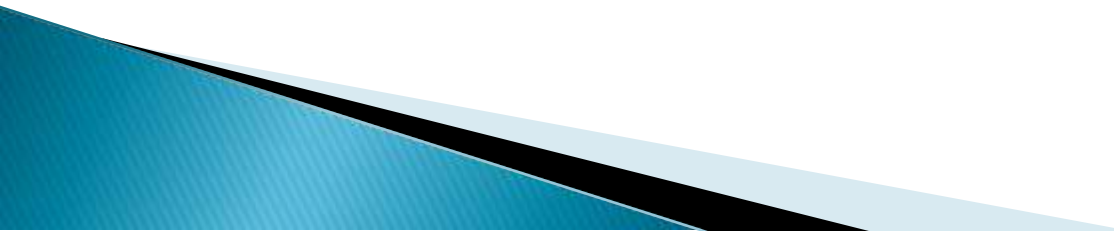


Chapter 1

VARIATIONS IN PSYCHOLOGICAL ATTRIBUTES

By : SHEFFALY JAIN

LEARNING OBJECTIVES

- ▶ After going through this presentation, you will be able to:
 1. understand Sternberg's Triarchic theory of Intelligence.
 2. comprehend PASS model of Intelligence.
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INFORMATION PROCESSING APPROACHES

THEORY

1. TRIARCHIC THEORY
2. PASS MODEL

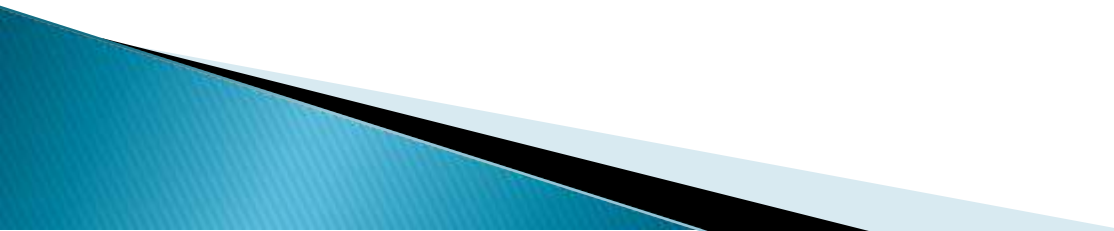
THEORISTS

- ▶ ROBERT STERNBERG
- ▶ J. P. DAS, JACK NAGLIERI, KIRBY

TRIARCHIC THEORY OF INTELLIGENCE

BY ROBERT STERNBERG (1985)

Sternberg defined intelligence as “ the ability to adapt, to shape and select environment to accomplish one’s goals and that of one’s society and culture.”



According to Sternberg's theory, there are three basic types of intelligences

Componential

Experiential

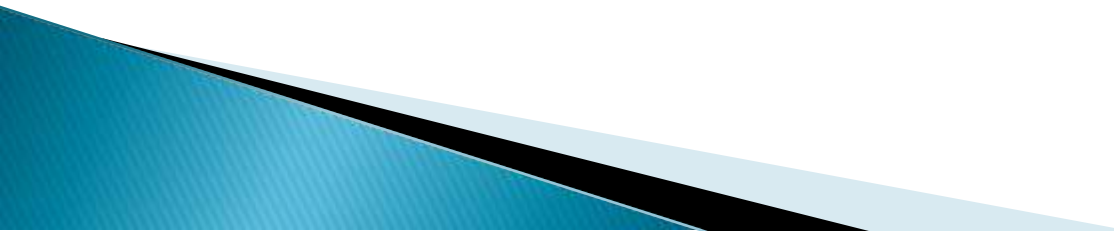
Contextual

Knowledge
Acquisition
component

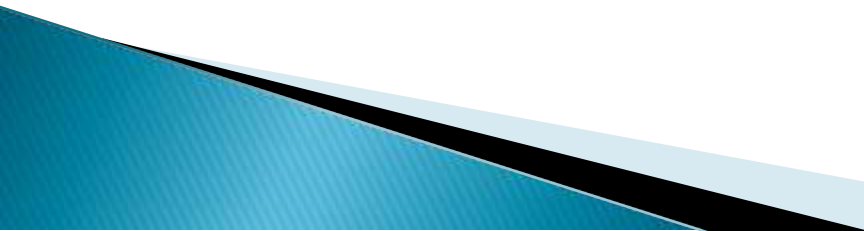
Meta component

Performance
component

Componential Intelligence

- ▶ also known as analytical intelligence
 - ▶ Involves analysis of information to solve problems
 - ▶ Persons high on this ability think analytically and critically and succeed in schools
- 

Componential intelligence has three components, each serving a different function.

1. Knowledge acquisition component – is responsible for learning and acquisition of the ways of doing things.
 2. Meta or a higher order component – involves planning concerning what to do and how to do.
 3. Performance component – involves actually doing things.
- 

Experiential Intelligence

- ▶ also known as creative intelligence
- ▶ is involved in using past experiences creatively to solve novel problems.
- ▶ Persons high on this aspect integrate different experiences in an original way to make new discoveries and inventions. They quickly find out which information is crucial in a given

Contextual Intelligence

- ▶ also known as practical intelligence (‘*street smartness*’ or ‘*business sense*’)
- ▶ involves the ability to deal with environmental demands encountered on a daily basis.
- ▶ Persons high on this aspect easily adapt to their present environment or select a more favourable environment than the existing one, or modify the environment to fit their needs. Therefore, they turn out to be successful in life.

STERNBERG'S TRIARCHIC THEORY OF INTELLIGENCE (I)

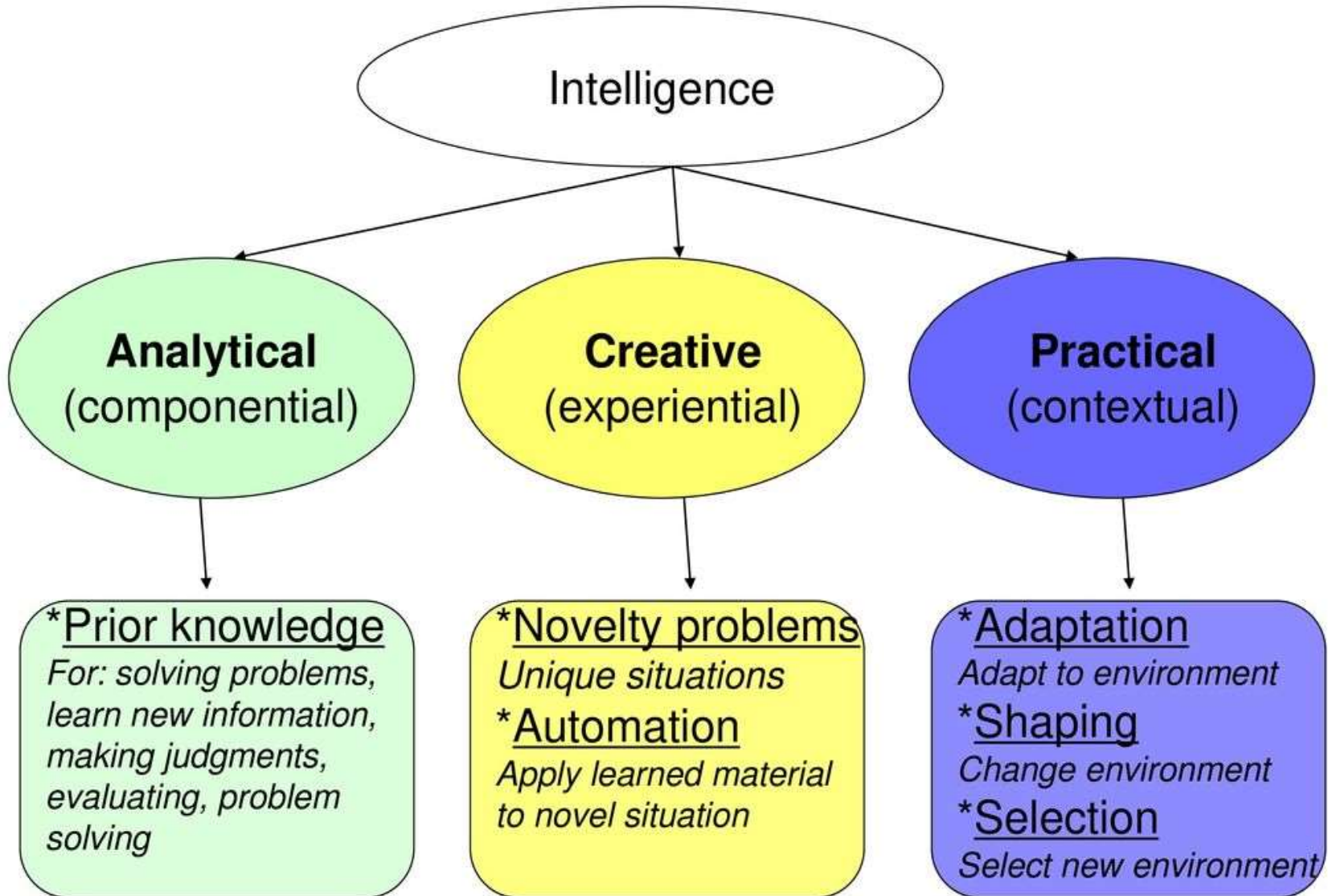


Table 3. Summary of Sternberg's Triarchic Theory of Intelligence

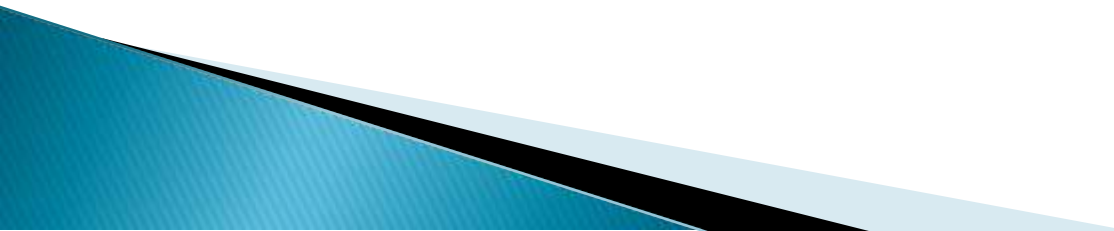
Area	Description	Popular Conception	Exemplar
Analytical	Mathematical ability and logical reasoning	IQ	Einstein
Creative	The ability to make unique connections and see the world in original ways	Creativity	Van Gogh
Practical	The ability to plan, strategize, and accomplish goals	Street smarts	Napoleon

<i>Triarchic Ability</i>	<i>Definition</i>	<i>Strengths</i>	<i>As Applied to Astronomy Village</i>
Analytic	Reasoning abstractly; acquiring knowledge; processing information; planning and executing strategies	<ul style="list-style-type: none"> • Analyzing • Evaluating • Explaining • Comparing and contrasting 	Reading library articles, decoding new vocabulary words, solving math problems, interpreting analyses of images, and examining graphical data
Creative	Using experience, insight and creativity to solve new problems, create new ideas, or combine unrelated facts	<ul style="list-style-type: none"> • Creating • Designing • Imagining • Supposing 	Inventing solutions to ill-defined, novel problems
Practical	Adapting to contexts; selecting or shaping one's environment	<ul style="list-style-type: none"> • Using • Applying • Implementing 	Conducting hands-on experiments; explaining difficult concepts, such as light years, in practical terms

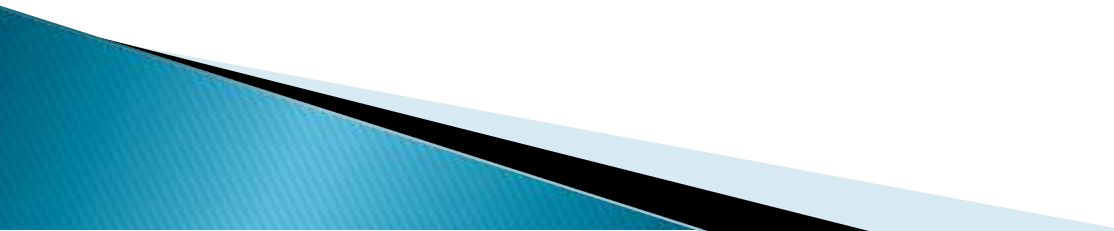
Table continues

PASS MODEL OF INTELLIGENCE

BY J. P. DAS, JACK NAGLIERI, and
KIRBY (1994)

- PASS stands for Planning, Attention-arousal, and Simultaneous-successive
 - According to this model, intellectual activity involves the interdependent functioning of three neurological systems, called the functional units of brain.
 - These units are responsible for arousal/attention, coding or processing, and planning respectively
- 

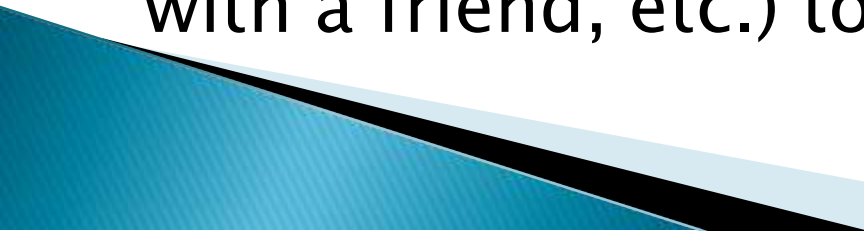
Arousal/Attention

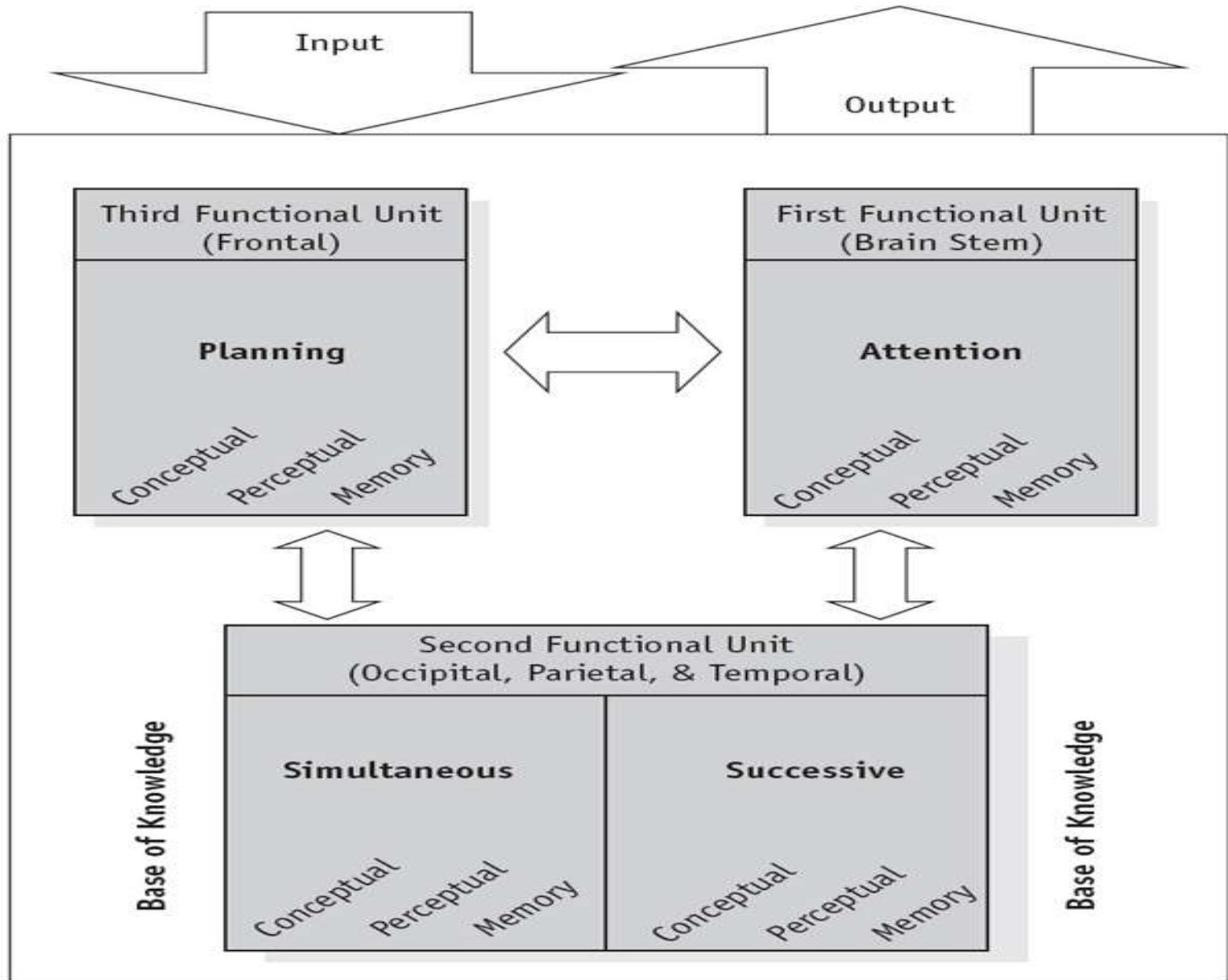
- ▶ An optimal level of arousal focuses our attention to the relevant aspects of a problem. Too much or too little arousal would interfere with attention.
 - ▶ For instance, when you are told by your teacher about a test which s/he plans to hold, it would arouse you to attend to the specific chapters. Arousal forces you to focus your attention on reading, learning and revising the contents of the chapters.
- 

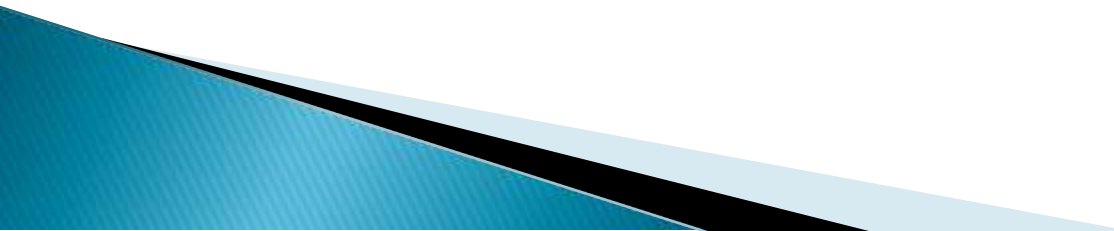
Simultaneous and Successive Processing

- ▶ Simultaneous processing – helps to perceive the relations among various concepts and integrate them into a meaningful pattern for comprehension. Eg. Items in Raven's Progressive Matrices (RPM) Test. (helps in grasping the meaning and relationship between the given abstract figures)
- ▶ Successive processing – takes place when you remember all the information serially so that the recall of one leads to the recall of another. Eg. Learning of digits, alphabets, multiplication tables, etc.

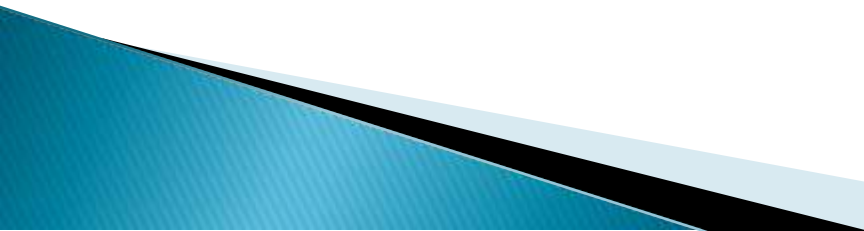
Planning

- ▶ It allows us to think of the possible courses of action, implement them to reach a target, and evaluate their effectiveness. If a plan does not work, it is modified to suit the requirements of the task or situation.
 - ▶ For example, to take the test scheduled by your teacher, you would have to set goals, plan a time schedule of study, get clarifications in case of problems and if you are not able to tackle the chapters assigned for the test, you may have to think of other ways (e.g., give more time, study with a friend, etc.) to meet your goals.
- 



- ▶ These PASS processes operate on a knowledge base developed either formally (by reading, writing, and experimenting) or informally from the environment.
 - ▶ These processes are interactive and dynamic in nature; yet each has its own distinctive functions.
- 

Cognitive Assessment System (CAS)

- ▶ It is battery of tests developed by Das and Naglieri
 - ▶ It consists of verbal as well as non-verbal tasks that measure basic cognitive functions presumed to be independent of schooling.
 - ▶ The battery of tests is meant for individuals between 5 and 18 years of age.
 - ▶ The results of assessment can be used to remedy cognitive deficits of children with learning problems.
- 

Watch the videos through the following link to seek further clarity.

Triarchic theory of Intelligence

- ▶ <https://youtu.be/L7C7qIRYiv0>
- ▶ <https://youtu.be/N5vJSNXPEwA>

PASS model of Intelligence

- ▶ https://youtu.be/5ak_ax4XgFY

Also go through the following pages –

- ▶ <http://mains2011.blogspot.com/2011/08/psychology-intelligence-theory-pass.html>
- ▶ <https://www.intelltheory.com/das.shtml>

Attempt the given questions

1. Determine the component of Sternberg's multiple intelligence theory that is best illustrated by following individuals:
 - a) Diya is examining data to look for trends
 - b) Binod, a graduate student who generates many innovative research ideas
 - c) Leena, a newspaper reporter who has a knack for making connections with very important people
 - d) Rahul, a college student who quickly recognizes the correct answers to multiple choice questions
 - e) Pallavi, president of a small company, who successfully implements the business plan her partner developed
 - f) Manav, a community college teacher who was recognized for writing a book of poetry
 - g) Anna, a law student who ranks at the top of her class for her critiques of legal cases

2. Differentiate between various types of intelligences proposed by Sternberg.
 3. Describe PASS model of intelligence.
 4. Differentiate between simultaneous and successive processing.
 5. What is the role of planning in problem solving?
 6. Write a note on CAS.
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