STUDENTS CREATE YEAR PLANS, UNIT PLANS, TEST DESIGNS, AND TEST BLUEPRINTS

Students create year plans, unit plans, test designs, and test blueprints every year. They create a unit test, develop the scoring system, and analyze the questions individually. Students in schools take the test, and the results are appropriately interpreted.

Blueprint

❖ MEANING OF BLUE PRINT

Blueprint is a map and a specification for an assessment program which ensures that all aspects of the curriculum and educational domains are covered by assessment programs over a specified period of time. The term "blueprint" is derived from the domain of architecture which means "detailed plan of action." In simple terms, blueprint links assessment to learning objectives. It also indicates the marks carried by each question.

Blueprinting helps to match various competencies with the course content and the appropriate modality of assessment. Blueprinting helps the teachers in designing the instructional strategies as per the guidelines expected in the curriculum.

It is useful to prepare a blueprint so that the test maker knows which question will test which objective and which content unit and how many marks it would carry. The blueprint concretizes the design in operational terms and all the dimensions of a question (i.e. its objective, its form, the content area it would cover and the marks allocted to it) become clear to the test maker. A comprehensive blue print, therefore serves as a reference framework for the question paper setter to prepare the question paper according to the accepted norms and guidelines. "In an Integrated Curriculum, Blueprint is particularly powerful".

Blueprint deals with the sampling content, competencies and tools for the assessment in a rational and balanced manner. To conclude, blueprinting acts as a valid tool to align objectives with assessment, helps in distribution of appropriate weightage and questions across the topics. Blueprint should be an integral part of assessment.

BLUEPRINT (2021-2022) Page 1

❖ OBJECTIVES OF BLUEPRINT

- Provideing the conceptual map of examination format and the ontent area
- Type of measurement tool for assessing the items weighting the respective column of learning objectives.
- Contains the list of topics covered under each module with its identified learning objectives.
- For content validity of assessment.
- To guide item collection and development.
- Its ensures content validity.
- To provide a clear framework to design questions which assess the important concept or thinking skill listed in the blueprint.
- To provide sources for the formative use of the summative assessment.
- To provide weightage to every topic.
- To satisfy the bloom's taxonomy of educational objective.

❖ GUIDELINES

- Content Analysis :- It means to divide the whole content of the syllabus or course into systematic tabular form.
- Determination of Learning objectives :- Learning objective is based on bloom's taxonomy. –Knowledge level, -Understanding Level, -Application level.
- Determination of no. of items for each topic based on learning objectives.
- Determining the types of questions :- Determining the type of items in each module and also providing weightage to each type of items.

❖ BENEFIT AND USES OF BLUE PRINT

- It is a matrix or chart reporting th enumber and type of test questions.
- The questions represent the topics in the content area.
- The questions are based on the learning objective from each topic.
- It also identifies the percentage(%) weighting of cognitive dimensions.
- For the assessment of test specification i.e., in examination.
- Evaluating time management and strategy to achieve the desired outcome
- Education administrators for curriculum development.
- Curriculum developers to design comprehensive, sequenced career development learning opportunities

BLUEPRINT (2021-2022) Page 2

❖ Format of BLUEPRINT :-

OBJECTIVE	KNOWLEDGE			UNDERSTANDING			APPLICATION			TOTAL
Types of Questions	E	S	O	E	S	O	E	S	O	
L1	2(1)	1(1)	-	-	1(1)	3(3)	-	1(1)	2(2)	10
L2	2(1)	1(1)	-	-	1(1)	2(2)	-	1(1)	3(3)	10
Total	4	2	-	-	2	5	-	2	5	20

*Note :- In the above table X (Y), X = Marks. Y = No. of Questions.

❖ WEIGHTAGE to the CONTENT :-

Lesson	No. of Questions	Marks	Percentage
L1	9	10	50%
L2	9	10	50%
Total	18	20	100%

Class Test Question Paper

Class :- VI **Subject :- Science** **Duration:-30 mins**
Board:- State Board **Chapter 16: The Universe** **Total :- 20 marks.**

Q1. Fill in the blanks 06

1) The colour of stars changes according to their _____.
2) Red giant stars are _____in colour.
3) _____ is the planet.
4) As the soil on Mars contains _____ its colour is reddish.
5) The galaxy that is closest to our Milky Way is called _____.
6) _____ is the satellite of the earth.

Q2. Match the Following 04

Column A	Column B
1. A Comet	A. Venus
2. Milky Way	B. Pluto
3. Dwarf Plant	C. Mandalkini
4. Hottest Planet	D. Long Period

Q3. Answer in ONE sentence. 06

1) What is the Milky Way?
2) Which planets have rings around them?
3) List various types of galaxies?
4) How many planets are there in our solar system?
5) What different colours do the stars radiate?
6) Which are the inner planets ?

Q4. A. Give Reasons (2 mark each) 04

1) Moon is a satellite of the earth.
2) What are the types of comets and on what basis are they classified?

OR

Q4. B. Answer in Brief

1) Differentiate between Stars and Planets? (Any 4 points of difference)

Answer Key of Class Test

Class:- VI **Subject :- Science** **Duration:-30 mins**

Board:- State Board **Chapter 16: The Universe** **Total :- 20 marks.**

Q1. Fill in the Blanks **06**

1) The colour of stars changes according to their **temperature**.
2) Red giant stars are **red** in colour.
3) **Mercury** is the fastest moving planet.
4) As the soil on Mars contains **iron** its colour is reddish.
5) The galaxy that is closest to our Milky Way is called **Andromeda.**
6) The **Moon** is the satellite of the earth.

Q2. Match the following **04**

Column A	Column B	Answer
1. A Comet	A. Venus	1.A Comet - D. Long Period
2. Milky Way	B. Pluto	2.Milky Way - C. Mandakini
3. Dwarf Planet	C. Mandakini	3.Dwarf Planet - B. Pluto
4. Hottest Planet	D. Long Period	4.Hottest Planet - A. Venus

Q3. Answer in ONE sentence. **06**

1) What is the Milky Way?
Answer: The Milky Way is the galaxy in which our solar system is located.

2) Which planets have rings around them?
Answer:Jupiter, Saturn, Uranus, Neptune have rings around them.

3) List various types of galaxies?
Answer:There are various galaxies in the universe which are based according to their shape elliptical,spiral, irregular.

4) How many planets are there in our solar system?
Answer:There are 8 planets in our solar system.

5) What different colours do the stars radiate?
Answer: The stars radiate different colours such as blue, white, yellow and red.

6) What are the inner planets ?
Answer: Mercury, Venu, Earth and Mars are the inner planets. The crust of all inner planets is hard.

Q4. A:- Give Reasons. **04**

1) Moon is a satellite of the earth.
Answer: Moon revolves around the earth without independently revolving around the sun. Hence the moon is a satellite of the earth.

2) What are the types of comets and on what basis are they classified?
Answer:1. Comets are of two types: Long-period comets and short-period comets.
2. Classification of comets is based on the time (period) taken by the comets to complete one revolution around the sun.

OR

Q4. B:- Answer in brief.

1) What is the difference between stars and planets?
Answer:

Stars	Planets
1. Stars are the celestial bodies which can emit heat and light continuously.	1. The celestial bodies which revolve around the sun in a certain orbit are called planets.
2. Stars twinkle in the sky.	2. Planets do not twinkle in the sky.
3. They have their own light.	3. They do not have their own light.
4. They are fixed at a point.	4. They revolve around the sun.
5. They are very big in size.	5. Planets are small as compared to

❖ RESULTS of the TEST

The above prepared test was attempted by 20 students. The marks obtained on the test by the students are as following :

16, 9, 20, 13, 16, 18, 14, 18, 19, 19, 11, 15, 10, 18, 19, 16, 14, 20, 13, 17.

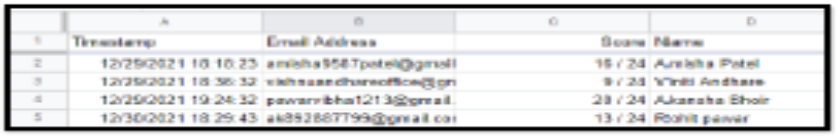
➢ RESULT LIST:-

Sr.No	Names of the Students	Marks Obtained	Total Marks
1.	Amisha Patel	16	20
2.	Viniti Andhare	09	20
3.	Akansha Bhoir	20	20
4.	Rohit pawar	13	20
5.	Mahesh Patil	16	20
6.	Aryan Singh	18	20
7.	Pratik Shetty	14	20
8.	Primrose Deselva	18	20
9.	Ragini Singh	19	20
10.	Sonali Sawant	19	20
11.	Shweta Singh	11	20
12.	Debashish Sarkar	15	20
13.	Lavanya Patil	10	20
14.	Crystal Dsouza	18	20
15.	Rhea Nage	19	20
16.	Soham Pawar	16	20
17.	Gayatri Desai	14	20
18.	Abhishekh Prajapati	20	20
19.	Swapnali Kale	13	20
20.	Jagdish Gupta	17	20

➢ MERIT LIST:-

Rank	Name of the Student	Marks Obtained	Percentage
1st	1. Akansha Bhoir 2. Abhishekh Prajapati	20 / 20	100%
2nd	1. Ragini Singh 2. Sonali Sawant 3. Rhea Nage	19 / 20	95%
3rd	1. Aryan Singh 2. Primrose Deselva 3. Crystal Dsouza	18 / 20	90%

* Image of the Excel (Answer) sheet connected to the google form :-



	A	B	C	D
1	Timestamp	Email Address	Score	Name
2	12/25/2021 10:10:23	amisha9587patel@gmail	16 / 24	Amisha Patel
3	12/25/2021 18:36:32	vishwasdhareoffice@gm	9 / 24	Viniti Andhare
4	12/25/2021 19:24:32	pawarrbha1213@gmail.	20 / 24	Akansha Bhoir
5	12/30/2021 18:29:43	ak8928677?99@gmail.co	13 / 24	Rohit pawar

❖ ANALYSIS

➢ MEAN :-

Marks obtained by the students (Data) :- 321

Mean of the marks obtained = $\frac{\text{Sum of all scores}}{\text{Total number of students}}$

Mean = 321 / 20

Mean = 16.05

➢ MEDIAN :-

Median of the marks obtained = (N/2)th Observation

Arranging the data in ascending order :-

09, 10, 11, 13, 13, 14, 14, 15, 16, 16, 16, 17, 18, 18, 18, 19, 19, 19 , 20, 20 .

N = 20, thus, median = 10th observation

Median = 16

➢ MODE :-

Class Interval	Frequency	Tally Marks	Percentage
1-5	0	0	0%
5 - 10	2	II	10%
11 - 15	6	卌 I	30%
15 - 20	12	卌 卌 II	60%
Total	20		100%

$$\text{Mode} = L_0 + \frac{(F1 - F0)}{2\,(F1 - F0 - F2)} \times H$$

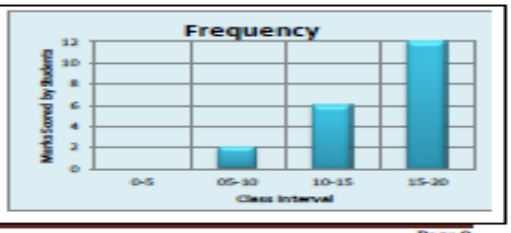
L_0 = Lower limit of the modal class.
F1 = Frequency of modal class frequency.
F0 = Frequency preceding the modal class.
F2 = Frequency of the class succeeding the modal class
H = Size of Class Interval

$$= 15 + \frac{12 - 5}{2\,(12 - 5 - 0)} \times 5$$
$$= 15 + [\,7 / 2\,(7)\,] \times 5$$
$$= 15 + [\,7 / 14)\,] \times 5$$
$$= 15 + 0.5 \times 5$$
$$= 15 + 2.5$$

Mode = 17.5

HISTOGRAM

Class Interval	Frequency
1-5	0
5 - 10	2
11 - 15	6
15 - 20	12
Total	20



❖ REFLECTION

A teacher should know how to prepare and administer tests as part of the teaching-learning process. This internship experience allowed me to learn many things relevant to the teaching-learning process, including the concept and importance of blueprints. Learning and understanding this concept proved to be easier than I expected. In reality, the difficult part was preparing the question paper. The process of creating a question paper was challenging and a bit difficult, as I learned to make a question paper that fulfils or is considerate to the needs of students and simultaneously gives equal attention to each lesson. For achieving the desired question paper, I had to redo my Blueprint table and the test paper many times. It was an incredible learning experience for me. I intend to apply what I've learned in my work life.

❖ CONCLUSION

This study described seven practical steps to construct a blueprint. Despite, being a resource-intensive process, it will provide the utmost benet to both teachers and learners. This is because a well-constructed blueprint is a valuable educational tool that can improve the quality of assessment education, and thus will ensure the highest quality of graduates produced.

❖ REFERENCE

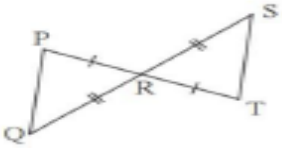
- Class 6th Science Textbook, State Board.
- http://iermt.org/wp-content/uploads/2014/06/2.pdf
- https://byjus.com/maths/mean/#definition
- https://www.researchgate.net/publication/340562582_Seven_Steps_to_Construct_an_Assessment_Blueprint_A_Practical_Guide
- Mode - Formula, Meaning, Example | How to Find Mode? (cuemath.com)

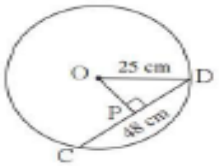
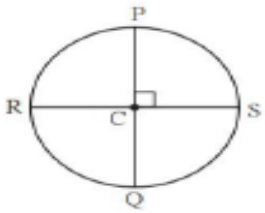
FORMAT

OBJECTIVE	KNOWLEDGE			UNDERSTANDING			APPLICATION			TOTAL
TYPES OF QUESTION	E	S	O	E	S	O	E	S	O	
CONGRUENCE OF TRIANGLE			1(1)		1(2)		1(3)			6
CIRCLE-CHORDS AND ARCS			1(1)			1(1)	1(3)	1(2)		7
SURFACE AREA AND VOLUME			2(1)		1(2)		1(3)			7
TOTAL			4		4	1	9	2		20

QUESTION PAPER

SUB:Mathematics **STD**:VIII **BOARD**:State board **MARKS**: 20M

SR.NO.	QUESTIONS	ANSWER	MARKS
	CONGRUENCE OF TRIANGLES		
1	Hypotenuse side test is used for _____	a) Isosceles Triangles b) Scalene Triangles c) Acute Angled Triangles d) Right Angled Triangles	1
2	 State the test and correspondence of vertices by which triangles are congruent.	a) AAS, SMA↔TOP b) ASA, SMA↔TOP c) AAS, SMA↔OPT d) ASA, SMA↔OPT	2
3	 State the test and the one to one correspondence of vertices by which triangles are congruent and remaining congruent parts	a) SAS, SIDE PQ ≅ SIDE TS, ∠RPQ ≅ ∠RTS, ∠PQR ≅ ∠TSR b) AAS, SIDE PR ≅ SIDE TS, ∠RPQ ≅ ∠, ∠PQR ≅ ∠STR c) SAS, SIDE PR ≅ SIDE TS, ∠RPQ ≅ ∠RTS, ∠PQR ≅ ∠STR d) AAS, SIDE PQ ≅ SIDE TS, ∠RPQ ≅ ∠RTS, ∠PQR ≅ ∠TSR	3

	CIRCLE-CHORD AND ARC		
2	The segment joining the centre of a circle and midpoint of its chord is _____ to the chord.	a) Equal b) Perpendicular c) Parallel d) intersect	1
3	If the measures of two arcs of circle are same then two arcs are _____	a) Congruent b) Adjacent c) Opposite d) not equal	1
4	 Radius of a circle with centre O is 25 cm. Find the distance of a chord from the centre if length of the chord is 48 cm	a) 8 CM b) 12 CM c) 7 CM d) 24 CM	2
5	 The diameters PQ and RS of the circle with centre C are perpendicular to each other at C. State, why are PS and SQ are congruent. Write the other Arcs which are congruent to the arc PS	a) Because the arcs are of equal measures that is 90°, arc PS ≅ arc PR ≅ arc RQ b) Because the arcs are of equal measures that is 90°, arc PS ≅ arc PSQ ≅ arc PRQ c) Because the arcs are of equal measures that is 90°, arc PS ≅ arc RPS ≅ arc RQS d) Because the arcs are of equal measures that is 90°, arc PS ≅ arc PR ≅ arc SQR	3
	SURFACE AREAS AND VOLUMES		
1	Volume of cuboid =_____	a) length x breadth b) length x breadth x height c) length x length d) length x length x length	1
2	Total surface area of cylinder = _____	a) $2\pi rh$ b) $2\pi r$ c) $\pi r(r+h)$ d) $2\pi r(r+h)$	1
3	A cuboid shaped soap bar has a volume 150 cc. Find its thickness if its length is	a) 3 cm b) 6 cm	2

	Excellent	Good	Fair
Explanation	Audience was attentive and understood the concept.	Student explanation was upto the point.	Student doesn't display clear explanation skill.
Introduction and closure	Opening and closing statement captured the attention.	Student displayed clear introduction remark.	Student doesn't display clear introduction and closing remark.
Poise	Students displayed relaxed nature	Displayed mild tension.	Nervousness was obvious

Rubric to assess performance in public speaking