Concept of Mind
Block

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CONCEPT OF MIND

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BLOCK 1  INTRODUCTION

In this course you will come across the basic fundamentals of mental health. The present block deals with the definition of mental health, the concept of mind, its structure and constituents, and also about the biological and psychological basis of mind.

Here in Block 1 of MPC-051, we will be focusing on the concept and definition of Mind and Mental Health.

**Unit 1** deals with “Mental Health”. It discusses the various definition, concepts and issues related to the mental health. The Unit further deals with the scientific approaches to mental health. The first Unit of this block will help you in understanding the basics of mental health.

**Unit 2** deals with “Mind: Constituents of Mind”. This Unit discusses about the various constituents of mind. It later focuses on the Eastern as well as Western facets towards the explanation of the concept of mind. This Unit also hubs around the nature, structure and the levels of mind according to Ayurveda and also explains the concept of Manas.

**Unit 3** describes the “Biological Basis of Mind”. It elucidates the significant contribution of bodily/biological changes in the field of mental health. The role of brain functioning with reference to consciousness and also in the regulation of emotions, cognitions as well as the brain functions related to memory, sleep and dream states have been explained in this Unit.

**Unit 4** is “Psychological Basis of Mind”. It describes the different contributions and viewpoints of various psychologists like Freud, Jung towards the functioning of mind and brain. This Unit also tries to explain the humanistic psychologists and cognitive psychologists aspects of mind.
UNIT 1 MENTAL HEALTH

Structure

1.1 Introduction

1.2 Objectives

1.3 Defining Mental Health

   1.3.1 Model A – Mental Health as Above Normal
   1.3.2 Model B – Mental Health as Maturity
   1.3.3 Model C – Mental Health as Positive or Spiritual Emotions
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   1.3.5 Model E – Mental Health as Subjective Well-Being
   1.3.6 Model F – Mental Health as Resilience

1.4 Let Us Sum Up

1.5 Answer to Self Assessment Questions

1.6 Unit End Questions

1.7 References

1.1 INTRODUCTION

In day to day language, the term “health” is often used to refer to the absence or presence of disability or disease. People of different background and cultures may have different concept of health. The concept may also differ according to the circumstances. For example, an older person may consider inner strength and ability to cope with life’s challenges as health. On the other hand, a younger person would consider fitness, energy and strength as more important, and as indicators of health. Those who live in good living conditions tend to think of health in the context of enjoying life, while those who do not live in so comfortable circumstances may consider essentials in daily life as health. The World Health Organisation (WHO) has defined health as “a state of complete physical, mental and social well-being and not merely absence of disease or infirmity”.

A number of factors may enhance or threaten an individual’s or community’s health status. Some of these may be under the control of an individual (e.g., smoking) and others may not be, such as social class, ethnicity, access to education, gender, quality of housing, presence of supportive relationship etc. (World Health Organization Report, 2004)

In today’s context, it is important to understand the meaning of mental health, since in the last few decades, the employing institution is eager to know about mental fitness of a person besides physical fitness for the job, a prospective employee is going to a join. The mental health professional may be asked to assess the mental health status of the prospective Candidate. The WHO defines mental health as “a state of wellbeing, in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” Thus, the mental health refers to a broad group of activities...
directly or indirectly related to mental well-being. The activities include promotion of wellbeing, the prevention of mental disorders, and the treatment and rehabilitation of people affected by mental disorders (WHO, 2012). There is no health without mental health.

The following section discusses the various concepts and issues related to the mental health.

### 1.2 OBJECTIVES

After going through this Unit, you will be able:

- to define mental health;
- to understand the concept of mental health; and
- to understand the six empirical approaches to mental health.

### 1.3 DEFINING MENTAL HEALTH

Psychiatry has been preoccupied only with mental illness for long and that there is a lack of attention given to the study of positive mental health. Mental health is not just the absence of negatives (psychopathology or symptoms of illness), but the presence of positives. To further elaborate, mental health is conceptualised as a multifaceted construct. Defining mental health is not very easy as it includes several issues that need to be considered carefully. Mental health may be conceptualised along the following six constructs or the models (Vaillant, 2003; Vaillant & Vaillant, 2009):

a) Mental health is above normal
b) Mental health as maturity
c) Mental health as positive or spiritual emotions
d) Mental health as socio-emotional intelligence
e) Mental health as subjective well-being
f) Mental health as resilience

#### 1.3.1 Model A – Mental Health as Above Normal

According to this model, mental health is something above normal. Normality is perceived as being on a continuum, encompassing the major portion of the adults on the continuum, while abnormality is the remainder. Thus, the normal refers to the reasonable, rather than optimum level of functioning. However, mental health would be considered as above average. For example, in the military, a jet pilot must be required to be above average in mental health for his occupational demands.

To understand this concept, it is important to trace the historical changes, which have occurred in this concept in the past century. What is normal in relation to mental health has been a matter of debate for a long time.
According to one prevalent concept it is the absence of psychosomatic symptoms. This concept was practiced from 1940s to 1970s. This definition of mental health was initially used in the United States by John Clausen and his co-workers in 1941 to assess the young men enlisted into the United States army. Thus, the absence of psychopathology was considered as synonymous with normal.

Changes in the procedure of assessment of mental health were seen after the World War II. Normal adaptive behaviour of those who served in the army was studied and the observations were published in scientific literature. There was a focus on the adaptation of the army veterans into civilian life.

In 1958, Marie Johoda brought in a major change in the conceptualisation of mental health. In this model, the criteria for assessing mental health focused on positive aspects of mental health, rather than absence of symptoms of mental illness. The criteria for assessing mentally healthy individuals included:

- One should be in touch with his/her identity and feelings.
- One should be oriented towards the future and overtime should be fruitfully invested in life.
- One’s psyche should be integrated and provide him/her resistance to stress.
- One should possess autonomy and recognise what suits one’s needs.
- One should perceive reality without distortion and yet possess empathy.
- One should be master of one’s environment. One should able to work, love and play and be efficient in problem-solving.

Other important longitudinal studies showed that mental health characteristics were predictable and that mental health could be empirically studied.

Eventually, the importance of defining mental health has been increasingly recognised and attempts have been made to continue to describe and define mental health.

American Psychiatric Association’s, Diagnostic and Statistical manual of Mental Disorders, 4th edition, 1994 (DSM-IV) used the Global Assessment of Functioning (GAF) scale to measure “above average” mental health. The GAF scale was a modification of the Health Sickness Scale and the Global Assessment Scale. On the GAF Scale, a score of 91–100 equals “superior functioning in a wide range of activities. This level also includes ability to cope effectively with various life’s problems, which never seem to get out of hand. The functioning level, is sought out by others because of the many positive qualities. The person obviously does not have any symptoms.” The 5th edition of the American Psychiatric Association’s Diagnostic and Statistical manual of Mental Disorders, 2013 (DSM-5) has, however, not included GAF scale or any other specific measure of assessing the functioning status.

It is important to emphasise here that mental health should be defined broadly and not narrowly, since it is difficult or even impossible to have uniform norms.
Concept of Mind across the different societies or cultures. In any definition, cultural sensitivities should be taken into consideration, and the definitions should be empirically and longitudinally validated.

1.3.2 Model B – Mental Health as Maturity

This model conceptualises mental health as a state of maturity. The model is based on the eight stages of human development, as described by Erik Erikson in 1950 and the Harvard’s Study of Adult Development. The association of mental health to maturity is probably mediated not only by progressive brain myelinisation, as a person grows older, but also by the evolution of emotional and social intelligence through experience. In the Indian family system, looking to the elderly for advice in case of any crisis is an example of looking to the mature mind (i.e. the perfectly healthy mind) for finding a solution to the difficult situation.

This model of mental health as maturity includes 6 components: identity, intimacy, generativity and integrity (4 concepts borrowed from Erikson), career consolidation and keeper of the meaning (derived from the Harvard’s Study of Adult Development). The concepts are further discussed as below:

1) **Identity:** Identity is a developmental task which emphasises that the adolescents must achieve an identity which allows them to become separate from their parents. Identity is not just a product of egocentricity, such as running away from home or marrying to get out of a dysfunctional family, but is the understanding of one’s own values as independently and distinct from the values of family origin. For example, pursuing a career of one’s choice rather than reluctantly taking up family’s choice. The decision, if based on internalising family values as well as the values of the society or the peer group with an independent judgement would indicate developing a mature identity. Biological maturation also has an important role here.

2) **Intimacy:** Development of an intimate relationship permits an individual to reciprocate with the partner and not remain selfish or self centred. There should be a commitment in the relationship. This capacity for intimacy becomes effortless, as the relationship stabilises. Intimacy is desirable in not just one-to one relationship but also in other interpersonal relationships. Mastery of intimacy also depends on the cultural factors.

3) **Career consolidation:** Mastery of this task permits adults to find career as valuable as one considered during earlier phases of life. This involves being valuable not only to oneself but also to others. Contentment, compensation, competence, and commitment play an important role in career consolidation.

4) **Generativity:** Generativity refers to a demonstration of a clear capacity to care for and guide the next generation. The phase comes sometime during the age 35-55 and includes decline in one’s desire for one’s achievement and an increasing inclination to serve the community in a variety of ways.

5) **Keeper of the meaning:** This is one of the ultimate responsibilities underlying maturity, which involves passing the tradition of the past to the future. Conserving and preserving cultural values and passing it on to the future generation is an indicator of mental health.
6) **Integrity**: Integrity refers to achieving some sense of peace and unity with respect to both one’s life as well as to the whole world.

These six sequential tasks are a kind of a general guidance to help clinicians make an assessment of mental health as per the age of the person. One may be a mature 21-year-old and healthy, or an immature 50-year-old, and unhealthy.

<table>
<thead>
<tr>
<th>Self Assessment Questions 1</th>
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<tbody>
<tr>
<td><strong>State whether the statements are true or false:</strong></td>
</tr>
<tr>
<td>1) Identity is a developmental task. ( )</td>
</tr>
<tr>
<td>2) The Global Assessment of Functioning (GAF) scale is used to measure “below average” mental health. ( )</td>
</tr>
<tr>
<td>3) The model of mental health as maturity includes 4 components: identity, intimacy, generativity and integrity. ( )</td>
</tr>
<tr>
<td>4) Integrity refers to achieving some sense of peace and unity with respect to both one’s life as well as to the whole world. ( )</td>
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</tbody>
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1.3.3 **Model C – Mental Health as Positive or Spiritual Emotions**

This model defines both mental and spiritual health as the amalgam of the positive emotions that bind us to other human beings. Recent advances in neuroscience and in the biological understanding of positive emotions have brought out the significance of positive psychology.

This model comprises eight important positive emotions: love, hope, joy, forgiveness, compassion, faith, awe and gratitude. They all involve human connections and do not have anything to do just with self. All major religious faiths emphasise the importance of these emotions.

Positive emotions have an effect on our autonomic (visceral) nervous system, similar to the relaxation achieved with meditation. The positive emotions reduce the basal metabolism by acting through the parasympathetic nervous system. Functional magnetic resonance imaging (FMRI) studies on Kundalini yoga practitioners have shown that meditation increases the activity of the hippocampus and the right lateral amygdala, which further stimulates the parasympathetic system, leading to a sensation of deep peacefulness.

1.3.4 **Model D – Mental Health as Socio-Emotional Intelligence**

This model conceptualises mental health with socio-emotional intelligence. Socio-emotional intelligence refers to accurate conscious perception and monitoring of one’s emotions and ability to modify emotions so that the expression of emotions is appropriate. This would also include an accurate recognition of others’ emotions and an appropriate response. One should have skills in negotiating close relationship with others and a capacity for focusing emotions towards a desired goal.
Concept of Mind

High socio-emotional intelligence reflects above average mental health. Emotional intelligence lies at the heart of positive mental health. The capacity to identify the different emotions in ourselves and in others has an important role in the social interactions and relationships, and hence in mental health.

<table>
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<tr>
<th>Self Assessment Questions 2</th>
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<tbody>
<tr>
<td>Fill in the blanks with suitable words:</td>
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<tr>
<td>1) Socio-emotional intelligence refers to accurate conscious perception and ..................................................</td>
</tr>
<tr>
<td>2) Model C defines mental and spiritual health as the amalgam of the .................................................. that bind us to other human beings.</td>
</tr>
<tr>
<td>3) Studies show that meditation increases the activity of the .................................................. and .................................................. ..........., which further stimulates the parasympathetic system, leading to a sensation of deep peacefulness.</td>
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<tr>
<td>4) Positive emotions have an effect on our .................................................. nervous system.</td>
</tr>
<tr>
<td>5) The eight important positive emotions comprises of .................................................. ..................................................</td>
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1.3.5 Model E – Mental Health as Subjective Well-being

The capacity for subjective well-being is an important component of mental health. Positive mental health is not just being a joy to others but also experiencing subjective well-being. Subjective well-being is a complicated concept, because mental health issues are influenced by value judgment and illusion. What may be subjective well-being for a person may not be same for another person. The primary function of positive emotions is to facilitate self-care. However, the primary functions of subjective negative emotions can also be healthy, reminding one to seek environmental safety. Subjective well-being is not just the absence of misery but the presence of positive contentment.

Earlier definitions suggested that a happy person is young, healthy, well educated, well paid, optimistic, worry free, religious and married with high self-esteem, holding a reasonably good job, is of good morale and has modest aspirations. However, the later researchers have shown that this definition is partly correct and they have suggested that the subjective well-being could be partially inherited and is relatively not dependent on socio-demographic variables. The maintenance of self-efficacy and autonomy make additional environmental contributions to subjective well-being. For example elders might decide to live on their pension money independently rather than with relatives, an example of subjective well-being.

1.3.6 Model F – Mental Health as Resilience

Resilience is the ability to be flexible and to get back to normalcy when faced with stressful situations. One needs to have an adaptive reactions pattern. There are three broad classes of coping mechanisms for developing resilience:
• One may consciously seek social support in an appropriate manner.

• One may employ conscious cognitive strategies (thinking patterns) to master the stressful situations.

• One may have adaptive involuntary coping mechanisms called defense mechanisms that distort perceptions of internal and external reality in order to reduce subjective distress. Although it may appear that these defense mechanisms are maladaptive patterns, these are normal coping reactions to reduce conflict and cognitive dissonance. This helps in maintaining internal homeostasis in mental health of an individual.

Healthy involuntary mechanisms include use of humour, altruism, sublimation, suppression, and anticipation. These concepts are briefly discussed as follows:

• **Humour** makes life easier and permits discharge of emotions. It allows one to even directly look at painful situations and deal with it.

• **Altruism** (getting pleasure from helping others) is used to master conflict situations. For example, a former alcoholic wanting to help others to overcome alcohol dependence gets mental satisfaction by being altruistic.

• **Sublimation** is a process of converting painful situations into triumph. Examples include extreme sad feelings can be expressed through poetry or music or a person with violent feelings joining the armed forces.

• **Suppression** minimizes and postpones facing the problem situations but eventually deals with it. This is also a method of adaptive coping.

• **Anticipation** is the capacity to keep the affective response to an unbearable future event in manageable doses in one’s mind, and use it at the appropriate time.

The study of individuals with positive mental health is crucial in understanding the vulnerability to mental illness. This is important from the point of developing primary prevention, which is definitely better than treating the illness.

Currently, each mental illness is identified by a set of symptoms present or elicited signs. This assembled set of clinical information invariably includes variations arising from culture, language, geography, religion, country, etc. This information is based on the view points of both the client and the psychiatrist and therefore it varies according to each one’s perception. Sometimes there may be variations even from the same person at different points of time and also between people. These variations are often resolved by the process of voting or consensus by a selected group of experts. Criteria for diagnosis of mental illness are thereafter statistically derived, most often by some sort of scoring system on a list of enumerated symptoms for each diagnosis. This is an empirical approach, and may not be the ideal approach, since any illness should be diagnosed on ascertaining the disease process. But since the exact etiology of most psychiatric illnesses is not known, this practical approach has got a world wide acceptance.

Mental health is then understood by the lack of these symptoms for each diagnosis or by the principle of diagnostic exclusion. Even the so called positive definitions of mental health seem to be constructed indirectly from excluding what constitutes mental illness.
Self Assessment Questions 3
Choose the correct alternative:

1) Mental illness is identified by presence of a set of symptoms / assumptions.
2) Suppression minimises / maximises and postpones facing the problem situations but eventually deals with it.
3) Altruism is a process of getting pleasure from helping / hitting others.
4) The primary function of positive emotions is to facilitate self care / care for others.
5) Resilience is the ability to be flexible / rigid and to get back to normalcy.

1.4 LET US SUM UP

In the above discussion you should have understood that, Mental Health is an intrinsic part of health for any individual or community. It is essential for well-being and functioning of individuals, also it is an important resource to individuals belonging to all levels of society. Various components of mental health, factors affecting mental health and models of mental health have been discussed in this chapter. Important points that can help you in summarising the facts are as follows:

- WHO defines mental health as “a state of well-being, in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community. Mental health can be conceptualised as:
  - Above normal; a mental state, that is objectively desirable;
  - As maturity;
  - In terms of positive psychology, implying presence of multiple human strengths;
  - As emotional intelligence;
  - As subjective wellbeing, a mental state that is subjectively experienced as happy, contented and desired; and
  - As resilience – a capacity for successful “bouncing back” to normality, i.e. a tendency to cope with stress and adversity.

1.5 ANSWER TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions 1

1) True
2) False
3) False
4) True
Self Assessment Questions 2

1) Monitoring of one’s emotions and ability to modify emotions so that the expression of emotions is appropriate.

2) Positive emotions that bind us to other human beings.

3) Hippocampus and the right lateral amygdala.

4) Autonomic (visceral) nervous system.

5) Love, hope, joy, forgiveness, compassion, faith, awe and gratitude.

Self Assessment Questions 3

1) Symptoms

2) Minimizes

3) Helping

4) Care for others

5) Flexible

1.6 UNIT END QUESTIONS

1) What is the WHO definition of Mental Health?

2) Explain the factors that contribute to mental health.

3) Why is understanding and defining mental health important to the field of psychiatry?

4) Enumerate different models of mental health.

5) What are the difficulties in the current criteria for mental illness?

1.7 REFERENCES


UNIT 2 MIND: CONSTITUENTS OF MIND

Structure

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2.1 INTRODUCTION

It has been believed since millennia, that man has been intrigued by what mind is and what are its characteristics. Scientists and philosophers have attempted understanding it since long. The question still remains regarding the exact nature of mind and its association with the brain. Though we might have been able to understand the structure and function of different parts of the brain to a large extent, exact nature of mind still remains out of bounds, though one may be able to given different explanations for it and its functions. Historically, the philosophers like Plato and Aristotle, and later scientists like Ryle and Freud in the nineteenth and twentieth century made excellent attempts at resolving the puzzle of mind. The concept of mind is understood in different ways in different cultures and religious traditions. This unit discusses the early philosophical concepts, medical concepts and psychological concepts of mind.

2.2 OBJECTIVES

With the help of the present Unit, you will be able to:

- Understand mind and its constituents;
- Understand the Western concepts of mind;
Understand the Eastern concepts of mind;
Know the nature, structure and the levels of mind according to Ayurveda; and
Understand the concept of Manas.

2.3 WESTERN CONCEPTS OF MIND

Maxwell Bennett has provided an elaborate and comprehensive account of the historical ideologies related to mind. Nearly 6000 years ago, man began explaining his experiences of the self, especially experiences during sleep and dreams which intrigued him. He believed these experiences to be wandering, shadow like entities which came to be known as spirits in Shamanism. These wandering spirits were thought to be capable of ethereal travel, (Bennett, 2007)

Later, Homer, sometime during 8th – 5th century BC, identified this spirit as the ‘soul’, which he believed was located in the head. Homer identified two kinds of souls: a body soul with emotional, rational, intellectual, and mind components, and an impersonal as well as immortal soul, capable of ethereal travel.

Around the 4th century BC, Plato postulated about presence of only one soul for each person, called the ‘psyche’. The psyche was constituted of three parts, thymos for emotions, logos for reasoning and pathos referring to the bodily appetites of food and drink. Thymos was located in chest, logos in the head and pathos in the liver.

According to Plato, the thymos and the pathos were composed of a corporeal or mortal substance, whereas the logos, i.e., the mind which was concerned with reasoning, was incorporeal and immortal, existing even after the death of the individuals. Thus mind (or logos) was a part of the soul (or psyche) that was immortal. Since the capacity to reason was attributed to the soul, which was considered immortal, morality became associated with the soul. Plato’s idea, as old as 3rd – 4th century BC has dominated the Western thought, extending up to this very day. This idea of dualism of the psyche, being composed of a bodily component and an immortal component, the mind, was quite attractive for the future Christian theology and philosophy, which argued that the bodily mortal components of the soul, namely the emotions (thymos) and the appetites (id) existed in all, but the capacity to reason and act (the logos) was immortal and subject to divinity or the supernatural God.

Aristotle, a disciple of Plato, further advocated that there were three different types of souls influencing a person –
1) A rational soul (concerned with thinking and analysing),
2) A sensitive soul (concerned with passions and desires), and
3) A nutritive soul (concerned with appetites and drives).

This classification was somewhat similar to the thymos-logos-pathos classification of Plato, but according to Aristotle theory, none of these three souls were in corporeal substances but merely provides powers or characteristics or traits of the mortal person. The mind could not be located anywhere inside the body, but was simply an attribute of the body.

After Aristotle, the mind-body dualism introduced by Plato, and adopted and nourished by Christian theology regained momentum as Neo platonism. However,
the issue, how the mortal corporeal components of the body could interact with an immortal soul, influencing the life of a mortal man, has remained unanswered by dualism.

In the 16th century, Rene Descartes theorized that emotional soul (or thymos) and the nutritive soul (or the id) were functions of the body, and not of the soul. Thus, Descartes removed thymos and the id from the soul and displaced it to the body. Hence, the logo (or the rational or reasoning entity) was considered the lone constituent of the soul, i.e., the psyche. Descartes maintained that this psyche is immortal and incorporeal. He also introduced the concept of awareness of one’s own self, i.e., consciousness to the immortal psyche.

Since the time of Descartes, there have been several remarkable advances in science that have not been able to shake the Cartesian system of mind-body dualism.

In the 19th century, Ivan Pavlov demonstrated that learning (which is often regarded as a “mental” capacity) was an involuntary process, suggesting the existence of a machinery in the brain that enables learning. Meanwhile, Charcot demonstrated that clinical symptomatology in multiple sclerosis patients were correlated to pathological changes in the central nervous system. Around the same time, Alois Alzheimer showed that general paralysis of the insane (GPI), a complication of tertiary syphilis, was associated with histological changes in the brain, thereby confirming that what was termed “insanity” could be related to brain pathology.

Alzheimer’s findings received serious attention, when Emil Kraepelin suggested that mental illness has a biological basis, rooted in both environmental and genetic factors. By doing so, Kraepelin was able to explain the biological basis of psychiatric illness using neurosciences, while at the same time maintaining psychiatric illness as distinct from neurological illness. Nevertheless, the Cartesian system of dualistic approach to the mind and body is still widely prevalent among the medical community, medical education system and the common public alike. It is important to come to the realization that the mind-body problem and the concomitant burden of explaining how the psyche (regardless of how it is defined) interacts with the body (or brain) is simply an artificial by-product of the Cartesian system of medicine, which even the contemporary society has chosen to accept by default.

Self Assessment Questions 1

Fill in the blanks:

1) Ivan Pavlov demonstrated that learning was an ................................. process, suggesting the existence of a machinery in the brain that enables learning.

2) The mind-body dualism was introduced by ......................... .

3) Maxwell Bennett has provided an elaborate and comprehensive account of the historical ideologies related to .............................. .

4) According to Plato, the thymos and the pathos were composed of a ............ substance, whereas the logos was concerned with .....................

5) Homer, sometime during 8th – 5th century BC, identified spirit as the ..................... .
2.4 EASTERN CONCEPTS OF MIND

The eastern world ideas of the soul are different from the western ideas although there are some similar parallels. The soul is called the ‘atma’ in Sanskrit. There is a school of thought that distinguished a mortal personal life soul called ‘jeevatma’ which interacts with the immortal divine the impersonal soul ‘paramatma’. This is the ideology of ‘dvaita’ (meaning two), a strict distinction between God-the ultimate eternity also known as – ‘paramatma’ and the individual souls which is said to be the ‘jivatma’. According to one theory, the individual souls of beings are not created by God but depend on Him for their existence. The Indian philosophies do not commonly regard the soul with psychological attributes such as emotions, memory, learning etc., unlike the western systems. The Indian system of medicine refers to abnormalities in the body as an explanation for the underlying causes of mental illness. However, mental illness is seen as a separate discipline which is similar to the current western concepts.

2.5 THE CONCEPT OF MIND IN AYURVEDA

The science of Ayurveda is a branch of the Indian philosophy. Its approach is universal and hence its relevance has no geographical, cultural or religious boundaries. It is based on the doctrine of logic, and includes physiology, psychology, pharmacology, pathology and diagnostics.

Ayurveda, as a knowledge structure is organized into three levels of bodies, viz. physical body, mental body and spiritual body. Ayurveda deals for the most part with the physical body. However, while doing so it connects it also to the mental and spiritual bodies. Thus, Ayurveda concentrates on the total well-being of an individual in body, mind and spirit.

Ayurveda provides us a means to understand ‘prana’ (living body) on a practical level with the three humors, or the tri-doshas. The three doshas (abnormalities in humors) are actually three different manifestations of the cosmic prana and recount to its diverse functions in the body. These three humors are easy to monitor and can provide a clear understanding of the prana, functions of the body. The ‘tri-dosha (vata, pitta, and kapha) theory is the most all-inclusive system ever formed to comprehend functioning of our body and symptoms of various illnesses. The uniqueness of Ayurveda is the application of the tri-dosha theory to recognise and treat individuals.

According to Ayurveda, health is not merely freedom from disease. It is essential that body, mind and soul are in an excellent state of balance, so that the individual can perform his functions and fulfil his role purposefully in life, which is called dharma in Vedic philosophy.

2.5.1 Nature of Mind

Ayurveda treats the mind as the sixth sense organ with control over the other five sense organs, and therefore is placed above them in the brain.

The mind also functions as a motor organ and enables activities through speech and other actions. The mind is the area where thoughts are present, whereas the body is comprised of matter. The senses exist only when the mind exists and directs the other sense organs. The mind acts both a sensory and as well as a motor organ, interpreting senses and then directing actions.
Indian tradition does not share the Cartesian dichotomy of the body and the mind, as in the western psychological thinking. In fact, the interplay between the mind (‘mana’), soul (‘atma’) and body (‘sharira’) in a tripod allusion is the cornerstone of Ayurveda philosophy. However, dichotomy exists between the ‘non-self’ and the ‘self’.

Ayurveda is deeply concerned with the concept of a true balance. This balance entails not only a correct functioning of systems and organs, psyche and spirit but also a balanced interpersonal relationships with nature as a whole, between family members, our climate, the civilization we live in, between our ideals and customs, between truth and our selves, etc.

Mind is mobile, and not only a shifting point in space, but also a changing point in time. So the true balance of mind is very important in the well-being of an individual. At the same time mind is dualist in its analysis. It is prone to dualistic reactions of love/hate, like/dislike and so on. All psychological problems are nothing more than the wrong use of mind. Practicing the right use of mind not only solves the psychological problems, but also directs us to our higher potential of self-realization.

2.5.2 Structure of Mind

The mind is not physical matter, but of a subtle nature, ethereal and luminous. It not only controls our thought processes but also helps us in carrying out day-to-day activities such as respiration, circulation, digestion and elimination. The mind and the body work in combination with one another to regulate our physiology. It collects information from all the senses and then decides the action. Mind thus can be presumed as a computer, which receives the data form various senses, which is entered into the computer. Smell and taste are two important senses that aid in the digestive process. When the mind registers that a particular food is entering the gastrointestinal tract, it directs the body to act accordingly by releasing various digestive enzymes. If we overindulge, the taste buds with too much of a certain taste, such as sweet, we may find that the ability of the mind to perceive the sweet taste is impaired; and thereby the body becomes challenged in its ability to process sweet foods. Maintaining the clarity of our senses is an essential part in allowing the mind and body to integrate their functions and help in keeping us healthy and happy individuals.

Ayurveda regards the heart as the centre of consciousness. This is not the physical heart but the core of knowing deep inside ourselves. It carries out functions like regulating thoughts, feelings and sensations. It pervades the entire field of perception.

In general, in Ayurveda, three types of therapies are used to correct a dosha imbalance. These constitute internal cleansing, external cleansing and surgical therapy.

According to Ayurveda the mind has three basic layers- inner, intermediate and outer.

- **Inner mind** consists of the deep core of feeling and knowing. The inner mind or the deeper consciousness harbours air, which confers the mind a capacity to relate, identify itself and feel alive. It constitutes the core or the heart of the consciousness, which is never evident at the surface. It is the motivating force for the remaining functions of the mind. Most of what goes as unconscious, subconscious and super conscious falls under the realm of inner mind.
• **Intermediate mind** is our capacity to bring outer impressions to the inside and inner tendencies to the outside. The intermediate mind serves the function of reasoning, judgement, perceiving what is right or otherwise, measuring and evaluating the data brought from the outer mind.

• **Outer mind** is the part of the mind dominated by the senses and emotions in which we ordinarily function on a daily basis, gathering impressions and acting in the outer world. The outer mind, which is directed to the sensory world of the external environment, has water as its chief element. Water is the formative aspect of the mind that enables construction of one’s reality after gathering impressions from outside. It is with the outer mind that one lives and transacts with the external world. This is the part of mind to which one is familiar with and knows as the mind.

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<th>Self Assessment Questions 2</th>
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<tbody>
<tr>
<td><strong>State whether the statements are true or false:</strong></td>
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<tr>
<td>1) Inner mind is the capacity to bring outer impressions to the inside and inner tendencies to the outside. ( )</td>
</tr>
<tr>
<td>2) The mind is not physical matter, but of a subtle nature, ethereal and luminous. ( )</td>
</tr>
<tr>
<td>3) Ayurveda treats the mind as the seventh sense organ with control over the other six sense organs, and therefore is placed above them in the brain. ( )</td>
</tr>
<tr>
<td>4) The mind and the body can not work in combination with one another to regulate our physiology. ( )</td>
</tr>
<tr>
<td>5) In Ayurveda there are three types of therapies which are used to correct a dosha imbalance. ( )</td>
</tr>
</tbody>
</table>

### 2.5.3 Five Levels of Mind

The five levels of the mind are charged by different elements. These are as follows:

- The higher self-ether
- Inner consciousness — air
- Intelligence or *buddhi* — fire
- Sense or mind — water
- Ego — earth.

Ayurveda views a person as an unique individual, made up of five primary elements. Just as in nature, we too have these five elements in us. When any of the five elements are present in the environment, they will in turn have an influence on us. The food we eat and the weather are just two examples of the presence of these elements. Ayurveda applies the five elements to the mind layers:
2. Concept of Mind

- **Air** exists in the inner mind as the underlying mental sensitivity or deeper feeling nature. It is the background vibratory field of energies, habits and tendencies that sustain the mind, by which we are continually thinking.

- **Fire** exists in the intermediate mind as the rational or discriminating faculty which allows us to perceive and to judge things.

- **Water** exists in the outer mind as the emotional nature, our ability to connect with the external world, which is the seeking of consciousness to take form.

- **Earth** exists in the mind as the ego, the sense of separate self through which we feel ourselves to be a limited person, identified with a particular body in time and space.

- **Ether** exists in the mind as its underlying mind-space, the background capacity for all mental functions, vibrations and impressions. Without space, the mind cannot function and has no room to move.

Earth and Ether are two basic levels to the self, between which the three aspects of consciousness function. The outer self defines itself according to the body, our physical identity. On the other side, the inner self is our sense of pure subjectivity, the pure “I am” beyond all bodily identity.

2.5.4 Tridoshas

While we are a composite of these five primary elements, certain elements are seen to have an ability to combine to create various physiological functions.

**Vatadosha**: Ether and air combine to form this dosha. Vata governs the principle of movement and therefore can be seen as the force which directs nerve impulses, circulation, respiration, and elimination.

**Pitta dosha**: Fire and water are the elements that combine to form this dosha. The pitta dosha is the process of transformation or metabolism. The transformation of foods into nutrients that our bodies can absorb is an example of a pitta function. Pitta is also responsible for metabolism in the organ and tissue systems as well as cellular metabolism.

**Kaphadosha**: Water and earth combine to form this dosha. Kapha is what is responsible for growth, adding structure unit by unit. Another function of the kaphadosha is to offer protection. Cerebral-spinal fluid protects the brain and spinal column and is a type of kapha found in the body. Also, the mucosal lining of the stomach is another example of the kaphadosha protecting the tissues. We are all made up of unique proportions of vata, pitta and kapha. The ratios of the doshas vary in each individual; and because of this, Ayurveda sees each person as a special combination that accounts for our diversity.

2.5.5 Trigunas

Just as the body is governed by the three doshas, the mind is also governed by three attributes (guna): sattva, rajas and tamas. A brief description of

- **Sattva** is responsible for righteous and kind thoughts and feelings.

- **Rajas** is for arrogance, desire, love and passion.

- **Tamas** is for sleep, stupidity, ignorance.
2.5.6 Psychological Disturbances

The psychological disturbances result when the elements in the mind are in a state of disequilibrium. According to Ayurveda, the psychological problems arise at the level of the outer mind, since happiness is sought in the physical world of things. The nature of the mind is subtle, and unless cleared of its gross elements especially the element of earth (ego), the disturbances cannot be got rid of. This is not achievable by a mere balancing the mental elements, but needs spiritualizing the mind. The lower functions of the mind are to be subdued in favour of the higher ones. Healing of the mind consists of purifying it, and refining the elements that compose it. Significance of the environment and the ecosystem in health and illness has been highlighted in the Vedas, and so too in Ayurveda.

In nature, *vayu* (the air) serves as an envelope of the earth and maintains the division of seasons. In its abnormal state, it may cause storms and winds. When activated at the microcosmic level, it produces physical and mental illnesses.

2.5.7 Summary

It should be clear to you by now that, Ayurveda recognised disease as manifestation of a failure to fulfil “the values of life”. The body and mind are equally involved in the causation of disease. Besides the contributory role of the mind in disease, the system takes into account the required attitude which can hasten the cure. This Ayurvedic tenet becomes significant in the context of the prevailing dichotomy of body - mind view.

2.6 CONCEPT OF MIND AND MENTAL HEALTH

Defining the mind is an important and central task in the field of psychiatry. However, the task is noted to be difficult. Historically, there is little consensus regarding this concept among those who have attempted to define or understand the concept.

As discussed earlier, mental illnesses in current clinical practice are generally diagnosed by a set of signs and symptoms which are subject to variations arising from culture, language, religion and geography. In addition, the subjective and objective view point of the people and professionals concerned could also influence how it is understood. Most importantly, it has been pointed out that mental health has been understood or defined as an absence of these signs and symptoms, rather than being positively defined. This has been stated as a major drawback in the field of psychiatry. Therefore, an attempt has been made to define mental health from a utilitarian concept.

According to this view, it is essential to define mental health, and subsequently define mental illness. To do this, it is essential to define and understand what is mind which has been described commonly as a conglomeration or an array of a variety of psychological functions. These functions include memory, learning, perception, consciousness, emotions, thought, reasoning, imagination and problem solving.

The following is the conceptualisation of Dr Thirunavukarasu (2011) for the purpose of providing a simple working concept of mind to enable understanding of mental illness in an uniform and consistent manner. He has termed the concept as Manas. Specifically he states that, “*Manas is that part of the mind or psyche that is of concern for study of mental illness*.”
The functional concept of Manas:

Manas is present within all individuals and has certain characteristic features. These common characteristic features are also known as ‘functional concepts’. The basic functional concepts of Manas which is commonly found among every one can be listed as below:

- Each individual has only one Manas as a whole, which can not be divided in to parts.
- Each human being has Manas which does not exist as a substance or material. It is neither energy nor a force.
- Manas and body is an attribute or part of the self.
- Manas is an effective medical concept.
- Manas is a functional concept, i.e., manas exists as long as the self functions.
- Manas is not eternal or everlasting, its existence finishes with the end or termination of self.
- Manas has a biological basis and so it is affected by biological processes.
- Manas is not related to supernatural powers.
- Manas and soul are two different and unrelated concepts.
- Manas is a part of self and so it can not separate or detach itself from the self.
- Manas has a direct influence on self and so it can have an impact only on self.
- Manas exists in a state of health as well as disease.
- Manas is that part of the self which is primarily affected in the state of mental illness.
- Manas constitutes the healthy aspect of the mental health.
- Manas cannot be divided in to parts Even though it is a single undividable amalgamation, it consists of three substituents namely:
  - Mood
  - Thought and
  - Intellect
- Manas is an amalgamation of mood, thought, and intellect.
- Any change in any one of the three (mood, thought and intellect) substituent brings about subsequent change in the other two substituents i.e. influences the other two substituents also.
- There is a borderline in between the Manas and the self called consciousness which is a physical function of awareness.
- Behavior or action takes place only through Manas.
- Psychiatric conditions prevail if the Manas is affected.

As discussed above, there are three substituents of Manas-mood, thought and intellect. For smooth functioning of the Manas, it is necessary that the three substituents of Manas should ideally work togetherly, congruently and harmoniously. You will understand the concept of Manas, once you go though the three specific constituents accordingly:
- **Mood** – This substituent of the Manas basically consists of sensation of ‘emotion’ or ‘feeling’. It is a reflection of the emotion that is being felt. It may in form of joy, sorrow, grief, jealousy, pity, fear, anger, anxiety and so on. In Psychiatric literature, it was known as ‘affect’ traditionally.

- **Thought** – Thought is an abstract concept and deals with ‘thinking’. It includes beliefs, faiths, ideas, imagination, etc.

- **Intellect** – The substituent of intelligence consists of “analyzing” or “problem solving.” The intellect does not merely refer to what is often called “higher functions.” It constitutes all the higher level mental processes of the self. It not only receives information from within self, it also helps in transformation of the information taking place outside of the self or the environment. For example, the thirst receptors convey the message to brain which leads to an urge of thirst to an individual who ultimately drinks water to satisfy the thirst receptors. So the information or an input is received to an individual and so is the action taken by the individual with the help of intellect.

By now it might be clear to you that Manas is a part of self and is found within all human beings. Also, Manas consists of three substituents- mood, thought and intellect. Manas can work smoothly only if there is a balance or congruency in between these three basic substituents, which means any change in any one of the substituent will lead to a change in the remaining two substituents instantly. It should also be added that none of them can exist alone. An example can help you in understanding the concept of Manas, mood, thought and intellect more clearly. Say for instant, you come to know about a good news (which is a positive stimulus/information from outside self), such as qualifying an entrance examination of civil services, which makes you feel happy (therefore, the mood is being influenced), which makes you think of a better future and prospective career the moods have now influenced the thoughts and so you start imagining yourself as an officer and then you start planning about your actions in order to achieve your target (the substituent, intellect has also started getting influenced simultaneously). Happy feelings beget positive thoughts and vice versa. On the other hand, if one hears a bad news (negative stimulus) such as the death of a loved one, one feels sad (mood), have congruent thoughts such as thoughts of being with the loved ones and how life would be without them (thought) and also decide how one would have to inform relatives and friends and arrange a funeral (intellect). All three components are intimately and inseparably intertwined and act synchronously, harmoniously, simultaneously and congruently in a “single indivisible amalgamation” (Thirunavukarasu, 2011, p. 26).

### Self Assessment Questions 3

**Fill in the blanks:**

1) In the concept of Manas, mood constitutes ................... , thought constitutes ................ , and intellect constitutes .................

2) In the field of psychiatry, it is important to understand mind based on ............................................................... knowledge.

3) The criteria for identifying a person as mentally healthy are.................. ........................ .................. , ........................ .................. , and ........................ ..................

4) Manas is a part of ........................................ and is found within all human beings.
2.7 UTILITARIAN CONCEPT OF MENTAL HEALTH

It is would be worth to mention the conclusions drawn by Thirunavusukarasu (2011). In one of his studies, he emphasised that it is essential to concentrate on promoting mental health rather than merely treating mental illness. Manas is the basic object that leads to mental health. Mental health is a medical and utilitarian concept.

- The health status of the manas is a two-dimensional spectrum (Thirunavusukarasu, 2011):
  - The first dimension is a continuum of the negative impact of the health status of the manas on the self
  - The second dimension is a continuum of the negative impact of the health status of the manas on others

![Two Dimensional Spectrum Model of Mental Health](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136034/)

- The entire space of the spectrum may be divided into 4 mental health statuses, namely
  - Mentally healthy
  - Mentally not healthy
  - Mentally unhealthy
  - Mentally ill

- Mentally healthy is a health status that occupies a rather narrow space in the spectrum, with the least negative impact on both dimensions. Mentally healthy can be identified by the presence of all the three of the following criteria:
- Awareness of one’s own self
- Ability to relate well with others
- All of one’s actions are useful or at least not detrimental to one’s own self and others

## 2.8 LET US SUM UP

It can be summed up from the above discussion that, mind was historically attributed a biological basis and a psychological basis. It was thought to be a wandering spirit capable of travelling into and outside the body. In the 8th to 5th century BC, Homer identified this spirit as soul which was located in the head. He basically identified two types of souls: the body-soul which constituted emotions and thinking ability, and the psyche, which was impersonal, immortal and capable of ethereal travel. Later on, Plato identified only one soul called psyche consisting of three parts: *thymos* consisting of emotions located in the chest, *logos*, concerned with reasoning, located in the head; and the *pathos*, consisting of *id* which was attributed to bodily appetites of food and drink and located in the liver. He believed that *logos* (mind) part of the soul was immortal and existed even after death.

Aristotle (a student of Plato), departed from his teacher and advocated three types of souls: a rational soul which was concerned with thinking and analysing; a sensitive soul concerned with passions and desires; and a nutritive soul concerned with appetites and drives. However, he emphasised that these three souls were merely powers or characteristic or traits in a mortal person and were not incorporeal substances.

In the 16th Century, Rene Descartes introduced a paradigm shift with regard to mind. He theorized that the emotional soul (*thymos*) and the nutritive soul (the *id*) were functions of the body and not of the soul. He theorized that *logos* (the rational or reasoning entity) was the only constituent of the soul. Descartes believed that the mind was purely mental—it had no physical characteristics at all and no physical location. Descartes believed that if you destroyed the brain, the only effect on the mind would be that it no longer received information from the senses. Consciousness, memories, ideas, plans, etc. would continue as before.

Modern scientists have tended to be monists and therefore those who want to learn about the mind tend to do research on the brain. But others are dualists, and believe that there is more to the mind than just physical events to the brain. Therefore, the debate continues with this area of study.

In the last few decades, there have been remarkable advances in the field of psychology, evolutionary biology, genetics, cognitive neurosciences, pharmacology and neurosciences. With the new contributions, understanding of the mind has also changed. Biological basis of mind will be later discussed in the Unit 3.

To define and understand mental health and mind is a complex task. However, the critical importance of clarifying the concepts in training and education in field of mental health has been pointed out and a working concept has been arrived at for this purpose. Moreover, disturbances in the mind are a product of circumstances and environment. Therefore in order to be mentally healthy
will depend on both the environment and the state of good health of a person. If one is physically unhealthy, mental health also gets affected. However, just as physical health can be achieved, mental health also can be developed. It is important to remember that everyone has a mind and there are chances to have disturbances.

2.9 ANSWER TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions 1
1) Involuntary
2) Plato
3) Corporeal or mortal; reasoning
4) Soul

Self Assessment Questions 2
1) True
2) True
3) False
4) False
5) False

Self Assessment Questions 3
1) Emotion/feeling, thinking, analyzing/problem solving
2) Scientific
3) Awareness of one’s own self, ability to relate well with others, all of one’s actions are useful
4) Mind or psyche

2.10 UNIT END QUESTIONS
1) What is Dualism? Describe the concept based on Western concept of mind.
2) Write briefly about the Eastern concept of mind.
3) Write in detail about the structure of mind in Ayurveda.
4) Describe Tridhoshas and Trigunas.
5) Briefly explain how the concept of mind evolved.
6) What is Manas?
7) What are the four dimensions of mental health?

2.11 REFERENCES
UNIT 3 BIOLOGICAL BASIS OF MIND

Structure

3.1 Introduction
   3.1.1 Different Views Towards Biological Basis of Body and Mind

3.2 Objectives

3.3 Findings of Neuropsychology

3.4 Consciousness and the Brain

3.5 Biological Basis of Emotions and Cognitions
   3.5.1 Emotional Arousal and Emotional Regulation

3.6 Changes in The Structure of the Brain and Life Experiences

3.7 Memory

3.8 Sleep and Dream States

3.9 Let Us Sum Up

3.10 Answer to Self Assessment Questions

3.11 Unit End Questions

3.12 References

3.1 INTRODUCTION

The French philosopher Descartes believed in dualism which distinguishes between mind and body. According to Descartes, the mind was located in the brain’s pineal gland and was responsible for the body regulation through the brain and nerves. It was considered to be non-physical and non-material unlike the body. He believed that what made humans different from animals was that humans possessed a soul or mind. This notion was popular until the behaviourists asserted their views on human behaviour. If the mind and body are two different entities then the question that arises is how are they related to one another.

3.1.1 Different Views Towards Biological Basis of Body and Mind

The present unit will try to enlighten you in this area in further discussion. It is interesting to know that there are three different ways of viewing it from the dualistic point (body and mind) of view.

1) Interactionism: According to this viewpoint, there is a two-directional causal relationship (vice-versa relationship) between body and mind. The mind has an effect on the body functioning as well as the body or physical changes in the body affect the mind. For example: cancer patients, who are able to fight their disease through determination to get better; changes in perception when hallucinogens (a kind of drugs affecting perception) are ingested; or changes in intelligence or personality after a brain damage or surgery. Thus there is a two way interaction between body and mind.
2) **Epiphenomenalism:** This view states that mental experiences or processes don’t have any effect on the physical processes, while sensations, volitions or ideas can occur due to certain physical or material causes. Mental phenomena have no part to play in the explanation of behaviour, and various sensations and volitions are a result of material processes.

3) **Psycho-physical parallelism:** Psycho-physical parallelism says that mental and physical events occur together, but do not cause or influence each other. For example, depression could be associated with a variety of physical illnesses and similarly many physical states can be associated with a variety of psychological states.

In contrast to the dualist view, the alternate view is monism. Monism can take the following forms:

- **Idealism:** According to this view, physical events are reducible to mental ones, and only the mental phenomena are real. Humanistic psychologists were strongly influenced by this phenomenology. They stress on the fundamental nature of experience and our knowledge of the external world depends on how we interpret it.

- **Materialism or physicalism:** Materialism is opposite of idealism. According to this principle, physical phenomena are real and the mental events are reducible to physical ones. This view has been favoured by the behaviourists.

- **Identity theory:** This theory proposes another form of materialism which states that consciousness is a brain process, meaning that consciousness and brain process refer to the same thing (contingent identity) but they do not have the same meaning. Mental processes like the brain processes are capable of causally influencing behaviour.

According to the identity theory, mind functions are a kind of brain activities, but that does not mean that mind is the brain. Monism appears to be the most reasonable hypothesis. It has become easier to understand functioning of mind by the monism theory. A lot of progress has been made in understanding the concept of mind based on assumption of monism hypothesis. Studies have shown that stimulation of any brain area provokes an experience and any external experience evokes brain activity. Thus there cannot be a mental activity without brain activity. Mind or mental activities are only descriptions of the brain activity. Using the term mind to mean something that is ethereal, which is neither matter nor energy, is not helpful in understanding the functioning of mind.

The question of whether consciousness is a result of the brain activity or what kind of brain activity produces consciousness or alters consciousness is yet to be answered. Consciousness is a difficult concept to define, because we can neither observe it in ourselves nor know for sure that other people have it. One of the easy things is to look at the difference between wakefulness and sleep, and the mechanisms that enables us to focus at our attention. The best way to understand things is to determine what brain activity is necessary or sufficient for consciousness.

Early researchers attempted to find the exact location of brain structures determining consciousness, but could not succeed since they did not have the investigative facilities available, as they exist now.
From the mid-1970s onwards, there has been a rapid progress in understanding cognitive neuroscience with advancements in the medical technologies available to study the structure and function of brain. This has led to better understanding of the functioning of mind and the brain. Mental functions are now equated with neural processes and brain structures, instead of only the behavioural dispositions.

It is now well accepted that the mind and consciousness have a purely physical basis in the brain. This takes the form of various neural pathways, the intricately interconnected networks of neurons that vary in their activity levels in accordance with the kind of mental activity that is occurring. Functional brain imaging is, of course, the means by which theorists and researchers have arrived at these conclusions. The phenomenal experience of the mind, which means the subjective and personal experience that occurs when we think about any object or problem or engage in other conscious processes, has neural correlates in the electrochemical processes of the brain and its many billions of neurons.

A better understanding of the brain’s complexity and adaptability will result in a better understanding of mind. With the help of the modern technology, neuroscientists are able to identify specialised organisation and distinctive neuronal circuits in various parts of the brain, and their relationship with the mental functions. But still our knowledge and understanding of these complex phenomena is not complete.

### 3.2 OBJECTIVES

Further, this Unit will help you to:

- understand the interaction between brain and mind;
- understand the functions of mind based on neuropsychological findings;
- understand the role of brain functioning in consciousness;
- understand the brain functions in emotions and cognitions;
- understand the brain functions related to memory; and
- understand the brain functions related to sleep and dream states.

### 3.3 FINDINGS FROM NEUROPSYCHOLOGY

Studies from participants, who suffered brain trauma, have shown that damage to specific regions of the cerebral cortex has precise and predictable effects on human perception, memory, language, and other cognitive functions. Different regions of the cerebral cortex process different sensory data simultaneously, just like a large-scale parallel computer. Such correspondence between the cortical areas and mental functions is fundamental to understanding the biological basis of mind.

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<th>Self Assessment Questions 1</th>
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<tr>
<td><strong>Fill in the Blanks:</strong></td>
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<tr>
<td>1) Patients who suffered brain trauma, have shown that damage to specific regions of ..................................................</td>
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</tbody>
</table>
2) Mental functions are now equated with ..................and .................., instead of only the behavioral dispositions.

3) According to the identity theory, mind functions are a kind of ..................

4) According to ..................viewpoint, there is a two-directional causal relationship between body and mind.

5) Descartes believed in dualism which distinguishes between .................. and ..................

### 3.4 CONSCIOUSNESS AND THE BRAIN

Many types of causal relationships between the mind and brain have been discovered by cognitive neuroscientists, including specific correlations between particular neural activities and mental activities in such ways that the occurrence or cessation of the former is linked to the occurrence or cessation of the latter or vice versa. Cognitive neuroscientists believe that consciousness is not independent of the brain.

It has now been well established that the brain is the seat of consciousness. A complex interaction in the neural networks that involves a range of neurophysiological and neurochemical activities, results in the various diversities of the mental functioning.

### 3.5 BIOLOGICAL BASIS OF EMOTIONS AND COGNITIONS

Another area that enjoys the results of neuro-scientific research is the study of the biological base of emotions and the relationship between emotion and cognition. There is no one center in the brain for a mental function as complex as emotion. Several regions of the brain have been identified by neuroscientists as critical for emotion regulation or arousal, including the frontal lobes in regulating emotions, the amygdala in activating emotions, and the hippocampus in appreciating the context of emotional arousal. Moreover, neuro-scientific evidence suggests that regions of the frontal cortex in different brain hemispheres play an important role in different emotions, with the left frontal cortex relating to positive emotions and the right frontal lobe relating to negative emotions.

#### 3.5.1 Emotional Arousal and Emotional Regulation

The emotional brain works faster than the rational brain. The brain areas responsible for initially activating an emotion (the amygdala) are different from the one responsible for regulating an emotion (the prefrontal cortex). Emotional arousal works faster than emotional regulation. Emotions tend to be activated mainly in the amygdaloid area and interpretations from the cortical centres of the brain are ignored, when these emotion centre are activated.
Self Assessment Questions 2

Answer the following questions in one word:

1) Which brain works faster than rational brain?

2) Which part of the brain is critical for emotion regulation and arousal?

3) Is there any relationship between neural and mental activities?

4) Which field of research helped in finding out the relationship between emotion and cognition?

5) Do you feel that emotional arousal works faster than emotional regulation?

3.6 CHANGES IN THE STRUCTURE OF THE BRAIN AND LIFE EXPERIENCES

Contrary to the earlier thinking that the brain structure does not change, research done with advances in structural and functional imaging has established the concept of neuroplasticity. Studies have shown that the frontal lobes, the amygdala, and the hippocampus continually change as a result of life experiences. The changes are, however, not in the gross structure, but happen at the neuronal and receptor levels.

3.7 MEMORY

Neuroscientists have also studied the biological basis of memory and learning. Like the association of brain regions to emotion, memory has also been found not to be stored in any specific region but spread out through different areas of the brain. But a few brain regions are vital to the formation of new memories, such as the hippocampus and the thalamus. Changes in the strength of neural connections, which may result from life experiences, affect the recording of memory in the brain.

3.8 SLEEP AND DREAM STATES

Brain regulates the various stages of sleep and the dream state. The regular alternation of the cycle of waking and sleeping states is controlled by the brain stem, which alters the production of specific neurotransmitters responsible for arousal and relaxation in a reciprocal way. In experiments with animals,
neuroscientists have shown success in the control of altering states of wakefulness and sleep. Although the neuroscientists can objectively measure and identify distinctive sleep states and associated REM (rapid eye movement) sleep with dreaming, the purpose of dreaming still remains one of the great mysteries in the study of sleep.

**Self Assessment Questions 3**

**State whether the following statements are true or false:**

1) Body regulates the various stages of sleep and the dream state. ( )

2) Hypothalamus and Spinal cord are vital to the formation of new memories. ( )

3) The regular alternation of the cycle of waking and sleeping states is controlled by the brain stem. ( )

4) Studies have shown that the frontal lobes, the amygdala, and the hippocampus never change as a result of life experiences. ( )

5) Changes in the strength of neural connections affect the recording of memory in the brain. ( )

**3.9 LET US SUM UP**

It should be clear to you by now that the dichotomy between mind and brain has been disputed by views which focus on the biological basis of mind. This view has been supported by the current development in investigative methods of the brain and its functioning. With the advent of technological development in investigations, it has become easier to understand the complex functioning of the brain. As a result of this, the mind and its functions have been understood as different from the age old concepts of mind.

With the rapid development in cognitive sciences, especially the remarkable progress in neuroscience during the past several decades, the world has observed tremendous growth in the knowledge of mind and mental states.

**3.10 ANSWER TO SELF ASSESSMENT QUESTIONS**

**Self Assessment Questions 1**

1) Cerebral cortex

2) Neural processes and brain structures

3) Brain activities

4) Dualistic viewpoint

5) Body and mind
**Self Assessment Questions 2**

1) Emotional brain
2) Prefrontal cortex and Amygdala
3) Yes
4) Neuro-scientific research
5) Yes

**Self Assessment Questions 3**

1) False
2) False
3) True
4) False
5) True

### 3.11 UNIT END QUESTIONS

1) Explain the role of neuropsychological studies in understanding the functions of mind.
2) Explain the relationship between consciousness and the brain functions.
3) What are the brain functions that are related to emotions?
4) Explain the concept of monism.

### 3.12 REFERENCES

3) Kalat, J. W., Biological Psychology, 10th edn., (2009), USA; Wadsworth Cengage Learning.
UNIT 4  PSYCHOLOGICAL BASIS OF MIND

Structure
4.1 Introduction
4.2 Objectives
4.3 Structuralists’ View of Mind
4.4 Gestalt School of Psychology and Mind
4.5 Mesmerism
4.6 Hypnotism
4.7 Disorders Induced in Normal Individuals
4.8 Influence of Breuer’s Work on Psychogenic Aspects of Mental Illness
4.9 Sigmund Freud and His Concept of the Mind
4.10 Jung and His Concept of Mind
4.11 Views of American Psychologists
4.11.1 Growth of Functionalism
4.12 Humanistic Psychology and Cognitive Psychology
4.13 Let Us Sum Up
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4.16 References

4.1 INTRODUCTION
Psychology began as a study of mind or the ‘psyche’ and later it expanded to a study of behaviour. As behaviour is essentially determined by the mind, psychology was called the behavioural science. Mind has sub components of mood, thought and intellect as described in the previous chapter, and the behaviour depicts mood, thought and intellect. This unit will help you to understand the fact that, if mind is to be studied and understood, it has to be done by observing and understanding behaviour. To further simplify this, it is the study of behaviour, the interaction of ‘self’ with the environment. This interaction could be action or reaction of ‘self’ with ‘non-self’. Thus, study of anything that is psychological would mean studying the interaction of the ‘self’ with the environment. This interaction would influence, alter, modify or interfere with the ‘psyche/mind’ with the purpose of correcting the functions or the dysfunctions of the mind. For example, by way of interaction, one can develop a problem in the mind. The same problem or any other problem can also be rectified by the process of corrective interaction. Psychotherapy means a more meaningful interaction which aims to solve problems.

4.2 OBJECTIVES
The last Unit of this block helps you in:
- Understanding the structuralists’ view of mind;
- Understanding the contribution of Gestalt school of psychology in the concept of mind;
• Understanding Freud’s view of mind;
• Understanding Jung’s view of mind; and
• Understanding the humanistic psychologists and cognitive psychologists aspects of mind.

4.3 STRUCTURALISTS’ VIEW OF MIND

The term ‘psychology’ has been created from the Greek term ‘psyche’ meaning soul/mind and logos meaning study. Psychology has changed its meaning and definitions from time to time, giving rise to different schools of psychology. In the first decade of 20th century, psychologists came to hold different views about nature of mind and the best ways to study it. Some of the initial schools of thought will be discussed in the next few sections.

The first psychological laboratory was established at the University of Leipzig by the German philosopher-psychologist Wilhelm Wundt (1832-1920). Wilhelm Wundt was the first person who tried to explain psychology as a science.

The goal of the structuralists was to find the units or elements which make up the mind. They attempted to analyze and explain the conscious experience, particularly feelings and sensations. The structuralists attempted to give a scientific analysis of conscious experience by breaking it down into its specific compounds or structures. For example, they identified four basic sensations-warmth, cold, pain and pressure. Further, the sensation of wetness as combined experience of cold and smoothness. Consciousness was defined as the sum total of mental experiences. Main tool used was through introspection to determine the different components of consciousness. This school helped establish psychology as a separate science and contributed methods to experimental psychology. Wundt self-observed his own sensations and verbally reported the analysis of his own consciousness.

In summary, structural school of thought focuses on the elements of mind or the molecules of mind. It uses the methods of introspection, observation and experimentation. Their approach is basically towards the mental aspects of human experience.

4.4 GESTALT SCHOOL OF PSYCHOLOGY AND MIND

Afterwards, the Gestalt school of psychology was founded by Max Wertheimer and his colleagues Kurt Koffka and Wolfgang Kohler in 1912 in Germany. The German word Gestalt means form, pattern or configuration or shape. Gestalt psychology developed as a reaction against structuralism. Gestalt psychologists believed that human beings and other animals perceive the external world as an organised pattern, not as individual sensations. For example, a movie consists of thousands of individual still pictures, but we perceive what looks like smooth continuous movement. Gestalt psychology stresses on the relationship and interaction of the elements, when studying experience.

The Gestalt school explained that behaviour was based on basic laws formulated on the experience of perception. For example, learning was a special problem of perception. Problems were caused by disequilibrium in perception which motivated the organism to solve it and restore equilibrium. Solving problems restored perceptual equilibrium and relieved the stress of motivation. This was called the Zeigarnik effect. Subsequently the studies on hypnotism demonstrated the possibility of psychological influences on the mind.
4.5 MESMERISM

Mesmerism is a procedure that places people in a trance like mental state during which they become extremely suggestible. It was used to treat psychological disorders as far back as 1778, when an Austrian physician named Friedrich Anton Mesmer (1734–1815) established a clinic in Paris. His patients suffered from hysterical disorders, mysterious bodily ailments that had no apparent physical basis. A surprising number of patients seemed to be helped by this treatment, called mesmerism. Their pain, numbness, or paralysis disappeared. Several scientists believed that Mesmer was inducing a trance like state in his patients and that this state was causing their symptoms to disappear.

4.6 HYPNOTISM

It was not until years after Mesmer died that many researchers had the courage to investigate his procedure, later called hypnotism (from hypnos, the Greek word for “sleep”), and its effects on hysterical disorders. By the late nineteenth century, two competing views had emerged. Because hypnosis—a technique relying on the power of suggestion—was able to alleviate hysterical ailments, some scientists concluded that hysterical disorders were disorders of mind. In contrast, other scientists believed that hysterical disorders had subtle physiological causes. For example, Jean Charcot (1825–1893), Paris’s most eminent neurologist, argued that hysterical disorders were the result of degeneration in portions of the brain.

4.7 DISORDERS INDUCED IN NORMAL INDIVIDUALS

The experiments of two physicians practicing in the city of Nancy in France, Hippolyte-Marie Bernheim (1840–1919) and Ambroise-Auguste Liébault (1823–1904) showed that hysterical disorders could actually be induced in otherwise normal subjects while they were under the influence of hypnosis. Thus, the physician could make normal people experience deafness, paralysis, blindness, or numbness by means of hypnotic suggestion—and could also remove these artificial symptoms by the same means. Thus, it was established that a mental process—hypnotic suggestion—could both cause and cure even a physical dysfunction. Leading scientists, including Charcot, finally embraced the idea that hysterical disorders were largely psychological in origin, and the psychogenic perspective rose in popularity.

Self Assessment Questions 1

State whether the following statements are true or false:

1) Mesmerism is a procedure that places people in a trancelike mental state during which they become extremely suggestible. ( )

2) Hypnosis is a technique which does not rely on the power of suggestion. ( )

3) Gestalt school of psychology was founded by William Wundt. ( )

4) The term ‘psychology’ has been created from the Greek term ‘psyche’ meaning soul/mind and logos meaning study. ( )

5) Hypnotism demonstrated the possibility of psychological influences on the mind. ( )
4.8 INFLUENCE OF BREURER’S WORK ON PSYCHOGENIC ASPECTS OF MENTAL ILLNESS

Among those who studied the effects of hypnotism on hysterical disorders was Josef Breuer (1842–1925) of Vienna. Breuer discovered that his patients sometimes awoke free of hysterical symptoms after speaking candidly under hypnosis about the past upsetting events. During the 1890s Breuer was joined in his work by another Viennese physician, Sigmund Freud (1856–1939).

4.9 SIGMUND FREUD AND HIS CONCEPT OF THE MIND

Freud’s work eventually led him to develop the theory of psychoanalysis, which is based on the principle that unconscious psychological processes are in the background of the normal as well as abnormal psychological functioning and behaviour. Freud also developed the technique of psychoanalysis, a form of discussion in which clinicians help troubled people gain insight into their unconscious psychological processes. He believed that such insight, even without hypnotic procedures, would help the patients overcome their psychological problems.

Although striving to use scientific methods in their investigations, these early researchers of mental functions adopted rather subjective approaches such as introspection, self-analysis, and self-report in their studies.

4.10 JUNG AND HIS CONCEPT OF MIND

Jung was Freud’s student but later separated out due to differences in certain views. According to Jung, personality develops as a totality of all psychic processes, conscious and unconscious. It includes all thoughts, feelings and behaviours, and helps the individual to adapt to the social and physical environment. The term psyche also includes what is called ‘soul’. The person is a whole right from the time of birth. It is not acquired later in life through experience or learning, but is already present at birth. The person strives throughout life to maintain its wholeness, and prevent splitting or dissociation into parts. It comprises of three major levels of consciousness: conscious, personal unconscious and the collective unconscious.

4.11 VIEWS OF AMERICAN PSYCHOLOGISTS

In America, William James had also engaged in the study of consciousness by combining the direct observation of behavior with the use of introspection to understand the underlying mental processes. His view was called “naturalistic functionalism”, which sees consciousness or conscious mental life as a feature which has emerged via natural selection in creatures with a particular kind of biological organisation (e.g., “birds of same feather, flock together). James viewed consciousness as a function. He put forth the view that mental states are functional states/properties resulting from a complex interaction between us and the outside world. Therefore the mind is an emergent property of the physical brain, but is distinct from it. In other words this theory stated that the key to understanding the mind (intelligence) is to understand the logical operations performed by it, meaning the function it performs. For example, in a computer the software (mind) is, what is important. The computer does not depend on any particular
physical (Hardware) realisation. Similarly, the brain as a structure is largely irrelevant, and the mind is to the brain what software is to the hardware.

### 4.11.1 Growth of Functionalism

Functionalism formed as a reaction to the structuralism and was heavily influenced by the work of William James and the evolutionary theory of Charles Darwin. Functionalists sought to explain the mental processes in a more systematic and accurate manner. Rather than focusing on the elements of consciousness, functionalists focused on the purpose of consciousness and behaviour. Functionalism also emphasised individual differences, which had a profound impact on education. William James later had a good bit to say about mind and consciousness — along with where the latter in particular came from both in humans and other animals. Basically, his view was that consciousness enhanced fitness. As humans, we think about the events we experience; we make decisions; we make things; we change things — in each case enhancing our chances of survival by allowing us to adapt. In James’s view, thus, consciousness is essential for survival. Without it, we would instead be like plants.

This trend of using subjective methods to study consciousness and unconsciousness was abruptly interrupted during the early twentieth century with the emergence of an American school of psychology called behaviourism. To behaviourists, such as John Watson and B.F. Skinner, the understanding of behaviour could be developed through observations and experimental conditionings without reference to such abstract concepts as consciousness. They even denied the existence of mind and attributed belief in the very existence of consciousness to ancient superstitions and magic (Watson, 1913). By reducing subjective mental phenomena to objective processes that could be studied with the limited available tools of science in the 1920s to 1950s, the behaviourist approach held back the study and understanding of the nature of mind for several decades.

#### Self Assessment Questions 2

**Fill in the Blanks:**

1) According to ......................... the understanding of behaviour could be developed through observations and experimental conditionings.

2) The person strives throughout life to maintain the wholeness of ......................

3) Freud’s work eventually led him to develop the theory of ......................

4) William James had also engaged in the study of ......................

5) Functionalists focused on the......................... and ......................


### 4.12 HUMANISTIC PSYCHOLOGY AND COGNITIVE PSYCHOLOGY

Humanistic psychology and cognitive psychology replaced radical behaviourism in the 1950s and became the main focus of interest to study the psychological arena. The use of introspection, however, was still considered a non-mainstream
scientific approach. All the above approaches to study mind or psyche have been elaborated in the next unit under (Schools of Psychology).

Since the mid-1970s, with the rapid progress of cognitive neuroscience and advancement of medical technology, investigations of the brain and mental functions became the major focus in the study of human mind, and mental functions were equated with neural processes and brain structures, instead of behavioural dispositions. Many types of causal relationships between the mind and brain have been discovered by cognitive neuroscientists. This includes specific correlations between particular neural activities and mental activities in such ways that the occurrence or cessation of the former is linked to the occurrence or cessation of the latter.

### 4.13 LET US SUM UP

The beauty of the evolution of psychology as a science is that it began with an assumption of having an underlying biological basis and evolved through various stages, and finally came to a stage of understanding and showing evidence for a biological basis currently.

To start with, psyche was thought to have a biological basis, but after the advent of psychoanalytical views, the shift was towards the non-biological causes of problem behaviour. Thereafter, the behavioural school also stressed strongly on the psychological mechanisms, and little on the biological ones. After the invention of drugs which were able to control psychotic behaviour and mood disturbances, the trend was to understand it from point of view of a biological basis for mood and thought. The understanding and description of the Alzheimer’s disease made way for understanding intellect as having an organic basis. Simultaneously, the enormous development of technology in leaps and bounds has dramatically changed the understanding of human behaviour.

Neuroimaging techniques, especially functional imaging of the central nervous system has made a big impact. The entity of neuroscience, which has developed after this technology, has made it possible to study the functioning of the neurons in the brain. Currently, science has further developed and the new entity of cognitive neuroscience has changed the understanding of behaviour even more. Now, there is evidence to show that psychotherapeutic process has the ability to revert back structural pathology to normalcy. The concept of neuro regeneration, neuroplasticity and molecular psychology, have come into existence. All these concepts contribute towards understanding psychological processes as having a biological basis. Importantly that biology can alter psychological process, will include a third dimension of sociological aspects. Culture is found to play an important role in defining normal and healthy behaviour. Therefore, the biopsychosocial model has come into existence. Recently another dimension of spiritual aspects of behaviour has been introduced. Most of the psychological processes are also understood through spiritual basis. The ethological processes, pathology, relief and treatment are based on the bio-psychosocial and spiritual models. Therefore, all the schools of psychology are interlinked, imminent, and interdependent on one another. Thus, psyche, the mind or the mental functioning is to be understood by considering all, biological, psychological, sociological and spiritual aspects of an individual.
4.14 ANSWER TO SELF ASSESSMENT QUESTIONS

Self Assessment Questions 1

1) True
2) False
3) False
4) True
5) True

Self Assessment Questions 2

1) Behaviourists
2) Psyche
3) Psychoanalysis
4) Consciousness
5) Purpose of consciousness and behaviour

4.15 UNIT END QUESTIONS

1) Write briefly on introspective methods used to understand mind.
2) Explain the psychoanalytic view of mind.
3) Explain the humanistic view of mind.
4) Explain the view of behaviourists on mind.
5) Explain the Contribution of mesmerism in understanding the psychological basis of mind.
6) What is hypnotism?

4.16 REFERENCES


Websites:
## Block 1: Concept of Mind

- **Unit 1**: Mental Health
- **Unit 2**: Mind: Constituents of Mind
- **Unit 3**: Biological Basis of Mind
- **Unit 4**: Psychological Basis of Mind

## Block 2: Schools of Psychology

- **Unit 1**: Behavioural Theories
- **Unit 2**: Biological Theories
- **Unit 3**: Humanistic and Existential Psychology
- **Unit 4**: Psychoanalytical and Related Theories

## Block 3: Normality and Abnormality

- **Unit 1**: Historical Perspectives of Mental Health
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- **Unit 3**: Conative Functions-Normal and Pathological
- **Unit 4**: Cognitive Functions-Normal and Pathological

## Block 4: Family, Culture and Mental Health

- **Unit 1**: Developmental Theories
- **Unit 2**: Family and Mental Health
- **Unit 3**: Sociology of Mental Health
- **Unit 4**: Culture and Mental Health