

B.Sc PSYCHOLOGY

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6th SEM CORE COURSE

UNIVERSITY OF CALICUT

PSY6B01-ABNORMAL PSYCHOLOGY

2019 ADMISSION

CPA COLLEGE OF GLOBAL STUDIES

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<b>COURSE CODE</b>	PSY6B01
<b>TITLE OF THE COURSE</b>	ABNORMAL PSYCHOLOGY
<b>SEMESTER IN WHICH THE COURSE TO BE TAUGHT</b>	6 <sup>th</sup>
<b>NO. OF CREDITS</b>	3
<b>NO. OF CONTACT HOURS</b>	64 (4hrs/week)

**Objectives of the course:**

- To develop awareness about major psychological disorders
- To acquaint the students with causes of major psychological disorders

**Course details**

<b>MODULE NO.</b>	<b>NAME OF MODULE</b>	<b>MODULE HOURS</b>
1	Substance abuse disorder	18
2	Schizophrenia and other psychotic disorder	18
3	Mood Disorder	16
4	Developmental disorders	12

## **MODULE 1: Substance abuse disorder**

### **Alcohol Related Disorders**

#### **1. Alcohol's effect on brain:**

Alcohol has complex and seemingly contradictory effects on the brain. At lower levels, alcohol stimulates certain brain cells and activates the brain's "pleasure areas," which release opium-like endogenous opioids that are stored in the body. At higher levels, alcohol depresses brain functioning, inhibiting one of the brain's excitatory neurotransmitters, glutamate, which in turn slows down activity in parts of the brain. Inhibition of glutamate in the brain impairs the organism's ability to learn and affects the higher brain centres, impairing judgment and other rational processes and lowering self-control.

#### **2. Development of alcohol dependents:**

Excessive drinking can be viewed as progressing insidiously from early to middle to late stage alcoholism, although some alcoholics do not follow this progressively developing pattern. Many studies shown that alcohol is a dangerous systemic poison even in small amounts, other believe that in moderate amount it is not harmful to most people. Small amounts of red wine can even serve as a protective factual in heart disease. For pregnant women, even moderate amounts are believed to be dangerous.

#### **3. The physical effects of chronic alcohol use:**

Alcohol that is taken in must be assimilated by the body (05-10% eliminated through Breath, urine & perspiration). The work of assimilation is done by the liver, but when large amounts of alcohol are ingested, the liver may be seriously overworked & eventually suffer irreversible damage. In fact, from 15-30% of heavy drinkers develop cirrhosis of the liver a disorder involving extensive stiffening of the blood vessels.

Alcohol is also a high calorie drug. A pint of whisky provides about 1200 calories, which is approximately half the ordinary caloric requirements for a day. This consumption of alcohol reduces a drinker's appetite for other food because alcohol has no nutritional value, the excessive drinker often, suffer from malnutrition.

#### **4. Psychosocial effects of alcohol abuse and dependence:**

Chronic drinker suffers from chronic fatigue over sensitivity & depression. Excessive drinking results in lowered feelings of adequacy & worth, impaired reasoning & judgments & gradual personality deterioration. Adjustment become impaired, an excessive drinker may be unable to hold a job & generally becomes unqualified to cope with new demands. Personality disorganization and deterioration is also seen among alcoholics. Loss of employments of marital breakup is also common. General health is also deteriorated.

#### **Causal factor -alcohol abuse and dependence**

##### **Biological causal factors:**

The development of an alcohol addiction is a complex process involving many elements—constitutional vulnerability & environmental encouragement as well as the unique biochemical properties of certain psychoactive substances can lead to addictive behavior.

1. The neurobiology of addiction
2. Genetic vulnerability
3. Genetic influences and learning

##### **Psychological factors:**

Alcoholics develop a powerful psychological as well as social dependence. The following are the psychosocial causal factors.

1. Failure in parental guidance

2. Psychological vulnerability
3. Stress, tension reduction and reinforcement
4. Expectation of social success
5. Marital and other intimate relationship

**Sociocultural factors:**

1. Social life of western civilization

**Opium**

Opium is a highly addictive and potent illegal narcotic. It can be used to relieve pain. It also can be used for its euphoric properties and the "high" it causes.

**Cocaine and Amphetamines (Stimulants)**

**Cocaine:**

- From the leaves of the coca bush.
- Cocaine taken by injection is associated with the highest levels of dependence.
- Only drug known as local anaesthetic and a central nervous stimulant.
- Cocaine increases heart rate, raises blood pressure and body temperature and decreases appetite Influence both short- and long-term mental health.

**Effects of cocaine (long term and short term):**

Short term:-

Loss of appetite, Increased heart rate, blood pressure, body temperature, Contracted blood vessels, Increased rate of breathing, Dilated pupils.

Long-term:-

Anxiety and paranoia, Depression, Intense drug craving, Panic and psychosis

## **Amphetamines**

- Earliest amphetamine Benzedrine or amphetanic sulphate was first synthesized in 1927. It was initially known as “wonder pills” that helped people stay alert or awake and function temporarily at a level beyond normal.
- Amphetamines prompt the brain to initiate a fight or flight response.
- These changes include:  
The release of adrenalin and other stress hormones, Increased heart rate and blood pressure, Increased blood flow to the peripheral muscles
- Some of the immediate effects of amphetamines include:  
A burst of energy, making the user talkative, restless and excited Accelerated heart rate and breathing, High-blood pressure, Dry mouth and jaw clenching, Sweating., Dilating pupils.

### **Effects of amphetamines:**

- Risk of damage to brain cells
- Amphetamine psychosis, which includes hallucinations, paranoia and other symptoms similar to schizophrenia. This can lead to behaviour dangerous to the person and to others malnutrition, because the drug suppresses appetite, reduced immunity, due to malnutrition and lack of sleep, mood swings, depression and panic attacks.

## **Methamphetamine, barbiturates (sedatives)**

- Once widely used by physicians to calm patients and induce sleep. Barbiturates act as depressants to slow down the action of the central nervous system and significantly reduce performance on cognitive tasks. An individual experiences a feeling of relaxation in which tensions seem to disappear. Strong doses produce sleep



immediately. Excess doses results in paralysis of the brain. Impaired decision making and problem solving, slow speech, sudden mood shifts are common.

### **Ecstasy, marijuana (hallucinogens)**

- Hallucinogens are drugs whose properties are thought to induce hallucination. However these preparations usually do not intact “create” sensory images but distort them, so that individual sees or hears things in different and unusual ways. These are often referred to as psychotics.

### **Marijuana**

- Although marijuana is classified as a mild hallucinogen, there are significant differences in the nature, intensity and duration of its effects as compared with those induced by LSD. Marijuana comes from the leaves and flowering tops of the hemp plant, cannabis sativa.
- Marijuana is related to a strong drug. When marijuana is smoked and inhaled, a state of slight intoxication results. This state is one of the mild euphoria distinguished by increased feeling of wellbeing, heightened perceptual acuity & pleasure, relaxation often accompanied by a sensation to drifting or floating away.

## **MODULE 2: schizophrenia and other psychotic disorder**

- Schizophrenia is a chronic, severe mental disorder that affects the way a person thinks, acts, expresses emotions, perceives reality, and relates to others.
- People with schizophrenia may seem like they have lost touch with reality, which causes significant distress for the individual, their family members, and friends.
- If left untreated, the symptoms of schizophrenia can be persistent and disabling. However, effective treatments are available.
- When delivered in a timely, coordinated, and sustained manner, treatment can help affected individuals to engage in school or work, achieve independence, and enjoy personal relationships.
- The effect of illness is always severe and usually long lasting.

### **Historical background**

- Earlier descriptions of schizophrenia-like illness are recorded in literature.
- Scientific study - description of dementia praecox by Emil Kraepelin.
- In 1896- differentiated the major psychiatric illnesses into two clinical types: Dementia praecox, Manic-depressive illness.
- Brought together the various psychiatric illnesses (such as paranoia, catatonia and hebephrenia), which were earlier thought to be distinct illnesses.
- He recognized the characteristic features of dementia praecox, such as delusions, hallucinations, disturbances of affect and motor disturbances.
- **Eugen Bleuler** Renamed dementia praecox as schizophrenia (meaning mental splitting)
- Recognized that this disorder did not always have a poor prognosis as described by Kraepelin.
- Recognized that schizophrenia consisted of a group of disorders rather than being a distinct entity. Therefore, he used the term, a group of schizophrenias.
- Bleuler described the characteristic symptoms (fundamental symptoms) which were then thought to be diagnostic of schizophrenia.
- He also described accessory symptoms of schizophrenia (thought to be secondary to fundamental symptoms).
- These accessory symptoms included delusions, hallucinations and negativism.



- Kurt Schneider (1959) described symptoms which, though not specific of schizophrenia, were of great help in making a clinical diagnosis of schizophrenia. These are popularly called as Schneider's first rank symptoms of schizophrenia (FRS or SFRS).
- He also described the second rank symptoms of schizophrenia (which were considered by him as less important for diagnosis of schizophrenia), such as other forms of hallucinations, perplexity, and affect disturbances.
- These symptoms (SFRS) have been described in some detail here as they have very often been used for diagnosis of schizophrenia and have significantly influenced the diagnostic criteria and classification of schizophrenia and other related psychotic disorders.
- As mentioned earlier, SFRS are not specific for schizophrenia and may be seen in other psychiatric disorders such as mood disorders and organic psychiatric disorders.

#### **Prevalence:**

- The lifetime prevalence of schizophrenia appears to be approximately 0.3%-0.7%, although there is reported variation by race/ethnicity, across countries, and by geographic origin for immigrants and children of immigrants.
- The sex ratio differs across samples and populations: for example, an emphasis on negative symptoms and longer duration of disorder (associated with poorer outcome) shows higher incidence rates for males, whereas definitions allowing for the inclusion of more mood symptoms and brief presentations (associated with better outcome) show equivalent risks for both sexes.

#### **Development:**

- The psychotic features of schizophrenia typically emerge between the late teens and the mid-30s; onset prior to adolescence is rare.
- The peak age at onset for the first psychotic episode is in the early- to mid-20s for males and in the late-20s for females.
- The onset may be abrupt or insidious, but the majority of individuals manifest a slow and gradual development of a variety of clinically significant signs and symptoms.
- The essential features of schizophrenia are the same in childhood, but it is more difficult to make the diagnosis.

- In children, delusions and hallucinations may be less elaborate than in adults, and visual hallucinations are more common and should be distinguished from normal fantasy play.
- Disorganized speech occurs in many disorders with childhood onset (e.g., autism spectrum disorder), as does disorganized behavior (e.g., attention-deficit/hyperactivity disorder).

#### **Comorbidity:**

- Substance-related disorders
- Anxiety disorders
- Obsessive-compulsive disorder
- Panic disorder
- Schizotypal or paranoid personality

#### **Delusion**

- Delusions are characterized as fixed and false beliefs that contradict reality. It is the persistent belief in things which are not true. The delusions are false and there is usually contradicting evidence to prove the delusions aren't true.
- Delusions could be the result of misinterpreting events, or they may involve some level of paranoia. Delusions often are a part of a psychotic disorder and can occur alongside hallucinations, such is the case for schizophrenia.

#### **Common types of delusions in schizophrenia:**

- **Persecutory:** This is the most common type of delusion in which a patient feels they are being targeted by someone or something. Patients may feel they are being tracked, harmed, poisoned, or even blocked from pursuing their goals. Examples of persecution include being followed by the FBI or Mafia, or being haunted by evil spirits. These delusions can make the patient angry or even violent.
- **Referential:** Commonly seen in paranoid schizophrenics, this refers to an egocentric interpretation of information. In this type of delusion, the patient feels that all gestures or expressions are geared towards them. They may feel they are the focus of song lyrics or even news reports.

- **Grandiose:** In this type of delusion, the patient feels that they are the most important person. They may imagine themselves as famous or always being in high demand. They may ask to be referred to by their higher title such as Your Majesty.
- **Religious:** Patients feel they have a special connection with God. They feel God has put them on a special mission and they may even believe that they have special powers. In some cases, patients may actually believe that they are God.
- **Somatic:** This is an obsessive preoccupation with one's body. Patients believe they are suffering from a physical condition such as a tumor even when they are not. In majority of cases, their illness is often caused by a medical mystery. For example, a famous case involved a woman who believed her stomach pain was a result of a snake in her abdomen.
- **Control:** This is the belief that an outside force is trying to control a person's thoughts or actions. Patients believe their minds have been taken over by someone or something else and that they are being controlled by this other thing. Patients may also feel that their bodies are being manipulated by something else and that they do not have any personal control over their thoughts or movements.
- **Erotomantic delusions:** Patient believes that someone, most likely someone famous, is romantically or sexually involved with them.

### **Hallucination**

- Hallucinations are the perception of a nonexistent object or event and sensory experiences that are not caused by stimulation of the relevant sensory organs.
- Types of Schizophrenic Hallucinations
- **Auditory hallucinations:** which involve hearing sounds no one else can hear or hearing voices when no one is in the room. The voices may be friendly, hostile, abusive, or annoying. They may originate from a single source, such as a television, or multiple sources. They may talk directly to the person, have discussions with them, give them instructions, or describe events taking place.
- **Visual hallucinations,** which involve seeing things no one else can see. For eg., the person may see spiders crawling all over the room. Or, they may see objects move in ways that they normally don't.

- **Olfactory hallucinations**, which involve smelling things no one else can detect. The person may believe the odor is coming from them or from something around them.
- **Gustatory hallucinations**, which involve tasting things no one else can taste. The person may feel that what they're eating tastes extremely odd.
- **Somatic or tactile hallucinations**, which involve feeling sensations no one else can feel. The person may feel like spiders are crawling all over their skin, or someone is tickling them, or there's a draft of cold air blowing on their face.
- Disorganized speech is any interruption that makes communication difficult — and sometimes impossible — to understand.
- Effective communication can be impaired, and answers to questions may be partially or completely unrelated. Rarely, speech may include putting together meaningless words that can't be understood, sometimes known as word salad.
- **Extremely disorganized or abnormal motor behavior:** This may show in a number of ways, from childlike silliness to unpredictable agitation. Behavior isn't focused on a goal, so it's hard to do tasks. Behavior can include resistance to instructions, inappropriate or bizarre posture, a complete lack of response, or useless and excessive movement.
- The negative symptoms of schizophrenia diminish the brain's ability to process certain experiences and to respond or behave in particular ways. This can lead to:
- Flat affect, where someone can't show emotion and even the ability to smile is taken away
- Decreased motivation and goal-driven behavior
- Inability to make and pursue goals
- Slowed reaction to other people, events, and happenings
- Diminished speech (instead of disorganized, it is barely there; known as alogia)
- Loss of ability to fully care about people or events (apathy)
- Loss of ability to feel pleasure or happiness (anhedonia)

#### **Clinical types:**

- **Paranoid Type:** The paranoid type of schizophrenia is characterized by preoccupation with one or more delusions or frequent auditory hallucinations. Classically, the paranoid type of schizophrenia is characterized mainly by the presence of delusions of persecution or grandeur.



- **Disorganized Type:** The disorganized (formerly called hebephrenic) type of schizophrenia is characterized by a marked regression to primitive, disinhibited, and unorganized behavior and by the absence of symptoms that meet the criteria for the catatonic type.
- **Catatonic Type:** The classic feature of the catatonic type is a marked disturbance in motor function; this disturbance may involve stupor, negativism, rigidity, excitement, or posturing. Sometimes, the patient shows rapid alteration between extremes of excitement and stupor. Associated features include stereotypies, mannerisms, and waxy flexibility.
- **Undifferentiated Type:** Frequently, patients who are clearly schizophrenic cannot be easily fitted into one or another type. DSM-IV-TR classifies these patients as having schizophrenia of the undifferentiated type. This is a very common type of schizophrenia and is diagnosed either:
  1. When features of no subtype are fully present, or
  2. When features of more than one subtype are exhibited, and the general criteria for diagnosis of schizophrenia are met.
- **Residual Type:** According to DSM-IV-TR, the residual type of schizophrenia is characterized by continuing evidence of the schizophrenic disturbance in the absence of a complete set of active symptoms or of sufficient symptoms to meet the diagnosis of another type of schizophrenia. Emotional blunting, social withdrawal, eccentric behavior, illogical thinking, and mild loosening of associations commonly appear in the residual type. When delusions or hallucinations occur, they are neither prominent nor accompanied by strong affect.

### **Schizoaffective disorder**

- Schizoaffective disorder is a mental health disorder that is marked by a combination of schizophrenia symptoms, such as hallucinations or delusions, and mood disorder symptoms, such as depression or mania.
- The two types of schizoaffective disorder — both of which include some symptoms of schizophrenia — are:
  - Bipolar type, which includes episodes of mania and sometimes major depression
  - Depressive type, which includes only major depressive episodes

- Untreated schizoaffective disorder may lead to problems functioning at work, at school and in social situations, causing loneliness and trouble holding down a job or attending school. People with schizoaffective disorder may need assistance and support with daily functioning. Treatment can help manage symptoms and improve quality of life.

### **Schizophreniform**

- Schizophreniform disorder is a diagnosis that falls under the schizophrenia spectrum, according to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). It is a short-term psychotic disorder characterized by symptoms similar to schizophrenia.
- Unlike schizophrenia, it lasts one to six months instead of the rest of your life. It is a serious psychotic disorder that may be caused by genetics, brain chemistry or environmental factors.

### **Brief Psychotic Disorder**

- Brief psychotic disorder (BPD) according to DSM-5 is the sudden onset of psychotic behavior that lasts less than 1 month followed by complete remission with possible future relapses.
- It is differentiated from schizophreniform disorder and schizophrenia by the duration of the psychosis.
- The diagnosis is often anticipatory or retrospective due to the diagnostic requirement of complete remission within 1 month.

### **Casual factors**

#### **Biological factors:**

Genetic influences:-Tend to run in families- genes involvement-Twin studies –Adoption studies (biological parents and adoptive parents).Schizophrenia tends to run in families. A genetic argument means that the closer the relationship to a person with schizophrenia, the more likely they are to have it.

#### **Biochemical factors:-**

The **dopamine hypothesis** states that schizophrenia results from an imbalance of the neurotransmitter dopamine in the brain.



- Neurophysiological factors
- Neurodevelopmental issues

**Sociocultural factors:-**

- Lower socioeconomic status, higher the prevalence of schizophrenia



## **MODULE 3: Mood Disorder**

### **Mood disorders**

- Mood disorders are characterized by a serious change in mood that cause disruption to life activities. Though many different subtypes are recognized, three major states of mood disorders exist: depressive, manic, and bipolar.

### **Type of mood disorders**

#### **Mania:**

- Manic moods are characterized by unusually high energy and mood. Feelings of euphoria are often present.
- These elevated moods typically last three days or more for most of the day.
- Classic mania symptoms include talking rapidly and/or excessively, needing significantly less sleep than normal, distractibility, poor judgment, impulsivity, and making reckless decisions.

#### **Unipolar Depressive Disorders:**

- In order to meet the DSM criteria for unipolar depression, you must experience 5 or more of the following symptoms, at least once per day, and for a period that's longer than 2 weeks: Sadness or irritability, lasting most of the day. Loss of interest in the majority of activities that were enjoyable before.

#### **Major depressive disorder:**

- Depression is a mood disorder that causes **a persistent feeling of sadness and loss of interest**. Also called major depressive disorder or clinical depression, it affects how you feel, think and behave and can lead to a variety of emotional and physical problems.

#### **Premenstrual Dysphoric Disorder:**

- Premenstrual dysphoric disorder (PMDD) is **a much more severe form of premenstrual syndrome (PMS)**. It may affect women of childbearing age. It's a severe and chronic medical condition that needs attention and treatment. Lifestyle changes and sometimes medicines can help manage symptoms.

### **Dysthymic Disorder (Persistent Depressive Disorder):**

- Persistent depressive disorder is a continuous, long-term form of depression. You may feel sad and empty, lose interest in daily activities and have trouble getting things done. You may also have low self-esteem, feel like a failure and feel hopeless. These feelings last for years and may interfere with your relationships, school, work and daily activities.

### **Bipolar disorder 1:**

- The occurrence of one manic episode and one major depressive episode diagnosed bipolar disorder-1. The depressive episode must have occurred either before or after the manic episode. The symptoms of a manic episode may be so severe that you require hospital care.
- Manic episodes are usually characterized by the following: Restlessness, Exceptional energy, Trouble concentrating, Feelings of euphoria (extreme happiness) risky behaviours, Poor sleep
- The symptoms of a manic episode tend to be so obvious and intrusive that there's little doubt that something is wrong.

### **Bipolar disorder 2:**

- A diagnosis of bipolar II disorder requires someone to have at least one major depressive episode and at least one hypomanic episode (see above). People return to their usual functioning between episodes. People with bipolar II disorder often first seek treatment as a result of their first depressive episode, since hypomanic episodes often feel pleasurable and can even increase performance at work or school.
- People with bipolar II disorder frequently have other mental illnesses such as an anxiety disorder or substance use disorder, the latter of which can exacerbate symptoms of depression or hypomania.

### **Cyclothymic Disorder:**

- Cyclothymic disorder is a milder form of bipolar disorder involving many "mood swings," with hypomania and depressive symptoms that occur frequently. People with cyclothymia experience emotional ups and downs but with less severe symptoms than bipolar I or II disorder.
- Cyclothymic disorder symptoms include the following:

- For at least two years, many periods of hypomanic and depressive symptoms, but the symptoms do not meet the criteria for hypomanic or depressive episode.
- During the two-year period, the symptoms (mood swings) have lasted for at least half the time and have never stopped for more than two months.



## **MODULE 4: Developmental disorders**

### **Attention-Deficit/Hyperactivity Disorder:**

- ADHD is one of the most common neurodevelopmental disorders of childhood. It is usually first diagnosed in childhood and often lasts into adulthood. Children with ADHD may have trouble paying attention, controlling impulsive behaviors (may act without thinking about what the result will be), or be overly active.
- It is normal for children to have trouble focusing and behaving at one time or another. However, children with ADHD do not just grow out of these behaviors. The symptoms continue, can be severe, and can cause difficulty at school, at home, or with friends.
- Scientists are studying causes and risk factors in an effort to find better ways to manage and reduce the chances of a person having ADHD. The causes and risk factors for ADHD are unknown, but current research shows that genetics plays an important role. Recent studies link genetic factors with ADHD.
- In addition to genetics, scientists are studying other possible causes and risk factors including: Brain injury, Exposure to environmental risks (e.g., lead) during pregnancy or at a young age, Alcohol and tobacco use during pregnancy, Premature delivery, and Low birth weight.

### **Conduct Disorder:**

- Conduct disorder is a serious behavioral and emotional disorder that can occur in children and teens.
- Children and adolescents with the disorder have difficulty following rules and behaving in a socially acceptable way.
- They may display aggressive, destructive, and deceitful behaviors that can violate the rights of others. Adults and other children may perceive them as “bad” or delinquent rather than as having a mental illness.
- Children who have conduct disorder are often hard to control and unwilling to follow the rules. They act impulsively without considering the consequences of their actions.
- Children may have conduct disorder if they persistently display one or more of the following behaviors:
  - aggressive conduct
  - deceitful behavior

- destructive behavior
- violation of rules
- Genetic and environmental factors may contribute to the development of conduct disorder.

### **Autism Spectrum Disorder:**

- Autism spectrum disorder is a condition related to brain development that impacts how a person perceives and socializes with others, causing problems in social interaction and communication.
- The disorder also includes limited and repetitive patterns of behavior. The term autism spectrum disorder refers to the wide range of symptoms and severity.
- Autism spectrum disorder includes conditions that were previously considered separate autism, Asperger's syndrome, childhood disintegrative disorder and an unspecified form of pervasive developmental disorder.
- Some people still use the term & Asperger's syndrome, which is generally thought to be at the mild end of autism spectrum disorder.
- A child or adult with autism spectrum disorder may have problems with social interaction and communication skills.
- A child or adult with autism spectrum disorder may have limited, repetitive patterns of behavior, interests or activities.
- A variety of nonspecific risk factors, such as advanced parental age, low birth weight, or fetal exposure to valproate, may contribute to risk of autism spectrum disorder.
- Autism spectrum disorder is diagnosed four times more often in males than in females.

### **Specific learning Disorders:**

- Specific learning disorders are neurodevelopmental disorders that are typically diagnosed in early school-aged children, although may not be recognized until adulthood. They are characterized by a persistent impairment in at least one of three major areas: reading, written expression, and/or math.
- Dyslexia is a term that refers to difficulty in acquiring and processing language that is typically manifested by the lack or proficiency in reading, spelling and writing. People with dyslexia have difficulty connecting letters they see on a page with the sounds they



make. As a result, reading becomes slow and effortful and is not a fluent process for them.

- Dysgraphia is a term used to describe difficulties with putting one's thoughts on to paper. Problems with writing can include difficulties with spelling, grammar, punctuation, and handwriting.
- Dyscalculia is a term used to describe difficulties learning number related concepts or using the symbols and functions to perform math calculations. Problems with math can include difficulties with number sense, memorizing math facts, math calculations, math reasoning and math problem solving.

### **Intellectual Disability:**

- An intellectual disability is a neurodevelopmental condition that develops in childhood. It affects your capacity to learn and retain new information, and it also affects everyday behavior such as social skills and hygiene routines. People with this condition experience significant limitations with intellectual functioning and developing adaptive skills like social and life skills.
- An IQ test determines whether a person has an intellectual disability. IQ scores lower than 70 indicate an intellectual disability. The severity of the condition can range from mild to profound.