று வரும்.
ஓர்	அடிகள் நான்கீராகவும் பயின்றவரும். இயந்தீர் வெண்கீர் மட்டுமே பயின்ற வரும்.	ந.ஓசை சீர் மிகுதியாகவும் காய்ச்சீர் குறைவாகவும் பயின்றவரும்.
தளை	இயந்தீர் வெண் டளை, வெண்கீர் வெண்டளை மட்டுமே பயின்றவரும்	ஆசிரியத்தளை மிகுதியாக -வும் வெண்டளை கலித்த -ளை விரவியும் வரும்.
அடி	வெண்டடி முதல் பன்னிரண்டு அடி வரை அமையும்	ஆன்று அடி முதல் எட்டு பவர் மனநிறைக்கீகற்ப அமையும்
முடிபடி	ந.ஓசை சீர் நான்கு, மலர், காசு, மறுபடி எனவும் வாய்ப்பாடாடல் முடியும்	ஏகாபுத்தில் முடிதல் சிறப்பும்

# மதிப்பெண் பட்டியல்

அரசை எண்	பெயர்	மதிப்பெண்கள் [50]	மதிப்பெண்கள் [100]
1.	அகலீயா. M	34½	69
2.	அகீஷ்யா. M	30	60
3.	தர்ஷினி. S	37	74
4.	பாதித்ரிமா. R	18	36
5.	பாளஸீசியா. S	27½	55
6.	கோபிகா. K	21½	43
7.	அதித்யஜா. S	37	74
8.	ஜனனி. V	42½	85
9.	ஜெயபதி. A	32	64
10.	கீர்த்திகா. P	31½	63
11.	லக்ஷ்மணியா. R	34½	69
12.	லேனா தேவி. S	25½	51
13.	மணிஷா. A	18½	37
14.	மாரியம்மாள். G	32	64
15.	நவசகீதி. A	37	74
16.	சூரியபரிமா. K	45½	91
17.	பவதீரா. P	28	56
18.	பரிமலா. M	41½	83

19.	குதீரா. R	29½	59
20.	சுகீதி ஸ்தீ. M	43½	87
21.	சுான்யா. B	26	52
22.	சுரஸீவதி. Y	20	40
23.	சுண்முகபீரியா. S	23	46
24.	செளமியா. N	27	54
25.	ஸ்தீ ரெடியவரீஷன். S	28½	57
26.	ஸ்தீ நவீயா. V	29½	59
27.	சுவாதீ. D	39	78
28.	விஷ்ணுமீரியா. S	23½	47
29.	விதீயா. M	25½	51
30.	மோன்கா. V	46½	93



# அலைவெண் பட்டியல்

69, 60, 74, 36, 55, 43, 74, 85, 64, 63, 69,  
 51, 37, 64, 74, 91, 56, 83, 59, 87, 52, 40,  
 46, 54, 57, 59, 78, 47, 51, 93

பரிவு இடைவெளி	நேரீக்கோட்டு குறிகள்	அலைவெண் f
31 - 40		3
41 - 50		3
51 - 60		10
61 - 70		5
71 - 80		4
81 - 90		3
91 - 100		2
		30

വരിയ ക്ലാസ്സുകൾ	മധ്യസ്ഥിതി $x$	$f$	$cf$	$d = \frac{x-A}{9}$	$d^2$	$fd$	$fd^2$
31-40	35.5	3	3	-3	9	-9	27
41-50	45.5	3	6	-2	4	-6	12
51-60	55.5	10	16	-1	1	-10	10
61-70	65.5	5	21	0	0	0	0
71-80	75.5	4	25	1	1	4	4
81-90	85.5	3	28	2	4	6	12
91-100	95.5	2	30	3	9	6	18

$\sum fd = -10$      $\sum fd^2 = 83$

$\sum f = 30$





## மையப்போக்கு அளவைகள்

1) கூட்டுச்சராசர் ( $\bar{x}$ )

$$\bar{x} = A + \left[ \frac{\sum fd}{\sum f} \right] \times i$$

A - கருப்பெண் சராசர்

$\sum fd$  - மொத்த நிலகல் பெருக்கல் அலைவெண்

$\sum f$  - அலைவெண்

i - இடைவெளி

$$A = 65.5 ; \quad \sum fd = -10 ; \quad \sum f = 30 ; \quad i = 10$$

$$= 65.5 + \left[ \frac{-10}{30} \right] \times 10$$

$$= 65.5 - 0.33 \times 10$$

$$= 65.5 - 3.33$$

$$\boxed{\bar{x} = 62.17}$$

மீட்டிய இடைநிலை ( $M_n$ )

$$M_n = l + \left[ \frac{\frac{N}{2} - cf}{f} \right] \times i$$

$l$  = சராசரி அகலம் கீழ்க் குறியீடு

$cf$  = குறைந்த நிகழ்வெண்

$f$  = நிகழ்வெண்

$i$  = அகலம் இடைவெளியின் அகலம்

$$l = 50.5 ; \quad \frac{N}{2} = \frac{30}{2} = 15 ; \quad cf = 6$$

$$f = 10 ; \quad i = 10$$

$$= 50.5 + \left[ \frac{15 - 6}{10} \right] \times 10$$

$$= 50.5 + \left[ \frac{9}{10} \right] \times 10$$

$$= 50.5 + 0.9 \times 10$$

$$= 50.5 + 9$$

$$M_n = 59.5$$

iii) முகடு ( $M_d$ )

$$\text{முகடு} = 3 \times \text{கிடைநிலை} - 2 \times \text{சராசர்}$$

$$\text{கிடைநிலை} = 59.5 \quad ; \quad \text{சராசர்} = 62.17$$

$$= 3 \times 59.5 - 2 \times 62.17$$

$$= 178.5 - 124.34$$

$$M_d = 54.16$$

# சிதறல் அளவைகள்

## i) ஊசீசு

$$\begin{aligned} \text{ஊசீசு} &= \text{உயர் மதிப்பெண்} - \text{குறைவான மதிப்பெண்} \\ &= 93 - 36 \end{aligned}$$

$$\text{ஊசீசு} = 57$$

## ii) காலமான விலக்கம் (Q.D)

$$Q.D = \frac{Q_3 - Q_1}{2}$$

$$Q_3 = l_3 + \left[ \frac{\frac{3N}{4} - cf}{f} \right] \times i$$

$$Q_1 = l_1 + \left[ \frac{\frac{N}{4} - cf}{f} \right] \times i$$

## Q<sub>3</sub> இன் மதிப்பு கண்டறிதல்;

$l_3$  = இடைநிலையளவின் கீழ் எல்லை

$c_f$  = குவிவு நிகழ்வெண்

$f$  = நிகழ்வெண்

$i$  = வகுப்பு இடைவெளியின் அகலம்

$$L_3 = 70.5 ; \frac{3N}{4} = \frac{3 \times 30}{4} = 22.5 ; Cf = 21$$

$$f = 4 ; \bar{x} = 10$$

$$Q_3 = 70.5 + \left[ \frac{22.5 - 21}{4} \right] \times 10$$

$$= 70.5 + \left[ \frac{1.5}{4} \right] \times 10$$

$$= 70.5 + 0.375 \times 10$$

$$= 70.5 + 3.75$$

$$Q_3 = 74.25$$

Q. இன் மதிப்பு கண்டறிதல்

$L_1$  = அடைநிலையாளரின் கீழ் எல்லை

$C_3$  = குறைந்த நிகழ்வெண்

$f$  = நிகழ்வெண்

$\bar{x}$  = மதிப்பு அடைவையின் அகலம்

$$L_1 = 50.5 ; \frac{N}{4} = \frac{30}{4} = 7.5 ; Cf = 6$$

$$f = 10 ; \bar{x} = 10$$

$$Q_1 = 50.5 + \frac{(7.5 - 6)}{10} \times 10$$

$$= 50.5 + \left(\frac{1.5}{10}\right) \times 10$$

$$= 50.5 + 0.15 \times 10$$

$$= 50.5 + 1.5$$

$$Q_1 = 52$$

$$Q_D = \frac{Q_3 - Q_1}{2}$$

$$Q_3 = 74.25$$

$$Q_1 = 52$$

$$= \frac{74.25 - 52}{2}$$

$$= \frac{22.25}{2}$$

$$Q_D = 11.125$$

iii) திட்ட விலக்கம் ( $\sigma$ )

$$\sigma = \sqrt{\frac{\sum fd^2}{\sum f} - \left[\frac{\sum fd}{\sum f}\right]^2} \times i$$

$\sum fd^2$  = சதுரக்கம் மொத்த விலக்கல் பெருக்கல் அலைவெண்

$\sum fd$  = மொத்த விலக்கல் பெருக்கல் அலைவெண்

$\sum f$  = அலைவெண்

$i$  = இடைவெளி

$$\sum fd^2 = 83 ; \quad \sum fd = -10 ; \quad \sum f = 30 ; \quad i = 10$$

$$= \sqrt{\frac{83}{30} - \left[\frac{-10}{30}\right]^2} \times 10$$

$$= \sqrt{2.766 - \left[\frac{-1}{3}\right]^2} \times 10$$

$$= \sqrt{2.766 - \frac{1}{9}} \times 10$$

$$= \sqrt{2.766 - 0.11} \times 10$$

$$= \sqrt{2.655} \times 10$$

$$= 1.629 \times 10$$

$$\sigma = 16.29$$

உருப்படி பகுப்பாய்வு

S.NO	பெயர்	1	2	3	4	5	6	7	8	9	10
1.	மோன்கா-V	1	0	0	1	0	1	1	1	1	1
2.	சூவியமரியா.க	0	0	0	1	1	1	1	1	1	1
3.	சகீதா. M	1	1	0	1	0	1	1	0	1	0
4.	ஜனன். V	0	0	1	1	1	1	1	1	1	1
5.	மரியதரிஜன். N	0	0	0	1	0	1	1	0	1	1
6.	சுலாதி. D	0	1	1	1	0	1	1	1	1	0
7.	நயசகீதி. A	0	0	0	1	0	1	1	1	1	0
8.	தரிஜன். S	0	0	0	1	1	1	1	0	1	1
9.	ஊதிஜனா. S	0	0	1	1	1	1	1	1	0	0
10.	லாகண்டா. R	0	0	0	1	0	1	0	0	1	1
		2	2	3	10	4	10	9	6	9	6



S.NO	பெயர்	1	2	3	4	5	6	7	8	9	10
21.	செளந்தியா. N	0	0	0	1	0	0	1	1	1	1
22.	சாண்டியா. B	0	0	0	0	0	0	1	1	1	1
23.	லேனாந்தியா. S	1	0	0	1	0	1	0	1	1	0
24.	வித்யா. N	0	0	0	1	0	1	0	0	1	1
25.	விஷ்ணுபிரியா. S	1	0	0	1	1	0	0	0	1	0
26.	சுனிசுகமியா. S	1	0	1	0	1	1	0	0	1	0
27.	கோமகா. K	0	0	1	1	1	1	1	1	1	0
28.	சுஸ்மதி. Y	1	0	1	1	0	1	1	1	1	0
29.	மன்ஜா. A	0	0	0	1	1	1	0	0	1	0
30.	பாதித்யா. R	1	0	0	0	0	0	1	1	1	0
		5	0	3	7	4	6	5	6	10	3

## கடினத்தன்மை குறியீடு

$$N_H = N_L = 10$$

வினா எண்	$R_H$	$R_L$	$\frac{R_H + R_L}{N_H + N_L} \times 100$
1.	2	5	35
2.	2	0	10
3.	3	3	30
4.	10	7	85
5.	4	4	40
6.	10	6	80
7.	9	5	70
8.	6	6	60
9.	9	10	95
10.	6	3	45

$R_H$  = உயர் அடைவுக் குழுமம்

$R_L$  = கீழ் அடைவுக் குழுமம்

- i) 20% கீழ் இருந்தால் கடின வினா (1)
- ii) 20 - 80% க்குள் இருந்தால் நடுத்தரமான வினா (7)
- iii) 80% க்கு மேல் இருந்தால் ஈர்ய வினா (2)

# பரிசீலனை குறியீடு

$$N_H = 10$$

வரிசை எண்	$R_H$	$R_L$	$\frac{R_H - R_L}{N_H}$
1.	2	5	-0.3
2.	2	0	0.2
3.	3	3	0
4.	10	7	0.3
5 ✓	4	4	0
6 ✓	10	6	0.4
7.	9	5	0.4
8.	6	6	0
9.	9	10	-0.1
10.	6	3	0.3

i) 0.19 க்கு கீழ் இருந்தால் வினாளை நீக்க வேண்டும் (5)

ii) 0.20 - 0.29 க்குள் இருந்தால் வினாளை தடுத்த அமைக்கலாம் (1)

iii) 0.30 - 0.39 க்குள் இருந்தால் நல்ல வினா சிறப்பு

மாற்ற அமைக்கலாம் (2)

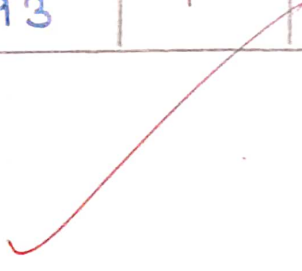
iv) 0.40 க்கு மேல் இருந்தால் நல்ல வினா (2)

വിവിധ പേജ് നമ്പർ കൂട്ടി ഉണ്ടാകുന്ന തുക

പേജ് നമ്പർ	പേജ് 1	$R_1$	പേജ് 2	$R_2$	$D = R_1 - R_2$	$D^2$
1.	67	11	69	10.5	0.5	0.25
2.	58	16.5	60	15	1.5	2.25
3.	76	7	74	8	-1	1
4.	33	30	36	30	0	0
5.	57	18.5	55	20	1.5	2.25
6.	44	26.5	43	27	1.5	2.25
7.	72	8.5	74	8	0.5	0.25
8.	87	4	85	4	0	0
9.	63	12	64	12.5	-0.5	0.25
10.	60	14.5	63	14	0.5	0.25
11.	68	10	69	10.5	0.5	0.25
12.	50	23.5	51	23.5	0	0
13.	35	29	37	29	0	0
14.	60	14.5	64	12.5	2	4
15.	72	8.5	74	8	0.5	0.25
16.	95	1	91	2	-1	1
17.	55	21	56	19	2	4
18.	83	5	83	5	0	0
19.	57	18.5	59	16.5	2	4

20.	42	2	87	3	-1	1
21.	50	23.5	52	22	0.5	0.25
22.	41	28	40	28	0	0
23.	47	25	46	26	-1	1
24.	52	22	54	21	1	1
25.	58	16.5	57	18	1.5	2.25
26.	61	13	59	16.5	2.5	5.0625
27.	79	6	78	6	0	0
28.	44	26.5	47	25	1.5	2.25
29.	56	20	51	23.5	3.5	12.25
30.	88	3	93	1	2	4

$\Sigma D^2 = 49.3125$



$$P = 1 - \frac{6 \sum D^2}{N(N^2 - 1)}$$

$\sum D^2$  = வகித்தியாசத்தின் கூடுதல்

$N$  = மொத்த மாணவர்களின் எண்ணிக்கை

$N = 30$

$\sum D^2 = 49.3125$

$$P = 1 - \frac{6 \times 49.3125}{30(30^2 - 1)}$$

$$= 1 - \frac{295.875}{30(900 - 1)}$$

$$= 1 - \frac{295.875}{30 \times 899}$$

$$= 1 - \frac{295.875}{26,970}$$

$$= 1 - 0.01097$$

$P = 0.989$

இரு பாலங்களுக்கும் ( $S_1$  &  $S_2$ ) இடையே மிக

குறைவான நேர்மறை சூட்டுறவு உள்ளது.

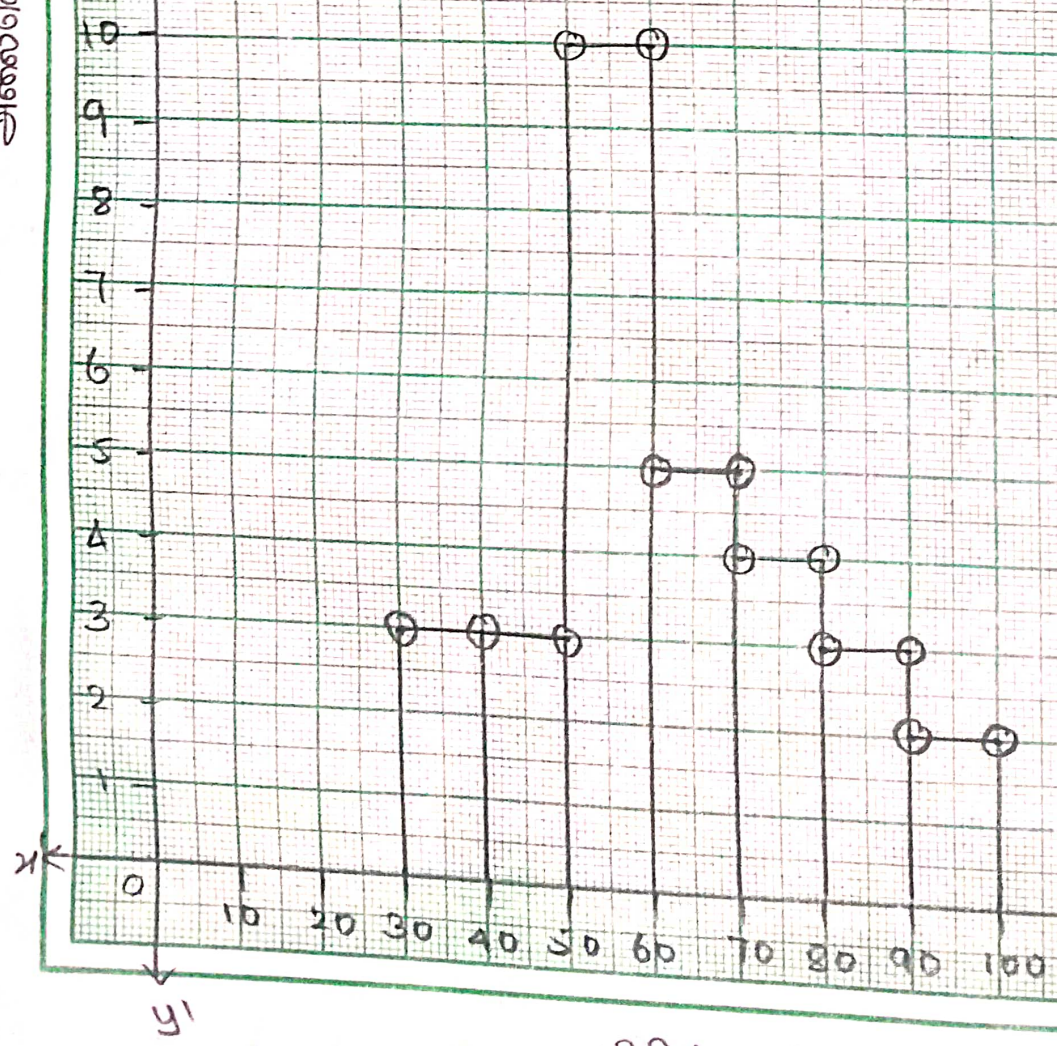
செலிவாக உரையிடும் மந்திரம் அலைவெண் உரைப்பு

அளவுகூதியிடும்

x அச்சு 1 செ.மீ = 10 அலகுகள்

y அச்சு 1 செ.மீ = 1 அலகு

அலைவெண்



செவ்வக வரையடம் மற்ரும் அலைவெண்

வளைவு

வரிசை எண்	பரிவு இடைவெண்	f
1.	31 - 40	3
2.	41 - 50	3
3.	51 - 60	10
4.	61 - 70	5
5.	71 - 80	4
6.	81 - 90	3
7.	91 - 100	2



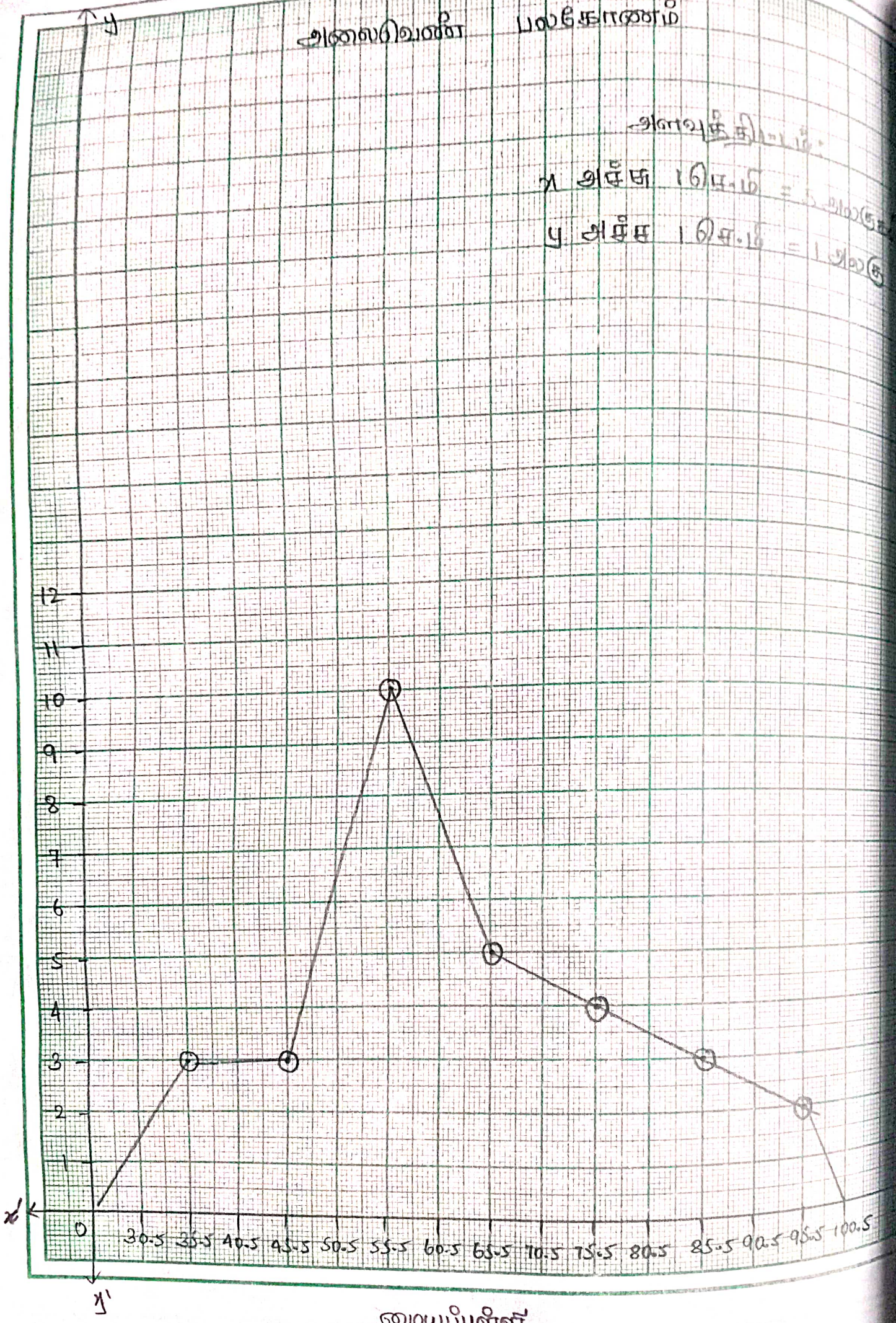
அலைவண்ண பலகாணம்

அளவுக்கூறுகள்:

x அச்சம் 1 செ.மீ = 5 அலைவண்ணம்

y அச்சம் 1 செ.மீ = 1 அலைவண்ணம்

அலைவண்ணம்



அலைவண்ணம்

## அலைவெண் பல கோணம்

வரிசை எண்	பரிசு கடைவெண்	நடுப்புள்ளி $x$	$f$
1.	31-40	35.5	3
2.	41-50	45.5	3
3.	51-60	55.5	10
4.	61-70	65.5	5
5.	71-80	75.5	4
6.	81-90	85.5	3
7.	91-100	95.5	2

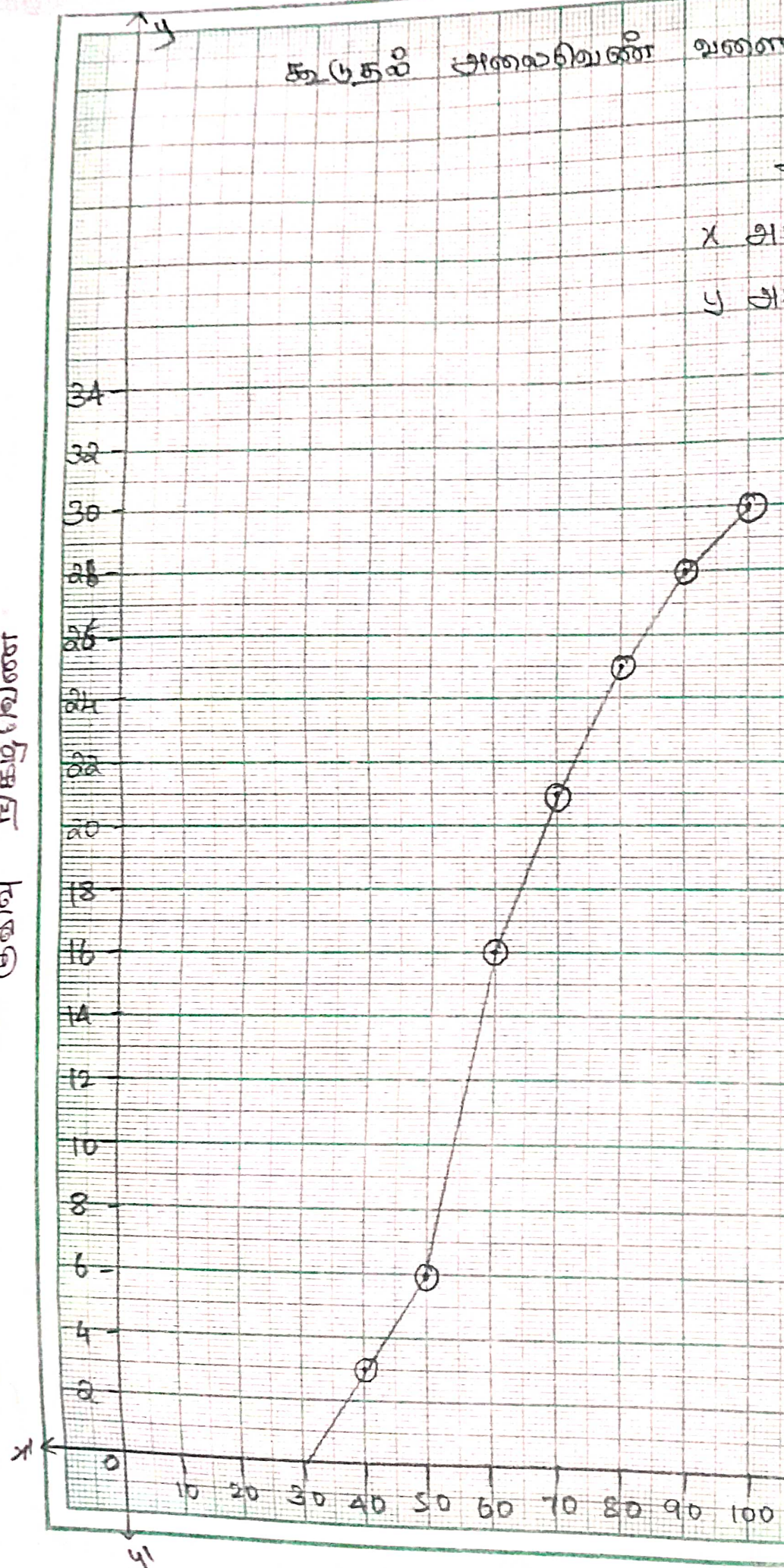
கூடுதல் அலைவெண் வளைவு

அளவுகூறியல்

X அச்ச 1 செ.மீ = 10 அலை

Y அச்ச 1 செ.மீ = 2 அலை

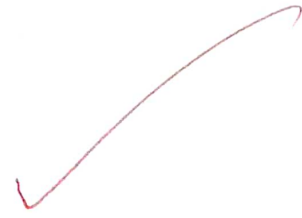
கூடுதல் அலைவெண்



மேல் எல்லை

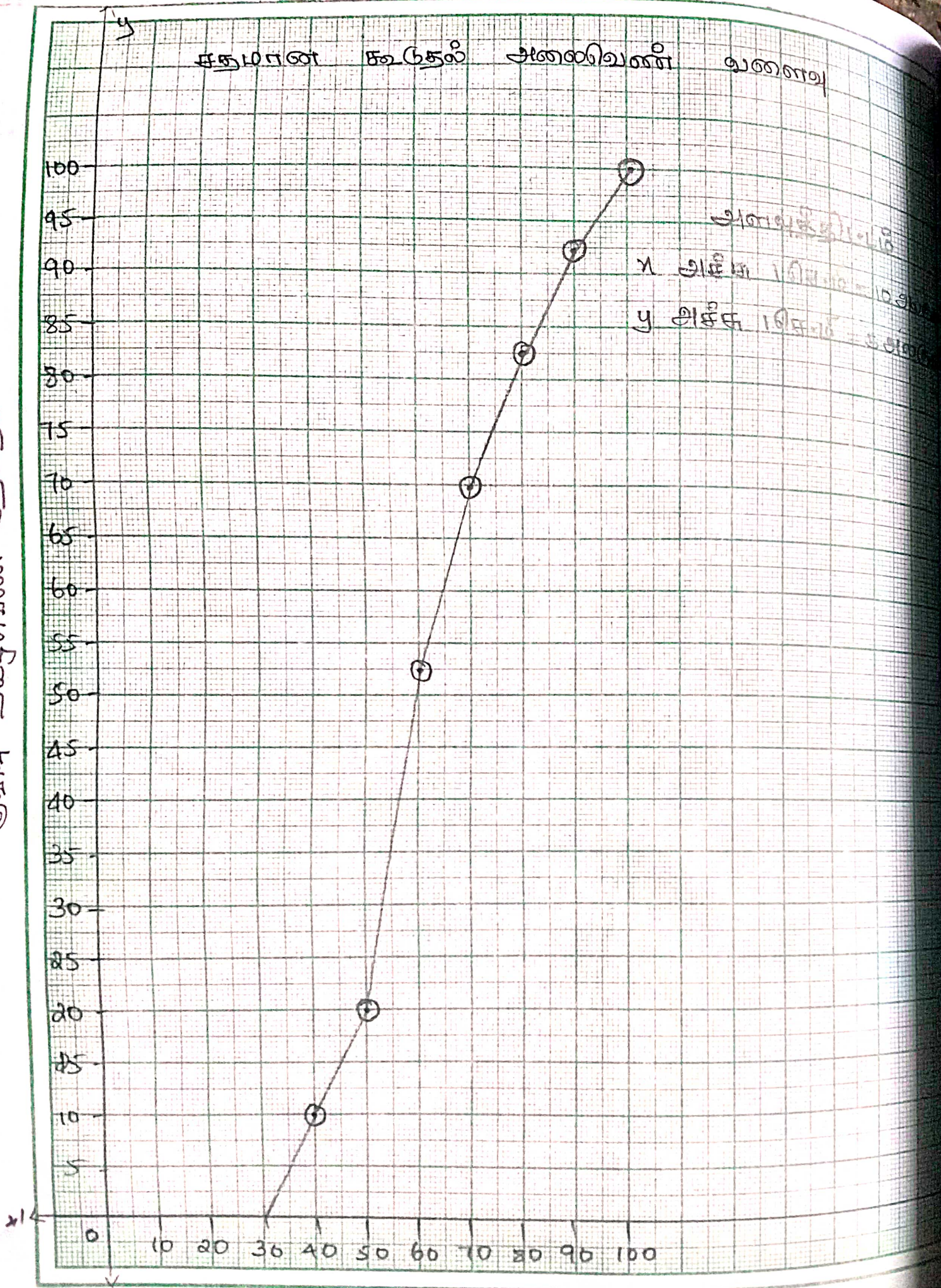
## கூடுதல் அலைவெண் உளைவு

வரிசை எண்	பரிமாறு இடைவெளி	f	cf	மொத்த நாபிகை
1.	31-40	3	3	40
2.	41-50	3	6	50
3.	51-60	10	16	60
4.	61-70	5	21	70
5.	71-80	4	25	80
6.	81-90	3	28	90
7.	91-100	2	30	100



கனவு நிகழ்வெண் சதவீதம்

சதமரண      கூடுதல்      அனலிவணி      வளைவு



அளவுகூறுகள்

$\gamma$  அளவுகூறு = 10  
 $\rho$  அளவுகூறு = 10

மேலி ராஜேசல

சதமான சூட்டுதல் அலைவெண் வளைவு

வரிசை எண்	பரிவு இடைவெண்	f	Cf	மீடல் எண்ணை	குறுகு நிகழ்வெண் சூதுவீதம்
1.	31-40	3	3	40	10
2.	41-50	3	6	50	20
3.	51-60	60	16	60	53
4.	61-70	5	21	70	70
5.	71-80	4	25	80	83
6.	81-90	3	28	90	93
7.	91-100	2	30	100	100

முடிவுரை

ஆசிரியர் என்பர் வாழ்நாள் முழுவதும் தொடர்ந்து கற்றுக்கொண்டே இருப்பவர் ஆவார். ஆசிரியர் அனைவருக்கும் புள்ளியியல் பற்றி கற்றுத்தந்தவராக இருக்க வேண்டும். கற்றல் முன்னேற்றத்தினையும், தங்களுடைய கற்பித்தல் முன்னேற்றத்தையும் அறிய உதவியாக உள்ளது. தினமும் வேலைகளில் ந.பெ.கீ.ப.ப.யவர்கள் கூட புள்ளியியல் கருத்துக்களை அறிந்து அதனை பயன்படுத்துகிறார்கள். எனவே, ஒரு சிறந்த ஆசிரியராக பணியாற்ற புள்ளியியல் கருத்துக்களை அறிந்திருப்பது அவசியமாகும்.

*R. Senthil*  
06/01/2023

**SRI SARADA COLLEGE OF EDUCATION**  
(AUTONOMOUS)  
SALEM - 636 016.



B.Ed., Course  
Module Preparation

*Bonafide Certificate*

Name of the Student Teacher : R. NIROSHINI

Register Number : 2021P32

Optional Subject : 1. Physical Science

2. Tamil

R. Niroshini  
Signature of the Student Teacher

K.P.M. [Signature]  
Signature of the Internal Examiner

[Signature]  
Signature of the External Examiner

Date : 18.05.2021

Station : Salem



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# MODULE PREPARATION

## INTRODUCTION:

What is instructional design? In short, instructional design is the process by which learning products and experiences are designed, developed and delivered. These learning products include online courses, instructional manuals, video tutorials, learning simulation etc. Instructional designers are the 'architects' of the learning experiences and the 'directors' of the instructional system design ISD process. The terms instructional design, instructional technology, learning experiences (Lx) design and instructional systems design (ISD), are sometimes used interchangeably. Below are the a few instructional design definitions from various sources.

## MODULE

In education, the term 'module' refers to an instructional unit that focuses on a

Particular topics. Although the details and activities vary according to the specific content, such as course and student level most educational modules include information about the topic, focus on student-centered learning activities and culminate in a project for students to demonstrate understanding.

### Examples and Rationale:

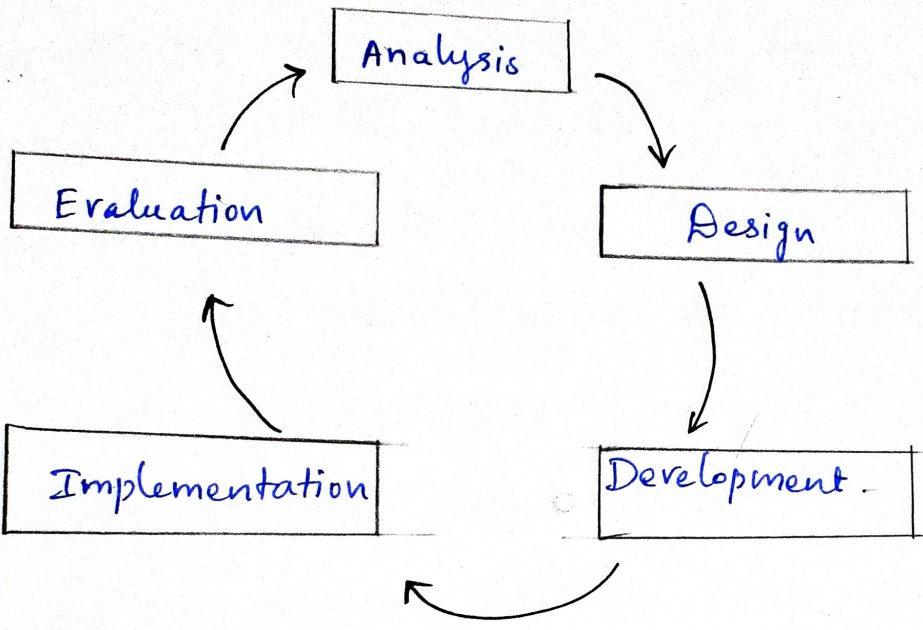
Modules generally begin with a research question to focus student thinking such as, "How do tornadoes form?" Students then gain basic information through reading or videos followed by exploration activities, such as using a tornado chamber. Modules may involve the study of any topic, such as computer animations, then engineering concepts, general electronic and global warming. Since modules are active rather than provide learning experiences students may be

more engaged, understand real-world application of the concepts and further develop higher-order cognitive abilities.

Getting to Know ADDIE:

In a nutshell, ADDIE is an acronym where every letter corresponds to one of the model's main phases: analysis, Design, Development, Implementation and the Evaluation. The ADDIE methodology was developed in Florida State University's Center of Educational Technology back in the seventies. Initially, the model was meant to be used in the US armed forces, a fact to which it owes its streamlined process and clear delineation of phases. Despite being nearly forty years old, the methodology has not fallen out of use, indeed methodology to this day.

ADDIE:



## ANALYSIS PHASE:

In the Analysis phase, instructional Problem should be clarified and the instructional objectives should be established. During this phase, the learning environment and learners existing knowledge and skills should be identified. During their phase, the instructional designer should frame the problem, gather data, determine needed resources, drafts a timeline. The following questions should be addressed during this phase.

who is the audience and what are their characteristics?

what are the new behavioural outcome?

what learning constraints exist?

what delivery options exist?

what is the timeline for the project completion?

## DESIGN PHASE:

The design phase includes learning objectives, assessments, exercises, content, subject matter analysis, lesson planning and media selection.

It is important that the design phase is systematic and specific. Systematic means that the material is logically identified, developed, and evaluated to achieve the project's goals. Specific means that all instructional elements needs are enumerated with alteration to details.

The following steps should be done during this phase: documentation and application of the project, design strategy learned on intended outcomes, design of the user interface and user experience. Action of the lessons prototype and application of graphic design principle.



## DEVELOPMENT PHASE:

In the development stage, the developer's put together everything that they created in the design phase. Also in this phase, programmers develop the final product. Then the designers review and revise the project according to the feedback they receive from the client.

The following questions are answered during this phase:

were the analysis for the project done correctly?  
were the instructional objectives appropriate for the learning needs of the participants?

to what extent are the user instructional strategies used in the lesson successful?

It is possible to accurately assess learning with this lesson?

## IMPLEMENTATION PHASE:

Implementation is the actual presentation of the courses or learning materials to the

learners. This is also the phase where the person responsible for the course or the manager ensures that all the materials are in place, and that the learning application is functional.

EVALUATION PHASE:

\* The evaluation phase typically has two parts: formative and summative. Formative evaluation should be part of each stage of the ADDIE process. Summative evaluation consists of tests designed specifically for the content, and the feedback received from the end user.

\* In the first phase, analysis, the problem is defined, the learning goals are established, and the learners' pre-existing skills are identified.

\* The design phase deals with learning objectives, assessment, instruments, exercises, content, subject matter analysis, lesson planning and media selection. Essentially this is the strategy phase.

(7)

\* In the design phase, graphics, are chosen, storyboards are created, the design phase, graphics are chosen, the delivery method is decided and the whole process is outlined.

\* The development phase is where the course is actually created from the storyboards and media assembled in the design phase. The course is then tested and debugged if necessary, reviewed and revised.

\* The implementation phase is where learners begin taking the training.

\* The evaluation phase is just that, evaluating the course, the learning objectives, whether those objectives are being met or whether the course needs the additional revisions and additions for greater clarity.

(14)

## PHASES IN MODULE PREPARATION:

- \* Objectives
- \* specific needs
- \* Materials / Tools and methods.
- \* Activities / Research Action.
- \* Length of Analysis.
- \* Expected outcomes
- \* Benefits and utility of Analysis
- \* Assessment / Evaluation
- \* Follow - up activities.

**LEVEL - 1**

STANDARD - IX

Periodic classification of Elements.

In this lesson periodic classification of Elements is the method of classification of different elements in different groups on the basis of their Properties is known as Periodic classification. In this lesson clearly explain the elements and their arrangements. The elements are arranged in groups and Periods in the periodic table. The elements are grouped on the basis of their characteristic. It explains the postulates, advantages and limitations of modern periodic table. In this lesson also explain the metals and non-metals, metalloids and alloys.

Objectives:

\* To help the students will be able to know the concept of classification of elements in early days.

\* Its helps to understand the classification of elements based on the electronic configuration.

\* To guide them to early understand the concept of classification of elements, and metals and non-metals.

Specific need:

There is a specific need to learn about the periodic table elements. To learn what is elements atomic number, and their properties. To knowledge the students about periodic table elements to be used in their higher classes.

Method:

The teacher shows the one element and the student who chosen that element should come front and describe that elements and their properties. As they learn all elements in periodic table. The learning through experience and understanding by their own will be easily understood and be in memory for a





Long Period of time.

Materials / Tools:

- 1. Picture of Periodic table elements.
- 2. charts.

Activities : Grab & speak

The teacher asked each student to choose the element from the periodic table, then the teacher asked the student to imagine themselves as an element which they choose from the periodic table. The students have to consider themselves as an element and describe about the element which they choose.

Research sites :

$\bar{x}$  - standard.

Length of analysis:

45 minutes.

Expected outcome:

The student can be able to know the periodic table elements and their properties, thoroughly with proper explanations. Students can improve their skill of Inquiry.

Benefits of utility of Analysis:

This activity helps the students to come out of their fear and to develop self-confidence by speaking in front of all students. It also helps the students to learn or understand the content easily and thoroughly. The content is understood by their own will be easily understood and be in memory for a long period of time.

Assessment / Evaluation:

- Clear Explanation
- Delivery of the full content.
- Correct Pronunciation of elements.

Follow up activities:

Choose other element in periodic table, which did not chosen before and understand the elements nature and their properties. This will helps to recall the other elements too.

**LEVEL-2**

உதய : 111

தலைக்குள் யர் உலகம்

உலகத்திலேயே மிகமிக உயல்பாணசு ஸந்த னோன.  
 அதன் லசுயல்பாடுகள் உலகத்தையாணசை மட்டுமல்ல, புகிராணசை  
 மட்டுமல்ல வேறுதலும், அந்நிலையாணசர்க்கும் கிள்ளைத்  
 தோலர்ந்த அந்நிலையர்ந்த தோலர்ந்தகிள்ளைகள். கிந்த  
 மறுபக்கத்திலேயே மிகவும் அடர்த்தியான சிக்கலான யுடு  
 மானும் சகலவண்ணம் அது ஸந்த னோன தான் எனின்  
 லசுயல்கிள்ளைகள். அதுவுள் கிண்கும் லசுயல்கள் எனின்  
 மல்லயன். அதுவுள் நூறு மல்லயன் அதுவுள் பத்தாயிரம்  
 கோடி நியுராணிகள் உள்ளன.

நோக்கங்கள் :

- \* னோயன் அமைப்பாண பற்றி அந்நிலை தோலர்ந்தது.
- \* னோயன் பண்புகளை தோலர்ந்த தோலர்ந்தது.
- \* னோயும் உள் மிகக்கும் பற்றி புரிந்த தோலர்ந்தது.
- \* னோயன் உணர்வுகள் மற்ரும் நினைவாற்றல் பற்றி அந்நிலை தோலர்ந்தது.

திரும்பட்ட தேவைகள் :

அன்றாட வாழ்க்கையின் வேளையில் பயன்பட  
இன்றியமையாதது சீதும். அத்தகைய வேளையில்  
செயல்பாடுகள் மற்றும் சிவ செயல்பாடு அதிகத்தினை  
தரவேண்டி அறிந்து கொள்ளுதல். நாம், உலகம் நிறைய  
பாசங்களும் நம் உருவப்படி செயல்படுத்துகிறோம்.  
தினமாய்வாய்வே வேலைக்குவருந்து சிவனை அங்கு செயல்படும்  
செய்கைகள். இவ்வாறு அன்றாட வாழ்வின் பயன்பாடு  
பாசமான வேளையான பற்றி தன்அறிவு அறிந்துகொள்ளுதல்

பொருட்கள் / கருவிகள் மற்றும் வேலைகள் :

- \* கண்ணி
- \* வேளையில் உரையல்
- \* நாணயம்.

செயல்பாடுகள் / செயல் ஆராய்ச்சிகள் : மாடு - கெழ - கன்று

சிவிரயன் வேளையில் அமைப்பான மாணவர்களுக்கு  
அன்புடன் உபதானமான காரணங்கள் அளிக்கிறார்.  
அத்தகைய உபதானமாக, வேலை தரவே தனினை பற்றி  
கூறும் உதவாக அமைந்திருப்பதாகும்.

அதில் நோயும் அதன் உடிகாட்டலாம் உன்  
 தியக்கம் நோயும் அதன் தன்வாக அமைந்திருக்கிறது.  
 மேலும் நோயும் அதன் உணர்வுகளும், நுண்ணுயிர்களும்  
 மற்றும் நோயின் தன்வாக அமைந்திருக்கிறது.  
 தினந்தரம். ஆகியவற்றின் அந்த உயிர்வாழ்வு மானவர்களுக்கு  
 பரிசும் உண்டாகும். உயிர்வாழ்வு மானவர்களுக்கு, ஆகியவற்றின்  
 மானவர்களுக்கு ஒரு குடிக்கலாக மார்க்கிதரம். மன  
 ஆகியவற்றின் ஒரு நுண்ணுயிர் சிண்பி அருகிலும். நுண்ணுயிர்  
 தன்வாக அமைந்தவர்களுக்கு ஒரு நுண்ணுயிர் பற்றி  
 ஒரு தகவலையும், நுண்ணுயிர் பற்றி அமைந்தவர்களுக்கு  
 ஒரு நுண்ணுயிர் பற்றி ஒரு தகவலையும் கூற வேண்டும்.

அடுத்தடுத்தவர்களுக்கு காலம்:

45 நிமிடங்கள்.

அறிவுபெறக்கூடிய உணவுகள்:

- \* தினந்தரம் பற்றியவர்களுக்கு மானவர்களுக்கு அறிவுபெற்றவர்கள்  
மற்றும் கவனிக்கவும் தினந்தரம் மானவர்களுக்கு.
- \* மானவர்களுக்கு கற்றல் அறிவுபெற்றவர்கள் அறிவுபெற்றவர்கள்.

\* மானாசங்கன்னி சீவ கர்மம் பற்றும் சீவ சிந்தனைகளை உணர்ச்சியுற செய்கிறது.

வினாக்கள்:

I. சீவான உடையை தேர்ந்தெடுக்க :

1. நேமை ——— திருந்து நனைக்கிறது.

- அ) சூடுகத்தணியம்      ஆ) உயர்ந்தம்
- ஆ) நரம்பன்              எ.) துண்டன்

2. நேமையை ——— பாகங்களாக பிரிக்கின்றனர்.

- ஆ) மூன்று              ஆ) கிழங்கு
- ஆ) நான்கு              எ.) நான்கு

3. நேமையின் அமைப்பைக் கூறுக?

4. நேமையின் உணவு யாது?

5. நேமையும் உள் உயக்கீழும் உயர்வு?

தொடர்புள்ள செயல்கள்:

நேமையின் உயர்வு, உட்கு செயல்களை பற்றி

அறிந்து கொண்டு உருக.

உள்ளே, நடுவே, பின்னே சிக்கிய பற்றி

தொடுக்க அதனை எடுக்க உருக.



Conclusion :

Thus, the teaching module will help the teachers to analyse the effectiveness of his/her teaching by making / creating some activities, in the classroom itself. It also enriches the students' performance inside the class and to create an interesting atmosphere in the students' learning process. Thus, the teacher of any subject should prepare a teaching module before taking the class.

L. P. M. J. W.



# SRI SARADA COLLEGE OF EDUCATION

(AUTONOMOUS), SALEM - 636 016.

(AFFILIATED TO TAMILNADU TEACHERS EDUCATION UNIVERSITY, CHENNAI)

RE-ACCREDITED BY NAAC WITH "A" GRADE (III Cycle)



**B.Ed. Course**  
**Website Analysis**

Name : M-FATHIMA BEE

Reg. No. : 2021P30

Optional : PHYSICAL SCIENCE

# SRI SARADA COLLEGE OF EDUCATION

(AUTONOMOUS)

SALEM - 636 016.



**B.Ed., Course**  
**Website Analysis**

## Bonafide Certificate

Name of the Student Teacher : M. FATHIMA BEE

Register Number : 2021P30

Optional Subject : 1 PHYSICAL SCIENCE

2 ENGLISH

*M. Fathimabee*

Signature of the Student Teacher

*Dr. P. N. N. N.*

Signature of the Internal Examiner

*Dr. P. N. N. N.*

Signature of the External Examiner

Date : 18.05.2022,

Station : SALEM.

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WEBSITE

ANALYSIS

(3)

# WEBSITE ANALYSIS

## INTRODUCTION:

The capacity to critically analyse information is central within the research process of locating resources for academic purpose. Apart from being able to assess the relevance, accuracy and sustainability of information to your particular purpose. Using poor quality information to your sources of worse still. Citing misinformation will degrade the quality our work. While evaluation of information sources has always been important. This step is particularly important when using information found on internet.

## Need to Analyse:

There is no central governing body for internet publishing. There is no system of quality control; there is no editors and documents can be easily falsified and can be copied. This is the fundamental nature of the World wide web is that it provides means for people to express themselves; It allows for



freedom of speeches and ideas, and allows people to meet. As long as the web retain these qualities of freedom, it will also remain unmonitored and unregulated. This, therefore leaves a large responsibility on us, the user to careful and critically evaluate the website we use as information sources

### Internet:

The Internet is an International network of computers linked to exchange information. The word is a contraction of "International" and "Network". Every computer that people use, gets registered and people have to pay to get an address for that computers, called a Uniform Resource Locator - URL.

### Search Engines:

Search Engines are World wide Web sites that use computers to catalogue millions of webpages, which one can use to search for specific text. Most people tend to use their favourite "engine". So of the most popular are Google, Ask, Alta, Excite, Yahoo, Hot, Bot and Ail.

## Google:

Google is the 'Big Daddy' of all search engines. It is a metasearch engine that conducts the search across many different search engines at one. It delivers results that pay attention to the proximity of the search terms you enter. Google also ranks its results based on the amount of "hits" (and links from other sites) per URL.

You can also go to Google and type in new search engines and get a list of what's new out there in "air" land.

## Search Tips:

If we are using a search engine and are either getting too much or too little, here are some search tips. Be as specific as possible; check our spelling change pluralisation (or) possible; check quotes or "put a phrase" in "quotes". Searching with a broad key word like "Algebra" will return a number of irrelevant results. Narrow the keyword such as "Algebraic identity" or "Quadratic Equations". This will result in more specific information.

## How to analyse a Website:

Although many people evaluate websites (particularly commercial sites) based purely on their look and feel, for academic purposes it is far more important to evaluate the content of the site. Don't be put off a site because it is unattractive, much of the quality information resides on sites that are unadorned by flashy graphics and images. On the flip side of the coin, many sites that look great have little real substance. If you are citing information for assessment purposes, the reader (or the marker) will be unimpressed by the attractiveness of your sources, more that you have been able to verify the accuracy and objectivity of the content it contains when using a website for research purposes, in the first instance look for sites that contains at least the author's name, title or position, organisational affiliation contact details and the date of creation. Sometimes you will be tipped off by the general tone or style of a site, or the apparent competence of the writer. However, some authors go to great lengths

to disguise the main objectives of a site and you will need to look much harder and further for clues about the overall integrity and accuracy of the information provided. You should then go on to test for some further indications of quality in the area of credibility, accuracy, objectivity and support as outlined below.

### Credibility:

Before acting on or making any decision based on information, most people take into account the credibility of the sources. Assessing the credibility of a page involves working out who is responsible for the information, if they are who they say they are and whether or not they are a qualified authority. Regardless of how a professional a site looks, we must investigate its credibility if we want to use the information contained on the site.

### Author Details:

If we find information on a website we wish to use or quote we must first attempt to find the authors (or) the authority institutions details.

\* Look for the author's name and / or email address on the webpage [try the top and bottom of the page, side bars, menu bars or About us sections].

\* Is the author qualified in the field?

\* Are they a reliable authority on the subject?

\* Does the authoring organisation or person match the URL.

### Uniqueness:

Uniqueness refers to the amount of original material on a site that cannot be obtained elsewhere. If we have spent any time searching the web, we will know that we often end up at the same site, or else different sites containing the same or very similar information and links. When evaluating a site, be clear about whether the information contained is primary or secondary information, primary information is original material produced by owners of the site with mainly internal links. i.e links to other parts of the site on the same server secondary information is very common on the web and is typified

by lists of links to other sites on the same server. Secondary information is very common on the web and is typified by lists of links to other sites.

Completeness:

A clue is the credibility of a site is its completeness. This can be due to the site being unfinished and still a work in progress or because it is only meant to serve as a taster to material that can be accessed or purchased elsewhere.

- \* check that there are no dead links
- \* Are all links like [not greyed out]
- \* There should be no 'under construction signs'
- \* Does the site include all the necessary information or just an abstract, table of contents or reviews?

Audience:

This area will be touched on again under objectivity, but it also applied in this, the area of website credibility. Before using information from a website, do take into account the intended audience. For example,

a site about volcanoes for primary school children will probably not provided the depth or complexity of information necessary for a university Geology paper.

Accuracy:

Once you have checked the overall credibility of a website, you should move on to Evaluate the accuracy of the information presented information from even the most respected source is useless if its wrong or out dated.

Currency of Information:

Some Information is timeless. It remains statics regardless of how long ago it was Published. This applies to works which as reveals. However, much information today has a very limited shelf life technology, news dates extremely quickly. Advances in medical research makes things of fantasy ten years ago a reality today. Websites that contains information such as news, weather, timetables, prices, statistics or latest research obviously need to be updated

on a regular basis or they may provide misinformation. This is not to say that all older information is useless. Information written sometime ago can be useful for comparing current information with [example: The growth in a population or comparisons between treatment or disease]. But it must always be obvious how old information is:

- \* Look for the date of creation on any information you wish to use.
- \* Check for the date of last update.
- \* Check for statements regarding the frequency of updates.
- \* Be sure as to whether you are viewing current or archived information.

### Typographical Errors / Spelling Mistakes:

In addition to lowering the tone and taking away from the overall integrity of a site, typographical spelling and grammatical errors can affect the accuracy of the information provided. Be away of a site that includes many of these errors as it is difficult to tell whether the errors are due to carelessness or an intent



to mislead.

Factual:

Look for supporting evidence of information supplied in the way of references or bibliographies while some sites claim to be presenting the fact further investigation may reveal they are presenting either a biased view or completely inaccurate information. This point will be elaborated on in the objectivity section.

Objectivity:

Objectivity refers to how balanced and fair the information is while it should obviously be truthful, the information presented should be balanced, cover all sides of the story and should be presented without bias to help gauge the objectivity of a site, you should first ascertain the original goal of the site and whether there has been only sponsorship associated with the information

The greatest danger to the objectivity of a site is a conflict of interest. For example, an article on the dangers of babies drinking soy milk that is sponsored by the dairy association

Information and activity...  
different types of...  
to recognise any...  
site

Support refers to how well the information  
can be verified and corroborated.  
If we have any questions about  
a site or the information presented,  
it offered should assist us in resolving  
grey areas. Information should be  
supported by references and/or other sources.  
is especially important in other circumstances.  
If we are unable to find any references  
that corroborate the information  
presented be wary. We should not seek to  
circumvent the information and our references  
that support the information.  
look for:

- References and Bibliographies
- Supporting documents and/or links
- Contact follow up details supplied

The information and activity earlier in this topic about different types of websites should help you to recognise any conflict of interest on a website.

### Support:

Support refers to how well the information presented can be verified and corroborated if necessary. If we have any questions (or) reservation about a site or the information presented, the support offered should assist us in clarifying any grey areas. Information should be supported by references and/or bibliographies. This is especially important when presenting statistics. If we are unable to find any other sources that corroborates the information presented be wary. We should be able to triangulate the information. [Find two other sources that support the information.]

Look for:

- \* References and Bibliographies.
- \* Supporting documents and/or links
- \* Contact follow up details supplied.

LEVEL-I

# IDENTIFICATION AND CATALOGUING WEBSITE -I

- URL of website : <https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/archive/2014-2015/smart-phones.html>
- Title of Article/ Work : Smartphones : Smart Chemistry - American chemical society .
- Author/Last Name : Rodrig
- Author/First Name : Brian
- Author Address : Columbus, Ohio
- Editor : NIL
- Publisher Information : ACS - Chemistry for Life
- Date of Publication : April / May 2015
- Date of Access : NIL
- Font size of website : Legible , Normal
- Pictures : Pictures of Smartphone (1)  
Chemical structures (3) Figures (2)
- Videos / Animations : NIL
- Background Colour : Black and white
- Font Colour : Blue, Black and Brown .
- External links (any) : 3
- References (if any) : 2

ChemMatters

## Smartphones: Smart Chemistry

• [Menu](#)

- [Teacher's Guide](#)
- [How to Use CM](#)
- [Issues](#)
- [Videos](#)
- [Articles by Topic](#)
- [Subscribe](#)



[Teacher's Guide](#)

[How to Use](#)

[Issues](#)

[Videos](#)

[Search by Concept](#)

[Subscribe](#)

[Facebook](#) [LinkedIn](#) [Twitter](#) [Pinterest](#) [Email](#)

April/May 2015  
By Brian Rohrig



[Download PDF](#)

Language and vocabulary : It is simple and understandable.

Exercise Details : Not available

Level of Subject Matter : Graduate level

Subject Matter of the Site : <sup>Very</sup> Informative

Overall vision:

The site is very attractive to its intended audience. The title of the site is indicating the content. The use of the texts and the chemical structures comparing the silicon dioxide and figures which is used to explain the smartphone displays is more appropriate. The use of text and figure is appropriate for the level of understanding of the audience. The Printable version of the complete text page is offered. We can scroll down the page available easily and it also offers a pdf to be downloaded to read the article. This site develops a great understanding about the chemistry of the smartphones.

## IDENTIFICATION AND CATALOGUING WEBSITE - II

URL of the website : <https://www.interviewgig.com/smartphone-smartchemistry-chemical-elements-of-smartphone/>  
 Title of the Article : Smartphone - smart chemistry: Chemical Elements of Smartphone  
 /work :  
 Author (Last Name) : NIL  
 Author (First Name) : VINEETHA  
 Author Address : NIL  
 Editor : NIL  
 Publisher Information : INTERVIEW GIG  
 Date of Publication : 25 Dec  
 Date of Access : NIL  
 Font size of website : Legible, Understandable  
 Pictures : 1  
 Video/animations : NIL  
 Background colour : Black and white  
 Font colour : Black and orange  
 External links / if any : NIL  
 References if any : NIL



# SMARTPHONE -SMART CHEMISTR Y: CHEMICAL ELEMENTS OF SMAR TPHONE

HOME > ALL ARTICLES > SMARTPHONE -SMART CHEMISTRY: CHEMICAL ELEMENTS OF SMARTPHONE



25 Dec Smartphone -Smart Chemistry: Chemical Elements of Smartph one

Admin | chemical, Chemical Elements of Smartphone, Smartphone -Smart Chemistry: Chemical Elements of Smartphone, Technology | All Articles: Technology | 0

## Smartphone -Smart chemistry: Chemical Elements of Smartphone



Could you imagine a day without your smart phone, not only it but it is making the users also smarter day by day. Amazing you can surf the internet ,listen to music and text your friends with something that fits in the palm of your hands .None of the things would be possible without chemistry and every time you use your smartphone you are putting chemistry into action.

Smart Chemical Elements to Smart Chemistry

- If you are wondering what chemistry has to do with smart phones just look at the periodic table of the 83 stable elements, at least 70of them can be found in smart phones.

- An average smart phone contains up to 62 different types of metal.

- Single I-phone contains 8 different rare earth metals.

- Phone cannot vibrate without neodymium and dysprosium.

- Rare earth metals are used in electronic

Million: product amaz



> Shop N

ALL CATEGORIES

- Administrator
- Adobe Topics
- All Articles
- Apache: Products
- Banking Topics
- Big Data Analytics
- Business and Project Topics
- Business Intelligence
- C
- Cloud Computing
- Database and SQL Topics
- DevOps Tools
- Digital Marketing
- Education

Language and vocabulary: Simple and understandable by readers

Exercise Details : NIL

Level of Subject Matter : XI Standard

Subject Matter of the Site : Informative, Author Introduction

### Overall Mission & Vision:

The language is simple and the article commences about the smart chemical elements present in the smartphone. The Smartphone display, the hands behind a touch screen. The chemical elements used in the screen, battery, electronics and casings are all explained legibly and pointwise. The text on the site is easily readable. The Background is white and black fonts and Co-ordinates the text colour. Site offers new materials on the subject which is to be learnt by every learner. Each and every element used in the smartphones is explained and concluded.

## Criteria for comparative evaluation of the websites

Title of the Website	Smartphones: Smart Chemistry / American Chemical Society	Smartphones: Smart Chemistry / Chemical Elements of Smartphone Interview Gig
Address on URL	<a href="https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/past-issues/archive-2014-2015-smartphones.html">https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/past-issues/archive-2014-2015-smartphones.html</a>	<a href="https://www.interviewgig.com/smartphone-smart-chemistry-chemical-elements-of-smartphone/">https://www.interviewgig.com/smartphone-smart-chemistry-chemical-elements-of-smartphone/</a>
Date Visited	16.05.2022	16.05.2022
Design	<p>The webpage width can be seen on the current screen on the monitor</p> <p>The site's general appearance is attractive and intended</p>	<p>Entire page width can be seen on the screen of the monitor</p> <p>The text on the screen is easily readable</p>

to the audience  
Industry shaped  
monitor

Background is  
co-ordinated with  
text colours.

The chemical structure  
and the figures  
explaining the working  
of a smartphone  
succices the article

The webpage is  
too long.

The graphics is  
easily readable.

The site scrolls with  
advertisements.

The use of text and  
structures, figures is  
appropriate to the  
level of understanding  
of the targeted audience

The text style is  
suitable for the  
school students  
as it is listed out  
as points

Content

It is useful for the teachers, college students and high school students.

It gives simple and reliable notes for the content.

Information is presented in a wider sense, so briefly.

The information is useful and accurate.

The title of the site is indicative for its content.

The title of the site is indicative for its content.

Can see meaningful information within few seconds.

A printable handout version for school students.

Structures and pictures are used.

A picture is used.

Technology

Technology

Printable version the text is available as a pdf.

Can see reliable information within minutes.

All quicklinks, links works, pictures, references are downloaded quickly

Every link works picture is rapidly downloadable.

Credibility

The author's institution is given. links are current.

Only Author is just mentioned

The author of the site is given.

The author of the site is given, no further details

The site is being updated. Other related article is given

Other related articles are also given. other Posts are also available.

## Pedagogy

The site develops creative thinking

The site is very attractive process. It encourages the learners.

The site encourages higher order thinking.

The site helps to learn the new words.

Site creates the higher order thinking.

The site has references for other posts.

Site encourages to learn new information.

The site provides a plenty of new information.

RUBRICS FOR EVALUATING WEBSITES

Title of websites	Smartphones: Smart chemistry	Smartphones: Smart chemistry - Chemical elements of Smartphones																								
Address on URI	<a href="https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/pastissues/archive-2014-2015/smartphones.html">https://www.acs.org/content/acs/en/education/resources/highschool/chemmatters/pastissues/archive-2014-2015/smartphones.html</a>	<a href="https://www.intervue.com/smartphone-chemistry-chemical-elements-of-smartphones">https://www.intervue.com/smartphone-chemistry-chemical-elements-of-smartphones</a>																								
Criteria for Evaluation Activity / Credibility 1 Author's name is given 2 The author's organisation or institution is given	<table border="1"> <thead> <tr> <th colspan="3">Rating</th> </tr> <tr> <th>Not so good 1</th> <th>okay 2</th> <th>Good 3</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>✓</td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> </tbody> </table>	Rating			Not so good 1	okay 2	Good 3			✓			✓	<table border="1"> <thead> <tr> <th colspan="3">Rating</th> </tr> <tr> <th>Not so good 1</th> <th>okay 2</th> <th>Good 3</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>✓</td> <td></td> <td></td> </tr> </tbody> </table>	Rating			Not so good 1	okay 2	Good 3			✓	✓		
Rating																										
Not so good 1	okay 2	Good 3																								
		✓																								
		✓																								
Rating																										
Not so good 1	okay 2	Good 3																								
		✓																								
✓																										



3. The author's qualification and experience are given

4. The author's contact information is given.

Accuracy/Awareness

5. The data that the webpage was last update is given.

6. The information is up to date.

7. The information is complete.

8. There are no spelling mistakes or errors

9. Bibliographies or references are given

Bias/objectivity

10. Statement of purpose / scope

11. Site avoids social bias (gender, racial, religious etc...).

12. Information presented or factual and primary in again.

13. Site enrich and expands users imagination.

14. The information presented free on advertising



16. site offers a new/harmful subject area.

17. Information is useful.

18. Additional resources are included.

19. Site integrates several content area, design/technology.

20. The pictures are relevant and clear

21. The pages are easy to move around.



22. All of the links work.

23. The pages load quickly

24. Text is easy to read.

25. Designs are appropriate

Total score

Rating based on Total Score



45

62



LEVEL-III

IDENTIFICATION AND CATALOGUING WEBSITE - I

URL of the website } : <https://www.theindiaforum.in/amp/article/life/art-ms-subbulakshmi>.

Title of the Article/ work : The Life and Art of M. S. Subbulakshmi.

Author [First Name] : Arvind

Author [Last Name] : Subramanian

Editor : The India Forum

Publisher Information : The India Forum

Date of Publication : March 02, 2021

Date of Access : 16.05.2022

Font size of the website : legible.

Pictures : 2

Video / Animations : NIL

Background colour : Light Blue

Font colour : Black and red



## The Life and Art of M.S. Subbulakshmi

*A new biography gives us a sense of the many personalities that made up “MS”, the extraordinary exponent of Carnatic music, during her life-journey.*

Keshav Desiraju: *Gifted Voice: The Life and Art of M.S. Subbulakshmi*, HarperCollins, 2021



ARVIND SUBRAMANIAN

MARCH 02, 2021

Dawn breaks and south India wakes to the celestial voice of Madurai Shanmukkavadivu Subbulakshmi, “MS” to the world. Roused from their slumber too are the various gods and goddesses of the Hindu pantheon as MS sings -chants the *Venkateshwara Suprabhatam* or *Vishnu Sahasnamam* or *Bhaja Govindam*. This has been true for several decades now, and TikTok, YouTube and their mutating successors notwithstanding, it will probably be true for the next several decades as well. Even in this globalized world, the staggering cultural phenomenon that is MS, is insufficiently recognized beyond India’s borders. Why blame the world, it is inadequately appreciated even within India, north of the Vindhyas?

Keshav Desiraju’s superb new biography of the incomparable MS is therefore an overdue call to India and the world to take notice. *Gifted Voice* succeeds at many

External links [if any]: NIL

References [if any] : 3

Language and vocabulary : Simple & Contemporary

Excercise Details : NIL

Level of the Subject : Class IX  
Matter

Subject Matter of the Site: For Students, Musicians  
Informative broader,  
Author Introduction.

Overall Vision:

The site is pleasing to its intended audience. The title of the site is indicating the content. The author has compiled the life biography of M.S. Subulakshmi from various books on the biography of this great legend and has quoted the essence of her biography and compiled it as a single treasure of article.

It will be highly useful for the students which is related to their activity of Unit-6 in class 9 textbook. The website is damn simple and comes up with new sanskrit words.



IDENTIFICATION AND CATALOGUING WEBSITE-II

URL of the website : <https://www.culturalindia.net/indian-music/classical-singers/m-s-subbulakshmi.html>

Title of the Article/ work : M.S. Subbulakshmi

Author [First Name] : NIL

Author [Last Name] : NIL

Editor : CULTURAL INDIA

Publisher Information : CULTURAL INDIA

Date of Publication : NIL

Date of Access : NIL

Font size of the website : Legible

Pictures : 5

Video/Animation : NIL

Background Colour : white

Font Colour : Black

External links [if any] : NIL

References [if any] : NIL

Madurai Shanmukhavadiyu Subbulakshmi, commonly known as M. S. Subbulakshmi, was an eminent Indian Carnatic singer.

[Cultural India \(/index.html\)](#) : [Indian Music \(/indian-music/index.html\)](#) : [Classical Singer \(/index.html\)](#) : M. S. Subbulakshmi

## M. S. Subbulakshmi

### Fast Facts

Date of Birth: 16 September, 1916

Place of Birth: Madurai, Tamil Nadu

Birth Name: Kunjamma

Date of Death: 11 December, 2004

Place of Death: Chennai, Tamil Nadu

Profession: Carnatic singer

Spouse: Kalki Sadasivam

Father: Subramanialyer

Mother: Shanmu kavadiver Ammal

Awards: Bharat Ratna, Ramon Magsaysay Award, Sangeet Natak Akademi Award

Madurai Shanmukhavadiyu Subbulakshmi is a name that is synonymous with the world of Carnatic music. This flawless singer, whose voice almost had a divine power, is the first singer to be presented with India's highest civil honour, the Bharat Ratna. When she was honoured with the Ramon Magsaysay award, which is considered as Asia's Nobel Prize, she became the first Indian musician to do so. Subbulakshmi, fondly addressed as M.S by her fans, was a true pioneer of anything that has to do with women empowerment. She led by example and showed the way to contemporary women of her era. Though she is famous as an exponent of Carnatic music, her expertise in Hindustani classical music was not short of brilliance. Subbulakshmi didn't contain herself with just music, for she forayed into the field of acting as well.

### Indian Music (/indian-music/index.html)

[Hindustani Gharanas \(/indian-music/hindustani-gharanas.html\)](#)

[Hindustani School \(/indian-music/hindustani-school.html\)](#)

[Music Glossary \(/indian-music/music-glossary.html\)](#)

[Indian Music Instruments \(/indian-music/music-instruments.html\)](#)

[Carnatic Music \(/indian-music/carnatic-music.html\)](#)

[Indian Film Music \(/indian-music/film-music.html\)](#)

[Indian Fusion Music \(/indian-music/fusion.html\)](#)

[Ghazals \(/indian-music/ghazals.html\)](#)

[Folk Music \(/indian-music/folk-music.html\)](#)

[Shayari \(/indian-music/shayeri.html\)](#)

[Ustad Bismillah Khan \(/indian-music/classical-singers/bismillah-khan.html\)](#)

[Pandit Shivkumar Sharma \(/indian-music/classical-singers/shivkumar-sharma.html\)](#)

[Ustad Zakir Hussain \(/indian-music/classical-singers/zakir-hussain.html\)](#)

[Pandit Ravi Shankar \(/indian-music/classical-singers/ravi-shankar.html\)](#)

[Indian Classical Singers \(/indian-music/classical-singers/index.html\)](#)

[Ustad Amjad Ali Khan \(/indian-music/classical-singers/amjad-ali-khan.html\)](#)

[Ustad Bade Ghulam Ali Khan](#)

Language and vocabulary : Simple and lexicon

Exercise Details : NIL

Level of Subject Matter : Class: IX

Subject Matter of the Site : VERY INFORMATIVE

Overall Vision:

The website provide fast facts on her biography. It gives information to suffice the intended audience. The Introduction about the legendary classical singer is fabulous. The life biography of the singer has been categorised as childhood education, career, foreign trips. A Date with Cinema, Famous works, An elite list of fans, Humanitarian works, Personal life and family, Death. To Honour her contribution a separate section ~ Legacy is given what role she played magnanimously in the Indian Cinema. The Audience or the reader can take up the information corresponding to the desired section.

## CRITERIA FOR COMPARITIVE EVALUATION OF TWO WEBSITES

<p>Address of URL</p>	<p><a href="https://www.theindiaforum.in/amp/article/life-and-art-ms-subbulakshmi">https://www.theindiaforum.in/amp/article/life-and-art-ms-subbulakshmi</a></p>	<p><a href="https://www.culturalindia.net/indian-music/classical-singers/ms-subbulakshmi.html">https://www.culturalindia.net/indian-music/classical-singers/ms-subbulakshmi.html</a></p>
<p>Title of the website</p>	<p>The Life and Art of M.S. Subbulakshmi</p>	<p>M. S. Subbulakshmi</p>
<p>Date Visited</p>	<p>16.05.2022</p>	<p>16.05.2022</p>
<p>Design</p>	<p>The webpage width can be seen on the current screen on the monitor</p>	<p>Entire page width can be seen on the monitor</p>

The site's general appearance is attractive.

The site's general appearance is simple.

The webpage comprises of the compilation of the biography of M.S. Subbulakshmi

The webpage is too long

The graphics is readable

The site scrolls with lot of advertisements

Content

The use of text is simple. The author quotes the biography of the legendary from the three books

The text style is simple for the readers and the audience. The content is provided as quick facts.

	<p>and highlights the content.</p> <p>He quotes the important life events</p> <p>He highlights even the author's of the book that he has defined, written etc...</p>	<p>The content is purely based on the biography with the essential sub-reading which will be useful.</p> <p>The content has highlighted the legacy of the legendary Singer to show how her presence was in Indian Cinema</p>
<p>Technology</p>	<p>Can search for the proper context of the article after minutes.</p> <p>A Picture is used.</p>	<p>Can see meaningful information within few seconds.</p> <p>5 Pictures are used.</p>

The entire article quotes from other books on the biography of the singer

The entire article is super simple for the readers who are interested in biography of M.S. Subbulakshmi

No link is present.

Every link works  
Picture is downloadable

The author's institution is given.

No author

Links are current

Links are current

The site is being updated

Other links are also available

Credibility

# Pedagogy

The site develops creative thinking and critically ponder upon the words

The site develops higher order thinking.

The site is attractive

The site has reference for other posts.

The ~~site~~ provides opportunity to learn new words

The site provide a plenty amount of new information on the biography of the legendary Singer



RUBRICS FOR EVALUATING WEBSITES

Address of URL	https://www.theindiaforum.in/amp/article/life-and-art-m-s-subbulakshmi	https://www.culturalindia.net/indian-music-classical-singers/m-s-subbulakshmi.htm																		
Title of websites	The Life and Art of M.S. Subbulakshmi	M.S. Subbulakshmi																		
Criteria for Evaluation	<table border="1"> <tr> <td>Not so good</td> <td>1</td> </tr> <tr> <td>Okay</td> <td>2</td> </tr> <tr> <td>Good</td> <td>3</td> </tr> </table>	Not so good	1	Okay	2	Good	3	<table border="1"> <tr> <td>Not so good</td> <td>1</td> </tr> <tr> <td>Okay</td> <td>2</td> </tr> <tr> <td>Good</td> <td>3</td> </tr> </table>	Not so good	1	Okay	2	Good	3						
Not so good	1																			
Okay	2																			
Good	3																			
Not so good	1																			
Okay	2																			
Good	3																			
<p>Activity/Credibility</p> <p>1. Author's Name is given</p> <p>2. The Author's organisation / institution is given</p>	<table border="1"> <tr> <td>Not so good</td> <td>1</td> <td>✓</td> </tr> <tr> <td>Okay</td> <td>2</td> <td>✓</td> </tr> <tr> <td>Good</td> <td>3</td> <td>✓</td> </tr> </table>	Not so good	1	✓	Okay	2	✓	Good	3	✓	<table border="1"> <tr> <td>Not so good</td> <td>1</td> <td>✓</td> </tr> <tr> <td>Okay</td> <td>2</td> <td>✓</td> </tr> <tr> <td>Good</td> <td>3</td> <td>✓</td> </tr> </table>	Not so good	1	✓	Okay	2	✓	Good	3	✓
Not so good	1	✓																		
Okay	2	✓																		
Good	3	✓																		
Not so good	1	✓																		
Okay	2	✓																		
Good	3	✓																		

3. The Author's qualification and experience are given

4. The author's contact information is given.

Accuracy / Awareness

5. The data that the web page was last update is given

6. The information is up-to-date

7. The information is complete

8. The information is relevant



mistakes/error

9. Bibliographies or references are given

Bias/objectivity

10. Statement of purpose / scope

11. Site avoids social bias [gender, racial, religious etc...]

12. Information presented on factual and primary in again.

13. Sites enrich and expands users imagination

14. The information presented is free of advertising

15. Site offers a new area

16. Information is useful

17. Additional resources are useful.

18. Site integrates several content area, design/technology

19. The pictures are relevant and clear

20. The pages are easy to move around

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

21. All of the links work.

22. The pages load quickly

23. Text is easy to read

24. Designs are appropriate

25. Free from server errors

Total score

Rating based on

Total score

64

\*\*\*\*\*☆

58

\*\*\*\*\*☆



CONCLUSION:

Thus, from the website analysis I have learnt many things to analyse the two different websites for teaching-learning purpose. This is very useful and effective in analysing the different websites. Through this I have learnt how to give the best to the students I have also learnt some new processes and ideas on website analysis through this record.

# Evolving Learning Sequences(Learning Activities)

## Sri Sarada College of Education, Salem - 16.

### STUDENT TEACHING PROFILE

Date :

Name of Student Teacher : S. SUBHIKSHA

Standard : VIII

Name of Co-operating School : SRI RAMAKRISHNA Hr. Sec. School

Period :

Name of Supervisor : Mrs. Renuka

Subject / Topic : SCIENCE

WEIGHTAGE	ASPECTS	RATINGS									
		Not at all correct	Seldom correct	Usually correct	Mostly correct	Fully correct					
		0	1	2	3	4	5	6	7	8	
5	<b>I. LESSON PLAN :</b> <b>(1) Instructional Objectives</b> (1. Appropriateness 2. Attainability 3. Adequacy 4. Clarity)	0	1	2	3	4	5	6	7	8	20
5	<b>(2) Content : Concepts/Facts/Principles, Terms, Etc.,</b> (1. Adequacy 2. Organization 3. Effectiveness 4. Relevance 5. Richness)	0	1	2	3	4	5	6	7	8	20
5	<b>(3-A) Learning Activities :</b> (1. Appropriateness 2. Adequacy 3. Accuracy 4. Originality 5. Variety)	0	1	2	3	4	5	6	7	8	20
5	<b>(3-B) Learning Aids :</b> (1. Appropriateness 2. Originality)	0	1	2	3	4	5	6	7	8	20
5	<b>(4) Review : Evaluation / Assignments</b> (1. Overall coverage 2. Appropriateness 3. Accuracy)	0	1	2	3	4	5	6	7	8	20
10	<b>II. TEACHING LEARNING SITUATION :</b> <b>(1) Introduction :</b> (1. Relevance 2. Sufficiency 3. Interest Aroused)	0	1	2	3	4	5	6	7	8	20
10	<b>(2) Learning Experiences :</b> (Pupil Participation)	0	1	2	3	4	5	6	7	8	20
10	<b>(3) Techniques :</b> (1. Effectiveness 2. Relevance 3. Originality)	0	1	2	3	4	5	6	7	8	20
5	<b>(4) Use of Aids :</b> (1. Effectiveness 2. Black board work)	0	1	2	3	4	5	6	7	8	20
5	<b>(5) Review and Evaluation :</b> (Effectiveness)	0	1	2	3	4	5	6	7	8	20
15	<b>(6) Development of Lesson :</b> (1. Sustained pupil interest and continued pupil participation 2. Attainment of objectives 3. Accuracy of content 4. Sequential and Logical 5. Budgeting of Time)	0	1	2	3	4	5	6	7	8	20
5	<b>(7) Teacher - Pupil Co-operation</b> (1. Interaction 2. Sympathy 3. Enthusiasm)	0	1	2	3	4	5	6	7	8	20
5	<b>III. TEACHER</b> <b>(1) Appearance, Manners and Movement :</b> (1. Neat 2. Language 3. Controlled)	0	1	2	3	4	5	6	7	8	20
5	<b>(2) Communication</b> (1. Expression 2. Language 3. Speech 4. Voice)	0	1	2	3	4	5	6	7	8	20
5	<b>(3) Class Management</b> (Effective dealing of situations)	0	1	2	3	4	5	6	7	8	20

### IV FINAL MARKS BASED ON I, II & III

# LESSON PLAN

NAME OF THE STUDENT TEACHER : S. SUBHAKSHI  
NAME OF THE SCHOOL : SRI RAMAKRISHNA HR. SEC. SCHOOL  
CLASS : VIII  
SUBJECT : SCIENCE  
TOPIC : Microorganism  
DURATION : 45 mins  
DATE :



GENERAL OBJECTIVES :

The pupil

retrieves the knowledge about microorganisms  
understand different types of microorganism  
applies the knowledge in daily life to develop scientific temper and scientific attitude  
analyses how viruses show both living and non living characters

SPECIFIC OBJECTIVES :

The pupil

1. Define microorganism
2. Define microbiology
3. What are the five categories of microorganisms
4. Define virus
5. Describe the structure of virus
6. What are the living characters of virus
1. Mention the Non-living characters of virus

Teaching Aids

charts & showing shapes of virus  
models & Influenza viruses

Flash cards & categories of microorganism  
pictures & structure of virus

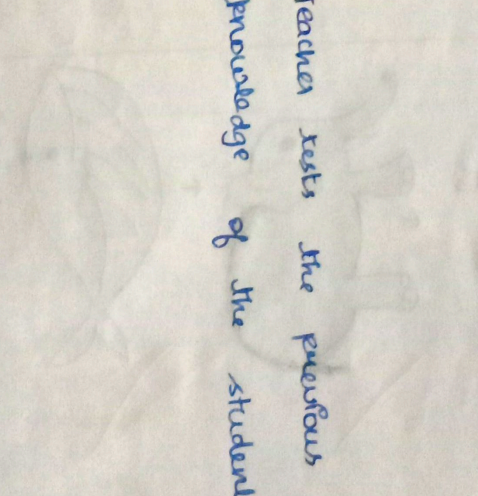
CONTENT

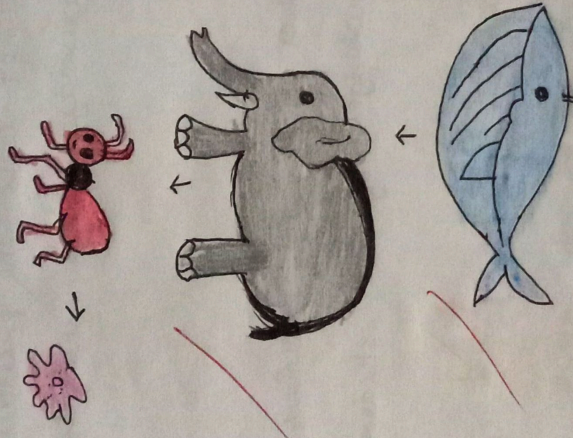
TEACHER STUDENT ACTIVITY

EVALUATION

why aids  
 charts & showing shapes of virus  
 models & Influenza Virus  
 flash cards & categories of microorganisms  
 pictures & structure of virus

LEARNING OUTCOME	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
Tells why we should wash our hands before eating	We should wash hands before eating because there are many germs in our hands	Teacher tests the previous knowledge of the students	Tell why we should wash our hands before eating
Says whether it is possible to see them with our eyes	They are small in size that they cannot be seen through naked eyes	Teacher tests the previous knowledge of the students	say me whether it is possible to see them with our eyes
Says how can we see these organisms	These microorganisms can be seen only with the help of a microscope	<del>Teacher tests the previous knowledge of the students</del> Teacher writes the topic "Microorganisms" on the blackboard	say how can we see these organisms

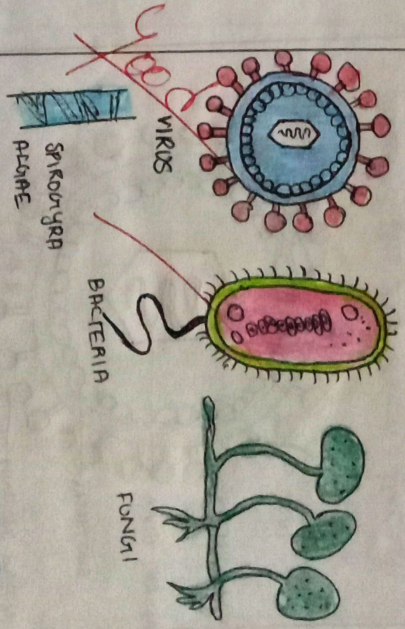


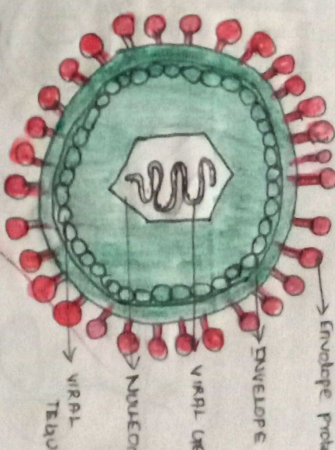
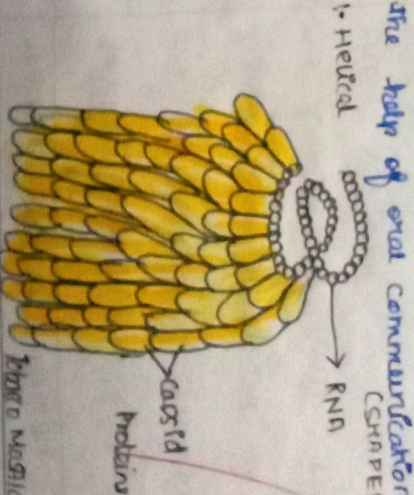
LEARNING OUTCOME	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
Define microorganisms	<p>Microorganisms are very small in size that they cannot be seen through naked eyes. They can be seen only with the help of microscope. Therefore they are also known as microbes.</p>	<p>Teacher shows some pictures in which animals are shown in decreasing order of size.</p> 	Define microorganisms
Define microbiology	<p>The science that deals with the study of microorganisms is known as microbiology</p>	<p>Teacher explains the content with the help of oral communication</p>	Define microbiology

The study of microorganisms is known as microbiology

with the help of oral communication

LEARNING OUTCOME	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
<p>Students where do microorganisms live</p>	<p>Microorganisms are found everywhere. They are found in air, water (ponds, lakes, rivers and oceans), soil and even inside our bodies.</p>	<p>Teacher explains the content with the help of oral communication. Teacher uses blackboard to write the terms "air", "water", "river", "pond", "lakes", "oceans".</p>	<p>Mention microorganisms</p>
<p>List out different types of microorganisms</p>	<p>Microorganisms can be studied under five categories. They are virus, bacteria, fungi, algae, protozoa.</p>	<p>Teacher shows charts to understand a different types of microorganisms</p>	<p>List out of microorganisms</p>
<p>Define Virus</p>	<p>A virus is a tiny particle made up of genetic material and protein.</p>	<p>Teacher shows virus model to students.</p>	<p>Define Virus</p>



LEARNING OUTCOME	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
<p>Defines the term Virus</p> <p>Describes the structure Virus</p>	<p>They are intermediate between living and non living things.</p> <p>Virus is derived from Latin word means 'POISON'.</p> <p>A virus contains a core DNA or RNA. Surrounding that core is a protein coat. In some viruses, the protein coat is covered by an envelope made of protein, lipids and carbohydrates.</p>	<p>Teacher defines the term through oral communication</p>  <p>Teacher explains the content with the help of oral communication (SHRIMPES)</p> 	<p>Define the term Virus</p> <p>Describe the structure of virus</p>

TEACHER STUDENT ACTIVITY

PREPARED

APPRAISING OUTCOME

CONTENT

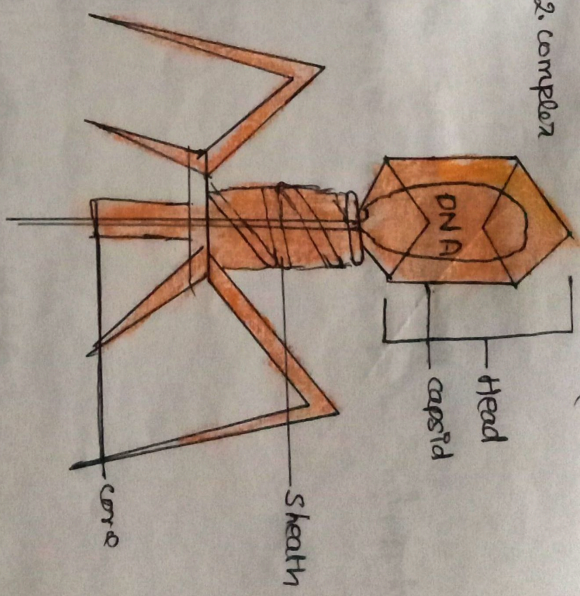
TEACHER STUDENT ACTIVITIES

EXPLAINS



2. complex

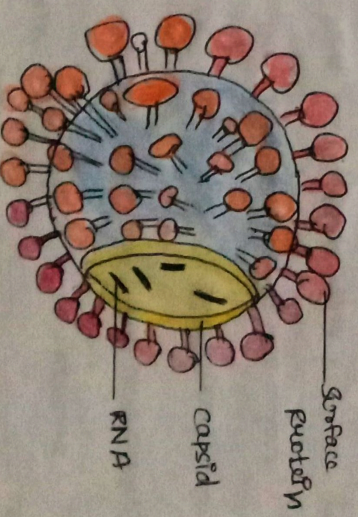
BACTERIOPHAGE (COMPLEX)



3. Spherical

INFLUENZA

SPHERICAL



LEARNING OUTCOMES	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
<p>Mentions the non living characters of virus.</p>	<p>Viruses show both living and non living characters.</p> <p>Living characters</p> <ul style="list-style-type: none"> <li>• They respond to heat, chemicals and radiations.</li> <li>• They reproduce inside the host cells producing copies of themselves.</li> </ul> <p>Non living characters</p> <ul style="list-style-type: none"> <li>• They are inactive when present freely in the environment.</li> <li>• They can be crystallized and stored for a very long time, like other non-living things.</li> </ul>	<p>Teacher explains the content within the help of oral communication.</p> <p>Teacher uses the blackboard to write the terms "living characters" and "non living characters".</p> <p>Teacher explains the content with the help of oral communication.</p>	<p>Mention the characteristics of virus.</p> <p>What are the living characters of virus.</p> <p>Mention the non-living characters of virus.</p>
<p>Mentions the living characters of virus.</p>	<p>Viruses show both living and non living characters.</p> <p>Living characters</p> <ul style="list-style-type: none"> <li>• They respond to heat, chemicals and radiations.</li> <li>• They reproduce inside the host cells producing copies of themselves.</li> </ul> <p>Non living characters</p> <ul style="list-style-type: none"> <li>• They are inactive when present freely in the environment.</li> <li>• They can be crystallized and stored for a very long time, like other non-living things.</li> </ul>	<p>Teacher explains the content within the help of oral communication.</p> <p>Teacher uses the blackboard to write the terms "living characters" and "non living characters".</p> <p>Teacher explains the content with the help of oral communication.</p>	<p>Mention the characteristics of virus.</p> <p>What are the living characters of virus.</p> <p>Mention the non-living characters of virus.</p>
<p>LEARNING OUTCOME</p>	<p>CONTENT</p>	<p>TEACHER STUDENT ACTIVITY</p>	<p>EVALUATION</p>
<p>Recapitulation</p>	<p>Recapitulation</p>	<p>Teacher tests the students under</p>	<p>Assign more</p>

\* They can be encapsulated and stored for a very long time, like these non-living things.

DEFINITION	COURSE	CONTENT	TEACHER	STUDENT	ACTIVITY	EXPERIMENT
Defines microorganisms		Recapitulation Microorganisms are very small in size that they cannot be seen through the naked eyes. They can be seen only under the microscope.		Teacher tests the students understanding capacity by asking questions.		Define microorganisms
Defines microbiology		The science that deals with the study of microorganisms is known as microbiology.		Teacher tests the students understanding capacity by asking questions.		Define microbiology
Defines viruses		A virus is a tiny particle made up of genetic material and protein.		Teacher tests the students understanding capacity by asking questions.		Define viruses
Lists out different types of microorganisms		Microorganisms can be studied under five categories: They are viruses, bacteria, fungi, algae, protozoa.		Teacher tests the students understanding capacity by asking questions.		List out different types of microorganisms.

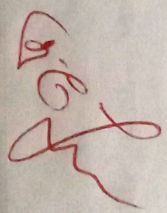


LEARNING OUTCOME	CONTENT	TEACHER STUDENT ACTIVITY	EVALUATION
Define the term Virus	A Virus is a tiny particle made up of genetic material and protein	Teacher tests the students understanding capability by asking questions	Define the term virus

HOME ASSIGNMENT :

1. Discuss and neatly describe the parts of structure of Bacteriophage Virus, Influenza Virus.
2. Prepare a model of Virus
3. Define the term Virus
4. Mention the characteristics of virus
5. Write assignment on the Topic Virus

Signature of Teacher



Signature of guide  
Jadhav