Test Blueprint / JSU
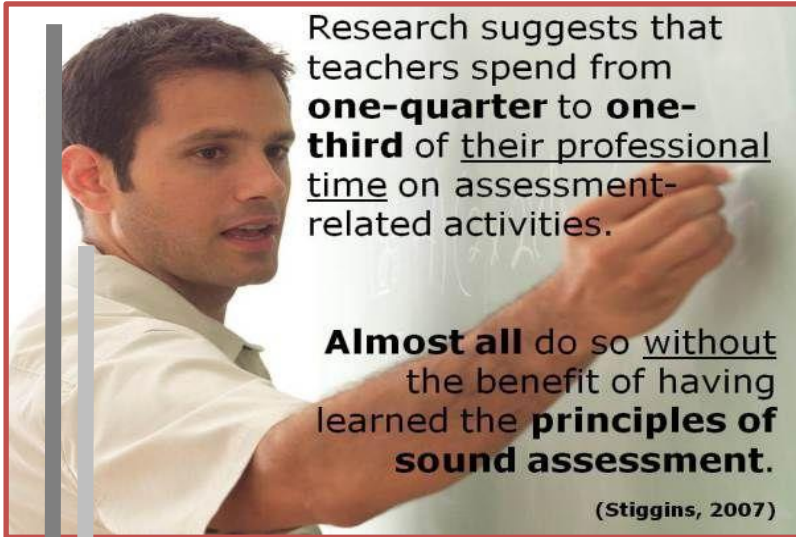
Dr ROHAYA TALIB
PhD (Measurement & Evaluation)
M.Ed (Measurement & Evaluation)
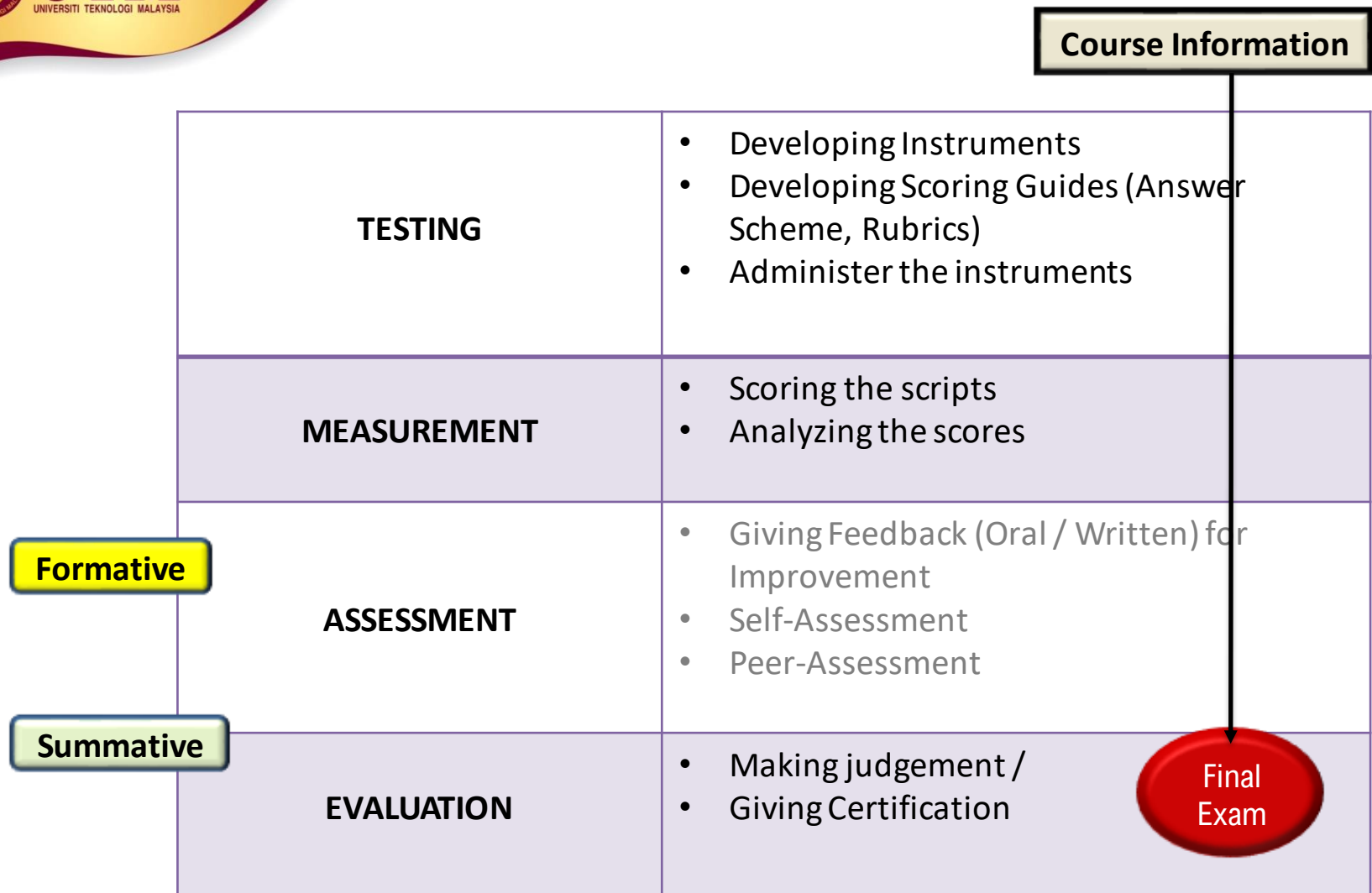**BBA (Accounting)**

PRINSIP PEMBINAAN JADUAL SPESIFIKASI UJIAN

Dr. Rohaya binti Talib

4 MEI 2021 SELASA 2 30 ptg

https://utm.webex.com/join/fss3.webex

Anjuran Jawatankuasa Pentaksiran FSSK, UTM

Research suggests that teachers spend from **one-quarter** to **one-third** of their professional time on assessment-related activities.

Almost all do so without the benefit of having learned the **principles of sound assessment**.

(Stiggins, 2007)

A well-constructed comprehensive assessment system provides continuous, coherent, and high-quality information on student performance that educators and administrators could use to improve teaching and learning and meet their decision-making needs

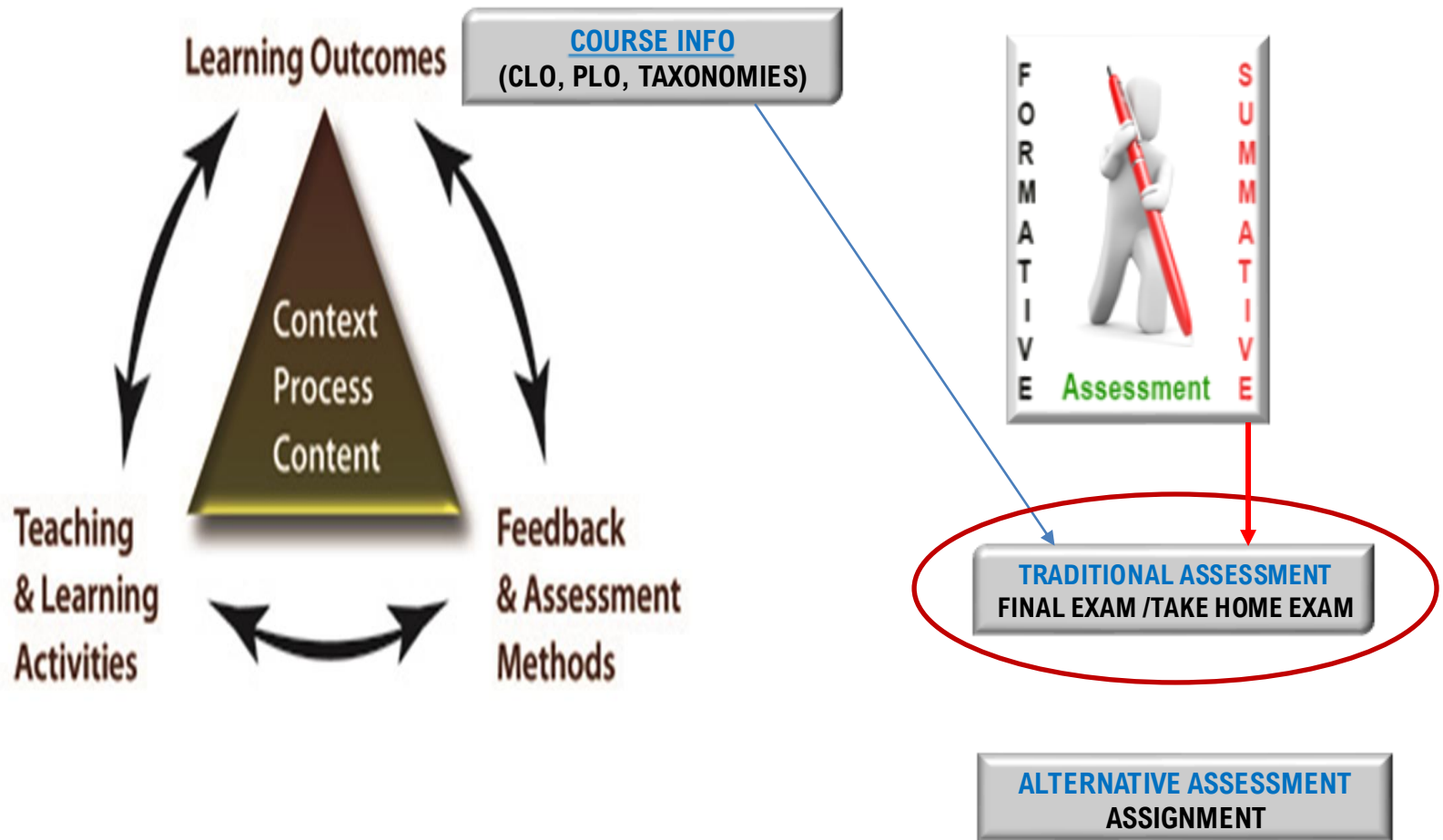(Rhode Island Department of Education & the National Center for the Improvement of Educational Assessment)

	Course Information
TESTING	• Developing Instruments • Developing Scoring Guides (Answer Scheme, Rubrics) • Administer the instruments
MEASUREMENT	• Scoring the scripts • Analyzing the scores
ASSESSMENT	• Giving Feedback (Oral / Written) for Improvement • Self-Assessment • Peer-Assessment
EVALUATION	• Making judgement / • Giving Certification

Formative

Summative

Final Exam

Linn, R.L & Miller, M.D. (2005). Measurement and Assessment in Teaching. Pearson Education Inc., Upper Saddle River, New Jersey

CONSTRUCTIVE ALIGNMENT

Learning Outcomes

Context Process Content

Teaching & Learning Activities

Feedback & Assessment Methods

COURSE INFO
(CLO, PLO, TAXONOMIES)

FORMATIVE

SUMMATIVE

Assessment

TRADITIONAL ASSESSMENT
FINAL EXAM /TAKE HOME EXAM

ALTERNATIVE ASSESSMENT
ASSIGNMENT

Biggs. J. (2003) Teaching for Quality Learning at University – What the Student Does?. 2nd Edition SRHE / Open University Press, Buckingham.

TYPES OF ASSESSMENT

FORMATIVE	SUMMATIVE	
	CONTINUOUS (ASSESSMENT)	AT THE END / TESTING (EVALUATION)
	CASE 1	
	ALTERNATIVE ASSESSMENT (60%)	TRADITIONAL ASSESSMENT (40%)
	ALTERNATIVE ASSESSMENT (50%)	TRADITIONAL ASSESSMENT (50%)
	ALTERNATIVE ASSESSMENT (70%)	TRADITIONAL ASSESSMENT (30%)
	COMPETENCY GROUP	MASTERY INDIVIDUAL
	CASE 2	
	ALTERNATIVE ASSESSMENT (100%)	
	MASTERY - INDIVIDUAL 30%, 40% COMPETENCY –GROUP 70%, 60%	

CONTINUOUS
FOR IMPROVEMENT
CALLED AS TNL ACTIVITIES
GIVING FEEDBACK
MONITORING PURPOSES

NON-GRADED

CLASSROOM ASSESSMENT TECHNIQUES (CATs)
"The central purpose of Classroom Assessment is to empower both teachers and their students to **improve the quality of learning** in the classroom" through an approach that is "learner-centered, teacher-directed, mutually beneficial, formative, context-specific, and firmly rooted in good practice" (Angelo & Cross, 1993, p. 4)

- Techniques for assessing course-related knowledge and skills
- Techniques for assessing learner attitudes, values and self-awareness
- Techniques for assessing learner reactions to instruction

https://citl.illinois.edu/citl-101/teaching

Eg:
Mind Map
I minute Paper
Muddiest Point
Round Robin Chart
Exit / Entrance Ticket
Strategic Questioning
Test

ASSESSMENT STRUCTURE

1	FINAL EXAM / TAKE HOME EXAM (MCO)	CLO1-PLO1	SUMMATIVE	40%
2	META ANALYSIS REPORT(MCR)	CLO2-PLO2	ALTERNATIVE SUMMATIVE ASSESSMENT	20%
3	INSTRUMENTATION CYCLE REPORT(ICR)	CLO3-PLO7	ALTERNATIVE SUMMATIVE ASSESSMENT	30%
4	PRESENTATION (P)	CLO4-PLO5	ALTERNATIVE SUMMATIVE ASSESSMENT	10%

SCORING TOOLS

- PLO1 (TECHNICAL – CONTENT) – ANSWER SCHEME
- PLO2(TECHNICAL - CONTENT) - RUBRIC
- PLO7 (NUMERICAL SKILL) - RUBRIC
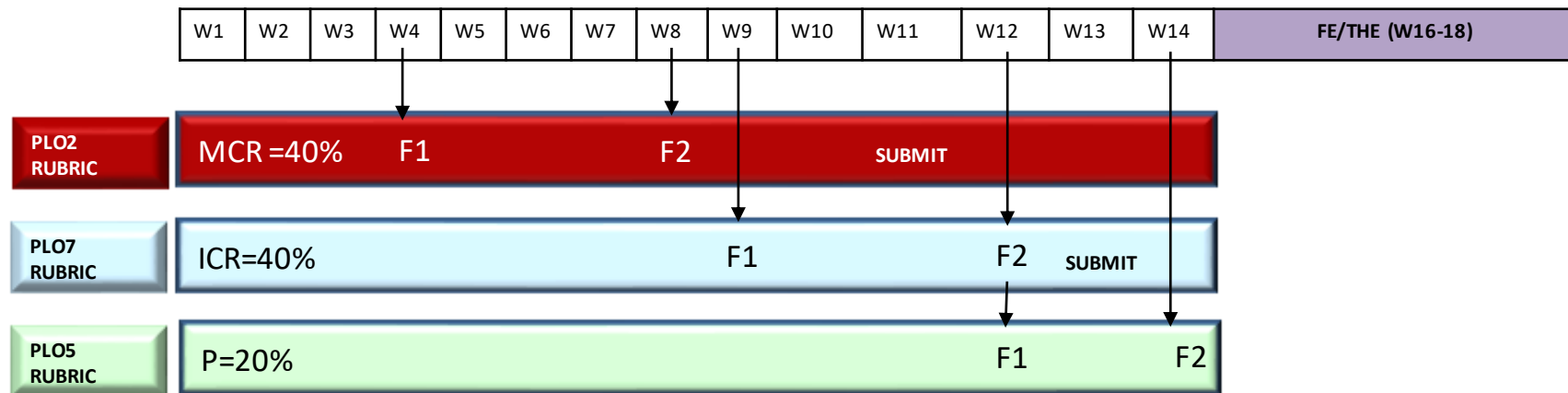- PLO5 (COMMUNICATION SKILL) - RUBRIC

What does Test mean?

According to the American Heritage Dictionary test means **'a series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability.'**

- A test is a **short exam** that a educator gives to his or her students at the end of a lesson in order to understand how much of what he or she has taught has gone into the students' minds.

- A test is **not** very formal.

Tanner, D.E.(2001). Assessing Academic Achievement. Allyn and Bacon,Needham Heights, MA

What does Exam mean?

The word **exam** referring to a very **formal test / MASTERY test.**

In the educational level, it is a test that tests knowledge **on a number of lessons**.

Exam is held at the end of a semester or a term; can be **written exam or practical exam**.

Tanner, D.E.(2001). Assessing Academic Achievement. Allyn and Bacon,Needham Heights, MA

UNDERLYING CONCEPT

Provide information about an individual's achievement of a course objective or **MASTERY** **of an area of the content**

Tanner, D.E.(2001). Assessing Academic Achievement. Allyn and Bacon,Needham Heights, MA

WHAT MAKES AN EXAM A GOOD EXAM?

1.Variance in scores: The goal of discrimination is achieved only if there is sufficient variance in the scores of the test takers. A test which is **too tough** would result in all test takers scoring low marks while one that is **too easy** will lead to overall high scores thereby **not highlighting any discrimination** on any of the criterions and thus neither test is considered good.

2.Reliability: Is a measure of a test's consistency – both over a period of time as well as internal consistency. It measures **precision of test scores** or extent of measurement error in the test (SEM low, Reliability high)

Linn, R.L & Miller, M.D. (2005). Measurement and Assessment in Teaching. Pearson Education Inc., Upper Saddle River, New Jersey

WHAT MAKES AN EXAM A GOOD EXAM?

✓ **3. Validity**: Validity is an indicator of **how well an assessment is measuring what it is supposed to measure**. In other words it measures a test's usefulness.

✓ **4. Truth in Testing/ Integrity:** A good test has integrity and transparency built into it at multiple stages.

While the test is being developed, it should be reviewed by a number of experts to make it free of developer bias,

Once the test is developed it is reviewed on the basis of its content and scoring.

Linn, R.L & Miller, M.D. (2005). Measurement and Assessment in Teaching. Pearson Education Inc., Upper Saddle River, New Jersey

VALIDITY [MEASURE WHAT SUPPOSED TO BE MEASURED]

- **CONTENT VALIDITY** deals with whether the assessment contents are appropriate, given what is being measured.

- It is to ensure that the questions on the exam cover the course content area of focus appropriately, in appropriate ratios.

Linn, R.L & Miller, M.D. (2005). Measurement and Assessment in Teaching. Pearson Education Inc., Upper Saddle River, New Jersey

Test Blueprint /JSU

• **What is Table of Specifications (TOS)?**

• TOS, sometimes referred to as test blue print, is a table that helps teachers align objectives, instruction and assessment.

• TOS should be prepared before testing in order to have content sampling and item validity

O.M Alade, Igbinosa Victor Omoruyi (2014). Table Of Specification And Its Relevance In Educational Development Assessment. European Journal of Educational and Development Psychology Vol.2, No.1, pp.1-17, March 2014

- Using TOS to organize a teacher made test help to alleviate content validity problem because it helps the teacher to create good balance in several areas. (Nunnaly, 2007).

O.M Alade, Igbinosa Victor Omoruyi (2014). Table Of Specification And Its Relevance In Educational Development Assessment. European Journal of Educational and Development Psychology Vol.2, No.1, pp.1-17, March 2014

A TOS/ Test Blueprint helps to ensure that there is a match between what is taught and what is tested.

The TOS ensures that there is balance between items that test lower level thinking skills and those which test higher order thinking skills

The purpose of a TOS is to identify the achievement domains being measured and to ensure that a fair and representative sample of questions appear on the test.

Chase, C.I. (1999). Contemporary Assessment For Educators. New York: Longman.

PREPARING TEST BLUEPRINT

- Select **the learning outcomes** to be tested
- **Outline** the subject matter
- **Making the two-way chart**
- **Distributing the number of test item** (relative weights) according to cells of the table

Mapping of the Course Learning Outcomes (CLO) to the Programme Learning Outcomes (PLO), Teaching & Learning (T&L) methods and Assessment methods:

No.	CLO*	PLO (Code)	**Taxonomies and ***generic skills	T&L methods	****Assessment methods
CLO1	Evaluate the psychological test in terms of its psychometric properties, procedures in designing for research purpose, interpretation of the scores and/or the challenges, trends and issues related to psychological testing.	PLO1 (KW)	C6	Lecture Intermittent Discussion (ID): Think-Pair-Share Round Robin Mind Mapping	Final Exam: 40%
CLO2	Design Meta Content Analysis according to the principles of measurement to extract the conceptual and operational definition of a construct being measured.	PLO2 (CG)	C6	Case Study ID: Read & Examine Brainstorming	Meta-Analysis Report: 20% *Report Rubric

1

Levels of Cognitive
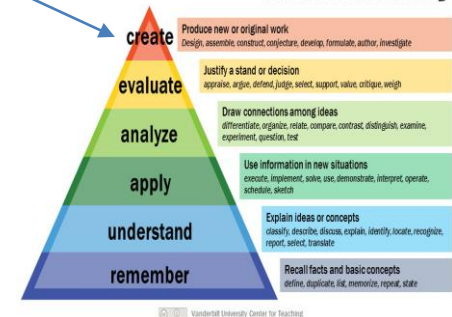
Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. Retrieved 3 May 2021] from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/.

2

CONTENT TO BE TESTED

Week 1	Introduction to Scaling and Instrumentation	
Week 2	Measurement Data (Nominal, Ordinal, Interval, Ratio)	✓
Week 3	Types of Scales	✓
Week 4	Instrumentation Plan	✓
Week 5	Instrument Development Process	✓
Week 6	Instrument Conceptualization [Questionnaire]	✓
Week 7	Item Construction	✓
Week 8	Pilot Test	✓
Week 9	Semester Break	
Week 10	Establish Validity	✓
Week 11	Establish Reliability	✓
Week 12	SPSS/Winsteps (Data Input)/	
Week 13	SPSS/Winsteps (Data Analysis)	✓
Week 14	SPSS/Winsteps (Data Interpretation)	
Week 15	Revision	
Week 16-18	Exam	

TEST BLUEPRINT

SCHOOL & FACULTY	School of Education Faculty of Social Sciences and Humanities		
NAME			
COURSE		CODE :	
SECTION		SESSION	

No.	TOPIC/SUBTOPIC	Objective Items (O) Essay Items (E)	CLO	PLO	COGNITIVE LEVELS						Total	Percentage (%)
					Remember	Understand	Apply	Analyze	Evaluate	Synthesize / Create		
Total												
Percentage (%)												
					LOTs			HOTs				

Prepared By:

_____

Date:

TEST BLUEPRINT

SCHOOL & FACULTY	School of Education Faculty of Social Sciences and Humanities		
NAME			
COURSE		CODE :	
SECTION		SESSION	

No.	TOPIC/SUBTOPIC	Objective Items (O) / Essay Items (E)	CLO	PLO	Remember	Understand	Apply	Analyze	Evaluate	Synthesize / Create	Total
					COGNITIVE LEVELS						
1	Measurement Data (Nominal, Ordinal, Interval, Ratio)	O	1	1	1,2						2
2	Types of Scales	O	1	1		3		4			2
3	Instrumentation_Plan	O	1	1	5			6	7	8	4
4	Instrument Development Process	O	1	1		9	10	11			3
5	Instrument Conceptualization_[Questionnaire]	O	1	1		12	13,14		15	16	5
6	Item Construction	O	1	1	17	18		19	20	21	5
7	Pilot Test	O	1	1		22		23	24		3
8	Validity	O	1	1	25		26			27	3
9	Reliability	O	1	1					28		1
10	Data Analysis and Interpretation	O	1	1			29			30	2
	Total				5	5	5	5	5	5	30
	Percentage (%)				50%			50%			100%
					LOTs			HOTs			

Prepared By:

/

_____

Date:

TEST BLUEPRINT

SCHOOL & FACULTY	School of Education Faculty of Social Sciences and Humanities	
NAME		
COURSE		CODE :
SECTION		SESSION

No.	TOPIC/SUBTOPIC	Objective Items (O) / Essay Items (E)	CLO	PLO	Remember	Understand	Apply	Analyze	Evaluate	Synthesize / Create	Total
1	Measurement Data (Nominal, Ordinal, Interval, Ratio)	E	1	1	1 (i)-3m	1(ii)-4m					
	Types of Scales						1(iii)-3m				
2	Instrumentation Plan	E	1	1		2(i)-3m					
	Instrument Development Process							2(ii)-3m			
	Instrument Conceptualization									2(iii)-4m	
3	Item Construction	E	1	1					3(i)-5m	3(ii)-5m	
4	Pilot Test					4(i)-3m					
	Validity	E	1	1				4(ii)-3m			
	Reliability								4(iii)-4m		
10	Data Analysis and Interpretation	E	1	1			5(i)-2m	5(ii)-4m		5(iii)-4m	
	Total				3	10	5	10	13	9	40
	Percentage (%)					18%			22%		100%
						LOTs			HOTs		

Prepared By:

_____

Date:

MPPR1333
Introduction to
Scaling and
Instrumentation

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

UNIVERSITI TEKNOLOGI MALAYSIA
FAKULTI PENDIDIKAN

FINAL EXAM
(TAKE HOME EXAM)

SEMESTER II SESSION 2020/2021

INTRODUCTION TO SCALING AND INSTRUMENTATION

Five Hours

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Instructions:

1. This paper consists of **thirty (30) multiple choice** questions.
2. Answer **all** questions in teh answer sheet given.

MPPR1333
Introduction to
Scaling and
Instrumentation

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