



Swamy Vivekananda Vidya Samsthe(R) Trust, Shikaripur

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UNIT PLAN

ಘಟಕ ಯೋಜನೆ

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UNIT PLAN

Planning is necessary in every field. To plan means to **“To act with a Purpose”**. No teacher should enter the class without planning. Planning of a lesson is related to the working philosophy of the teacher. Educational objectives, methods and techniques used and relating educational objectives.

An engineer plans before he constructs a building, so does the doctor before putting a patient on the operation table. In the same manner the teacher has to plan his lesson.

- Unit Planning or Approach is associated with professor **H. C. Morrison** of the University of Chicago. It is described of teaching in secondary schools published in 1926.

Unit Plan is very popular and frequently used in USA. It is based on field theories of learning or Holistic outlook. The Idea behind it is that the learner has to react to the situation as a whole and not the parts in isolation.

- A Unit is a part of the whole.

- **According to Prerton :** “ A Unit is a large block on related subject matter as can be overviewed by the learner.”

ಪ್ರಿನ್ಸಿಪಲ್ ರ ಪ್ರಕಾರ : - “ಘಟಕವು ವಸ್ತು ವಿಷಯದ ಸ್ಪಷ್ಟವಾಗಿ ಕಾಣುವ ಕಿರಿದಾದ ಭಾಗ ಎಂದಿದ್ದಾರೆ.

- **According to Bossing :** “ A unit consists of a comprehensive series of related and meaningful activities so as to achieve pupils purpose, provides significant learning experiences and result in appropriate behavioral changes.

ಎನ್. ಬಾಸಿಂಗ್ ರ ಪ್ರಕಾರ : - “ ವಿದ್ಯಾರ್ಥಿಗಳ ಉದ್ದೇಶಗಳನ್ನು ಸಾಧಿಸುವ ಸಮಂಜಸ ವರ್ತನಾ ಬದಲಾವಣೆಗಳನ್ನು ಒದಗಿಸುವ ಮತ್ತು ಪರಿಣಾಮಗಳಿಗೊಳಪಡಿಸುವ ರೀತಿಯಲ್ಲಿ ಬಳಸಲ್ಪಟ್ಟು ಸಂಬಂಧಿತ ಹಾಗೂ ಅರ್ಥಪೂರ್ಣ ಚಟುವಟಿಕೆಗಳ ಅರ್ಥಗರ್ಭಿತ ಸರಣಿಗಳನ್ನು ಘಟಕ ಯೋಜನೆ” ಎಂದಿದ್ದಾರೆ.

There are many approaches to lesson planning,

They are -

- Herbartian approach
- Gloverrian approach
- The evaluation approach
- Unit approach or Morisonian approach
- Project approach

CHARACTERISTICS OF GOOD UNIT PLAN

ಉತ್ತಮ ಘಟಕ ಯೋಜನೆಯ ಲಕ್ಷಣಗಳು

- Aims should be clear and well defined.
- The Teaching aids to be used are clear in unit.
- After teaching of that unit there should be provision of evaluation.
- It should always be a complete integrated whole in its organization.
- It provides activities for the students.
- It provides correlation with the life.

- They have chance to plan organize and execute there is begin and end in the Unit.
- To keep in mind the need interest capabilities of students level and Knowledge of students.
- It should be based on previous experiences of the students.
- The length of the Unit should sustain the Interest of the students up to the last.
- It should not be too long nor too short.
- The Unit should not be below two periods and above seven periods.
- The unit should contain familiar and selected aspects unit should not be remote.
- It should be related to previous knowledge.

STEPS FOR DEVELOPING UNIT PLAN

ಘಟಕ ಯೋಜನೆಯ ಹಂತಗಳು

- A Teaching unit is developed almost in the same way as the **Herbertian steps**:

It consist of

- | | | |
|----|----------------------------|----------------------|
| 1) | Preparation/ Motivation. | ಅಭಿಪ್ರೇರಣೆ |
| 2) | Knowing Previous Knowledge | ಪೂರ್ವಾನುಭವ ಪರಿಕಲ್ಪನೆ |
| 3) | Presentation | ನಿರೂಪಣೆ |
| 4) | Organization | ಕಲಿಕಾ ಸಂಘಟನೆ |
| 5) | Summarization | ಸಾರಾಂಶೀಕರಣ |
| 6) | Drill or Recapitulation | ಪುನರಾವಲೋಕನ |
| 7) | Evaluation. | ಮೌಲ್ಯಮಾಪನ |

1) Preparation/ Motivation: ಅಭಿಪ್ರೇರಣೆ

It is just to motivate the students for learning. This spirit should be maintained not only in the beginning but also till the end of the lesson.

2) Knowing the Previous Knowledge: ಪೂರ್ವಾನುಭವ ಪರಿಕಲ್ಪನೆ/ಜ್ಞಾನ

“Start with the pupils where they are” is the modern slogan in education. It is essential to know about the background of the students. So that neither there is duplication of what they already have nor any danger of having anything in the unit is above the comprehensive of the students.

3) Presentation : ನಿರೂಪಣೆ

Subject matter is present to the students with the help of aids or direct or indirect experiences. In order to add new experiences to the knowledge the students.

4) Organization of Learning: ಕಲಿಕಾ ಸಂಘಟನೆ

The Students get an opportunities to bring their learning together so that they may establish relationship between the new experiences and assimilated one.

5) Summarization : ಸಾರಾಂಶೀಕರಣ

This is usually required at the close of the teaching unit to bring All the learning. This may also be done at intervals during the progress of unit organization and summarization go together.

6) Drill : ಪುನರಾವಲೋಕನ

For this review just revision of the new experiences taught, during the presentation is required some learning experiences acquire repetition. Which is called as drill. Review and drill may also be required at a number of places during the lesson.

7) Evaluation : ಮೌಲ್ಯಮಾಪನ

This required to know what the students have achieved and what they have failed to achieve. Evaluation should be mainly self evaluation. This may be in the form of oral or written tests after a short intervals.

ADVANTAGES OF UNIT PLAN

ಘಟಕ ಯೋಜನೆಯ ಅನುಕೂಲಗಳು

- It provides basic course structure around which specific class activities can be organized.
- It is based on Gestalt psychology of learning theory
- Since the subject matter is divided into sub units, It helps for easy comprehension.
- It develops understanding and an objective approach
- All the steps are directed to achieve the desire of the goals and Mastery.
- It facilitates proper interaction between the learner and teacher.
- Learning process is organizing systematic and logical.
- It employs democracy in the class room.
- It enable the teacher to break away from traditional text book teaching.

DEMERITS OF UNIT PLAN

ಘಟಕ ಯೋಜನೆಯ ಅನಾನುಕೂಲಗಳು

- ▶ It is suppose to be time consuming.
- ▶ It is more suited to intelligent students.
- ▶ It puts heavy demand on the teachers.
- ▶ Some teachers adopt it without understanding what it is and how it is to be used.
- ▶ School time table is already over crowed, it is not possible to organize and finish the syllabus.
- ▶ This method requires supplementary reading materials, school tacks sufficient text books periodicals.

MODEL UNIT PLAN

ಮಾದರಿ ಘಟಕ ಯೋಜನೆ

UNIT TEST ಘಟಕ ಪರೀಕ್ಷೆ

- ▶ Unit test is a tool to evaluate the achievement of the learning activities that are made by students. They are the part of the new programme of education. How far a particular student has been benefited from the learning experience is measured with the help of the Unit test.
- ▶ Unit test covers a small position of syllabus which having all characteristics of a good question paper. Each test has its own weight given to different objectives. Sub units and forms of questions as shown in marks distributions and precision of position.

ಘಟಕ ಪರೀಕ್ಷೆಯ ವ್ಯಾಖ್ಯೆಗಳು

1. ಪಟೇಲ್ ರಮಾಬಾಯಿ :- “ ಒಂದು ಘಟಕದ ಬೋಧನೆಯು ಪೂರ್ಣಗೊಂಡ ನಂತರ ತನ್ನ ಬೋಧನೆಯು ಪರಿಣಾಮ ಮತ್ತು ವಿಶ್ಲೇಷಣೆಗಳನ್ನು ಕಂಡುಕೊಳ್ಳಲು ಸಂಘಟಿಸುವ ಪರೀಕ್ಷೆಯೇ ಘಟಕ ಪರೀಕ್ಷೆ”
2. ಸೋಫಾ :- “ಮಕ್ಕಳು ಏನನ್ನು ಕಲಿತಿದ್ದಾರೆ ಮತ್ತು ಹೇಗೆ ಕಲಿತಿದ್ದಾರೆಂಬುದನ್ನು ತಿಳಿಯಲು ಬಳಸುವ ಸಾಧನವೇ ಘಟಕ ಪರೀಕ್ಷೆ”
3. ವೆಬಲ್ :- “ ಪಠ್ಯದಲ್ಲಿನ ಒಂದು ಭಾಗದ ಕಲಿಕೆಯನ್ನು ಮತ್ತು ವೈವಿಧ್ಯತೆಯ ಸಾಮರ್ಥ್ಯಗಳನ್ನು ತಿಳಿದುಕೊಳ್ಳುವ ಮತ್ತು ನೋಡುವ ಪರೀಕ್ಷೆಯೇ ಘಟಕ ಪರೀಕ್ಷೆ”

STEPS IN A GOOD UNIT TEST

ಉತ್ತಮ ಘಟಕ ಪರೀಕ್ಷೆಯ ಹಂತಗಳು

1. Selection of Objectives and Sub units. -

‘ಪ್ರತಿ ಘಟಕಗಳಿಂದ ಉದ್ದೇಶಗಳನ್ನು ಆಯ್ಕೆಮಾಡಿಕೊಳ್ಳುವುದು.

1. Weightage to Objectives

ಉದ್ದೇಶಾಧಾರಿತ ಕೋಷ್ಟಕ

2. weightage to different areas of content.

ವಿಷಯವಾರು ಕೋಷ್ಟಕ

3. weightage to different forms of questions.

ಪ್ರಶ್ನಾಧಾರಿತ ಕೋಷ್ಟಕ

4. weightage to difficulty level

ಪ್ರಶ್ನೆಗಳ ಕಠಿಣತೆಯ ಮಟ್ಟ

5. Scheme of options.(Blue Prient)

ನೀಲಿನಕ್ಷೆಯ ರಚನಾ ವಿಧಾನ

6. Selections in question paper.

ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯ ಆಯ್ಕೆ

18. weightage Table.

* weightage given to type of questions.

Sl No	Type of questions.	Marks	Number of questions.	Total marks.
1	objective type questions.	1	15.	13
2	Short answer type questions	2	4	8
3	Essay type questions.	4	1	4
	Total.		20	25 marks.

* weightage given to objectives.

SL NO	objectives	marks	percentage.
1	Knowledge.	11	44 %.
2	comprehension	8	32 %.
3	Expression	2	16 %.
4	Appreciation.	4.	8 %.
	TOTAL.	25.	100 %.

* weightage given to content.

SL NO	content	marks	percentage.
1	uses of Trees	10	40 %.
2	Early life of Sunderlal Bahuguna.	8	32 %.
3	The spread of Chipko movement.	7	38 %.
	TOTAL.	25	100 %.

ಉದ್ದೇಶಾಧಾರಿತ ಕೋಷ್ಟಕ

ಉದ್ದೇಶಗಳು	ಪ್ರಶ್ನೆಗಳು	ಅಂಕಗಳು	ಶೇಕಡಾವಾರು %
ಜ್ಞಾನ	10	10	40 %
ಗ್ರಹಿಕೆ	04	09	36 %
ಅಭಿವ್ಯಕ್ತಿ	02	02	08 %
ಪ್ರಶಂಸೆ	01	04	16 %
ಒಟ್ಟು	17	25	100 %

ಪ್ರಶ್ನೆಯಾಧಾರಿತ ಕೋಷ್ಟಕ

ಪ್ರಶ್ನೆಗಳ ಮಾದರಿಗಳು	ಪ್ರಶ್ನೆಗಳು	ಅಂಕಗಳು	ಶೇಕಡಾವಾರು %
ವಸುನಿಷ್ಠ ಪ್ರಶ್ನೆಗಳು	06	06	24 %
ಲಘು ಮಾದರಿ ಪ್ರಶ್ನೆಗಳು	09	12	48 %
ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆಗಳು	02	07	28 %
ಒಟ್ಟು	17	25	100 %

ಘಟಕವಾರು ಕೋಷ್ಟಕ

ಘಟಕಗಳು	ಪ್ರಶ್ನೆಗಳು	ಅಂಕಗಳು	ಶೇಕಡಾವಾರು %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ	05	05	20 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂದುವರಿದ ಭಾಗ)	04	05	20 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂದುವರಿದ ಭಾಗ)	04	07	28 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂದುವರಿದ ಭಾಗ)	04	08	32 %
ಒಟ್ಟು	17	25	100 %

BLUE PRINT (ನೀಲ ನಕಾಶೆ)

- The blue print is a three dimensional chart showing the weightage given to objectives, content and forms of questions in terms of marks.

- **ನೀಲನಕ್ಷೆ** ಎಂದರೆ – “ಉದ್ದೇಶ ಆಧಾರಿತವಾಗಿ, ವಸ್ತುನಿಷ್ಠವಾಗಿ ಒಂದು ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ರಚಿಸಲು ಅನುಕೂಲವಾಗುವಂತೆ ಪೂರ್ವಯೋಜಿತವಾಗಿ ರಚಿಸಲಾಗುವ ಮಾರ್ಗದರ್ಶಿ ನಕ್ಷೆಯೇ ನೀಲನಕ್ಷೆ”.

ನೀಲನಕ್ಷೆಯು ಮೂರು ಮುಖ್ಯವಾದ ಮೂರು ಕೋಷ್ಟಕಗಳನ್ನು ಹೊಂದಿದೆ, ಅಲ್ಲದೆ ಇದು **ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು** ನಿರ್ದರಿಸಲು ಆಧಾರವಾಗಿರುತ್ತದೆ.

- ನೀಲನಕ್ಷೆಯು **ಉದ್ದೇಶ ಆಧಾರಿತ, ಪ್ರಶ್ನೆಯಾಧಾರಿತ, ಘಟಕವಾರು** ಕೋಷ್ಟಕಗಳನ್ನು ಹೊಂದಿರುತ್ತದೆ.

ಈ ನೀಲನಕ್ಷೆಯಿಂದ ಒಂದು ಘಟಕ ಪರೀಕ್ಷೆ ಹಾಗೂ **ಶಿಕ್ಷಕರ ಬೋಧನೆ** ಯಾವ ದಿಕ್ಕಿನಲ್ಲಿ ನಡೆಯುತ್ತಿದೆ

ಎಂಬುದನ್ನು ನಿರ್ದರಿಸಲು ಸಹಾಯಕವಾಗುತ್ತದೆ.

ಒಂದು ನಿರ್ದಿಷ್ಟ ಕೆಲಸದ ಸ್ಥೂಲ ರೂಪವನ್ನು ಪರಿಣಿತರು ಬಹು ಎಚ್ಚರಿಕೆಯಿಂದ ತಯಾರಿಸಿದ ರೇಖಾ ವಿನ್ಯಾಸವೇ ನೀಲ ನಕ್ಷೆ.

ಮೌಲ್ಯಮಾಪನದಲ್ಲಿ ಸಿದ್ಧಗೊಳಿಸುವ ನೀಲ ನಕ್ಷೆ ಇತರ ನೀಲ ನಕ್ಷೆಗಳಂತಲ್ಲ. ಇದೊಂದು ಬೌದ್ಧಿಕ ಹಾಗೂ ಮನೋವೈಜ್ಞಾನಿಕ ತತ್ವಗಳನ್ನೊಳಗೊಂಡ ಸಂಕೀರ್ಣ ಕಾರ್ಯ. ಅಂದರೆ ಪರೀಕೆಯ ಪೂರ್ವ ನಿರ್ಧಾರಿತ ರೂಪುರೇಷೆ. ಇದೊಂದು ಮೂರು ಆಯಾಮಗಳನ್ನು ಹೊಂದಿರುವ ನಕ್ಷೆಯಾಗಿದ್ದು, ವಿಷಯಾಂಶ, ಉದ್ದೇಶ ಹಾಗೂ ವಿವಿಧ ರೀತಿಯ ಪ್ರಶ್ನೆಗಳಿಗೆ ನೀಡಿರುವ ಪ್ರಮಾಣವನ್ನು ಸ್ಥೂಲವಾಗಿ ಪ್ರತಿಫಲಿಸುತ್ತದೆ.

ಯಾವ ವಿಷಯದ ಮೂಲಕ, ಯಾವ ಉದ್ದೇಶವನ್ನು, ಎಷ್ಟು ಪ್ರಮಾಣದಲ್ಲಿ, ಯಾವ ಮಾದರಿಯ ಪ್ರಶ್ನೆಯನ್ನು ಬಳಸಿಕೊಂಡು ಮೌಲ್ಯಮಾಪನ ಮಾಡಬೇಕು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟವಾಗಿ ನಿರ್ದೇಶಿಸುವ ಸಲುವಾಗಿ ಬಹು ಎಚ್ಚರಿಕೆ ಹಾಗೂ ಬುದ್ಧಿವಂತಿಕೆಯಿಂದ ತಯಾರಿಸಿದ ನಕ್ಷೆಯೇ ನೀಲ ನಕ್ಷೆ.

ನೀಲನಕ್ಷೆ

ಉದ್ದೇಶಗಳು	ಜ್ಞಾನ			ಗ್ರಹಿಕೆ			ಅಭಿವ್ಯಕ್ತಿ			ಪ್ರಶಂಸೆ			ಒಟ್ಟು	ಶೇಕಡೆ %
	ಉ ಉ	ರ ಭೂ ಉ	ಉ ಭೂ ಉ	ಉ ಉ	ರ ಭೂ ಉ	ಉ ಭೂ ಉ	ಉ ಉ	ರ ಭೂ ಉ	ಉ ಭೂ ಉ	ಉ ಉ	ರ ಭೂ ಉ	ಉ ಭೂ ಉ		
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ	1 (1)	1 (1)	-	-	-	-	2 (1)	-	-	-	-	1 (4)	4 (8)	32 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂ.ಭಾಗ)	2 (2)	1 (1)	-	-	2 (1)	-	-	-	-	-	-	-	6 (8)	32 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂ.ಭಾಗ)	1 (1)	1 (1)	-	-	2 (1)	-	-	2 (1)	-	1 (1)	-	-	7 (9)	36 %
ಬೆಡಗಿನ ತಾಣ ಜಯಪುರ (ಮುಂ.ಭಾಗ)	2 (2)	1 (1)	-	-	2 (1)	-	-	-	-	-	-	-	-	-
ಒಟ್ಟು ಅಂಕಗಳು	10 (10)	-	-	-	4 (8)	-	-	1 (2)	-	-	-	1 (4)	-	-
ಶೇಕಡೆ %	44 %			32 %			08 %			16 %			17 (25)	100 %

ಸೂಚನೆ :- ಅವರಣದೊಳಗಿನ ಸಂಖ್ಯೆಗಳು ಪ್ರಶ್ನೆಗಳನ್ನು, ಅವರಣದ ಹೊರಗಿನ ಸಂಖ್ಯೆಗಳು ಅಂಕಗಳನ್ನು ಸೂಚಿಸುತ್ತವೆ.

19. Blue print.

SL NO	Subunits	Knowledge.			comprehension			Expression			Appreciation.			TOTAL	percent- age.
		O.	S.A.	E	O	S.A	E	O	S.A	E	O.	SA	E		
1	Uses of Trees.	5 (6)	-	-	-	4 (2)	-	1 (1)	-	-	-	-	-	10 (9)	40%.
2	Early life of Sunderlal Bahuguna.	4 (5)	-	-	-	4 (2)	-	-	-	-	-	-	-	8 (7)	32%.
3.	The spread of Chipko movement.	2 (3)	-	-	-	-	-	1 (1)	-	-	-	-	4 (1)	7 (4).	28%.
TOTAL.		11 (13)			8 (4)			2 (2)			4 (1)			25 (20)	100%.

- * Number inside the bracket represents number of questions.
- * Number outside the bracket represents marks.

KUMADVATHI COLLEGE OF EDUCATION, SHIKARIPURA
GOVERNMENT HIGH SCHOOL, HAROGOPPA
UNIT TEST

Subject : ENGLISH

Unit : The Chipko Architect
Class : VIII
Name :
Roll No :

Max Marks : 25
Time : 45 Min
Date :
Obtained Marks :

- Note :**
1. Answer all the questions.
 2. Hand writing should be clear and legible.
 3. write answers in the space provided in the question paper.

I. Give the opposite for the following words.

$\frac{1}{2} \times 4 = 2$

1. Start X

2. Open X

3. Joy X

4. Come X

II. Use the following words in your sentences.

$2 \times 1 = 2$

1. Shelter :

2. Wild :

III. Match the following words with their correct meaning.

$1 \times 3 = 3$

A
1. Regulate

B
a. Rough

2. Protect

b. Control

3. Coarse

c. Keep

Answer

IV. Fill in the blanks with suitable words.

$1 \times 3 = 3$

1. The trees give us oxygen and keep the _____ clean

2. Sunderlal was born on _____ in a small hill village Marora.

3. The Himalayan march ended at _____ on February 2, 1983.

V. Answer the following in a word or sentences each.

$1 \times 3 = 3$

1. Who was the leader of chipko movement?

2. When did the chipko movement begin?

3. When was the Sunderlal born?

VI. Answer the following questions in two or three sentences each. $2 \times 4 = 8$

1. How are trees useful to us?

2. What are the five Fs given by trees?

3. Who inspired the Sunderlal Bahuguna?

4. Why does not Sunderlal drink tea?

VII. Write a short paragraph on the following.

$4 \times 1 = 4$

1. Explain the spread of chipko movement in Himalayan belt.

23. Difficulty Level.

S.N.	Students Name.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total mark.
1	Aruna kumra. G.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	23
2	Devraja.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	22
3	Sukheela.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20
4	Umesha. N	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20
5	Eyangadhara. J.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18
6	USHA. g.	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	18
7	Asha. k.	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	18
8	Yangadara. H. S.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	18
9	Annappa	✓	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	17
10	Chaithra	✓	✓	✓	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	16
11	Bhagyashree. N.	✓	✓	✓	✓	✓	✓	×	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15

24. Measures of central Tendency.

Frequency distribution table.

23, 22, 20, 20, 18, 18, 18, 17,
16, 16, 16, 15, 15, 14, 13, 13,
12, 12, 11, 10, 10, 8, 6.

Highest score = 23.

Lowest score = 6.

Range = Highest score - Lowest score.
= 23 - 6.

Range = 17.

Size of the class interval \rightarrow 3.

Number of the class interval \rightarrow 23.

<u>C.I.</u>	<u>Talles.</u>	<u>Frequency.</u>
6 - 8		2
9 - 11		3
12 - 14		5
15 - 17		6
18 - 20		5
21 - 23		2

measures of Central Tendency.

C.I.	f.	x	x^1	fx^1	cfm.
6-8	2	7	-3	-6	2
9-11	3	10	-2	-6	5
12-14	5	13	-1	-5	10 f.
15-17	6 fm	16 Am	0	0	16
18-20	5	19	1	5	21
21-23	2	22	2	4	23.

$$N = 23.$$

$$\Sigma fx^1 =$$

$$1. * x^1 = \frac{x - Am}{j}$$

$$x^1 = \frac{7 - 16}{3}$$

$$x^1 = \frac{-9}{3}$$

$$x^1 = -3$$

$$* x^1 = \frac{x - Am}{j}$$

$$x^1 = \frac{10 - 16}{3}$$

$$x^1 = \frac{-6}{3}$$

$$x^1 = -2$$

$$2. \quad M = Am \pm \left(\frac{\sum f x^j}{N} \right) j$$

$$Am = 16, \quad \sum f x^j = -8, \quad N = 23, \quad j = 3.$$

$$M = 16 \pm \left(\frac{-8}{23} \right) 3.$$

$$M = 16 \pm \left(\frac{-24}{23} \right)$$

$$M = 16 - 1.04$$

$$M = \underline{14.96}.$$

$$3. \quad Md = L + \left(\frac{N/2 - F}{fm} \right) j$$

$$L = 14.5, \quad N/2 = \frac{23}{2} = 11.5, \quad F = 10, \quad fm = 6.$$

$$Md = 14.5 + \left(\frac{11.5 - 10}{6} \right) 3$$

$$Md = 14.5 + \frac{4.5}{6} \times 3$$

$$Md = 14.5 + \frac{4.5}{6}$$

$$Md = 14.5 + 0.75$$

$$Md = \underline{15.25}.$$

$$4. m_0 = 3 \times m_d - 2 \times m$$

$$m_d = 15.25, m = 14.96.$$

$$m_0 = 3 \times 15.25 - 2 \times 14.96$$

$$m_0 = 45.75 - 29.92$$

$$m_0 = \underline{15.83}.$$

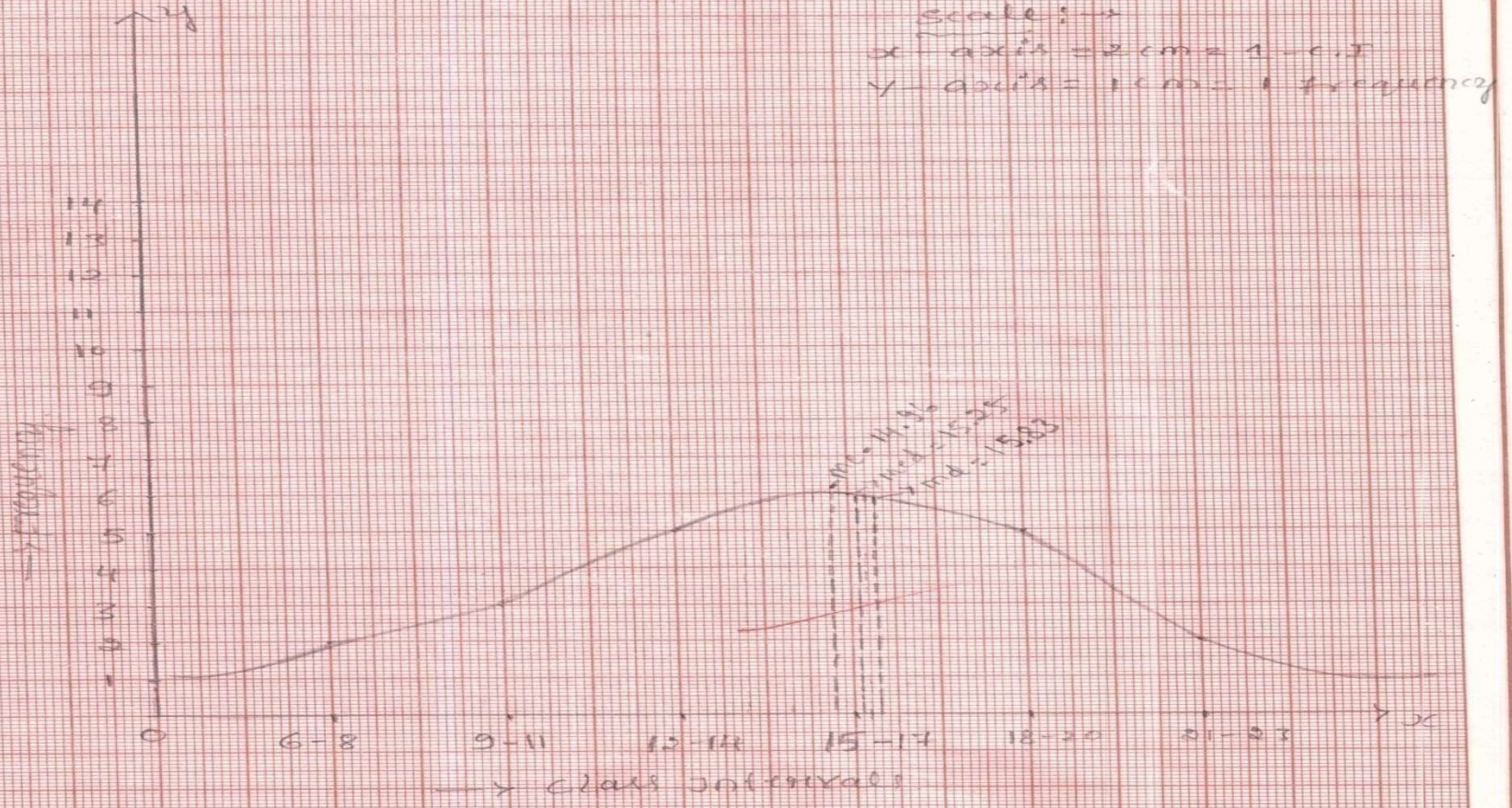
Highest value = $m_0 = 15.83$.

Lowest value = $m = 14.96$.

$$\underline{0.87}.$$

Batch No:

Date:



THANK

YOU