

---

## **Unit - 3 □ The Early Years (Birth To Eight Years)**

---

### **Structure**

- 3.1.1. Introduction**
- 3.1.2 Objectives**
- 3.1.3 Conception of Pre-natal Development**
- 3.1.4 Stages of Pre-natal Development**
- 3.1.5 Stages and influences of Prenatal Development**
- 3.1.6 Check Your Progress**
- 3.1.3 Milestones and variations in Development**
- 3.3.4 Significance of these milestones**
- 3.3.5 Check Your Progress**
- 3.2.1 Birth and Neonatal Development**
- 3.2.3 Screening the newborn**
- 3.2.4 Check Your Progress**
- 3.2.5 The Newborn (APGAR) Scoring System**
- 3.2.6 Check Your Progress**
- 3.2.7 Reflexes and responses of Newborn**
- 3.2.8 Normal Newborn Reflexes and Behaviour**
- 3.2.9 Check Your Progress**
  - 3.2.10 Neuro-perceptual Development**
  - 3.2.11 Objective**
  - 3.2.12 Introduction**
  - 3.2.13 Importance of perceptual development**
  - 3.2.14 Development of auditory-visual perception**
  - 3.2.15 Check Your Progress**
- 3.4 Environmental factors influencing early childhood development**
- 3.4.1 Objective**
- 3.4.2 Introduction :**
- 3.4.3 Environment available after birth**

### **3.4.5 Check Your Progress**

### **3.5.1 Role of play in enhancing development**

### **3.5.2 Objective :**

### **3.5.6 Reference :**

### **3.5.5 Check Your Progress**

### **3.5.4 The importance of play in promoting healthy child development :**

### **3.5.3. Introduction :**

### **3.5.7 Let us Sum-up**

### **3.5.8 Unit End Exercises**

### **3.5.9 Answer to check progress**

---

## **3.1.1. Introduction**

---

As far as the human being is concerned, life starts with the conception in the mother's womb as a result of the process of fertilization of the ovum (egg cell) of the mother by the sperm cell of the father. The mother's womb then becomes the site and the means for the growth and development of the new life and it is only after about nine months that the baby is able to come into the world as a newborn. The period spent in the mother's womb is termed as pre-natal period and usually not included in the computation of a child's chronological age.

---

## **3.1.2 : Objectives**

---

- to know the conception of Prenatal development.
- to understand various stages of Prenatal development.
- to know the influences of Prenatal development.

---

## **3.1.3 : Conception of Pre-natal Development**

---

The pre-natal development means the growth and development of a new life in the mother's womb. In all animals, including human beings, the pre-natal period resembles the time taken by a germinating seed to come out of the soil, which then grows and develops into a full-fledged plant or tree. The processes by which a germinating seed or conceived organism is turned into the mature plant or full-fledged being are collectively termed as growth and development.

---

### **3.1.4 : Stages of Pre-natal Development**

---

In duration of pregnancy is divided into three equal segments called trimesters. The first trimester (month-3) is essential to the proper development of the infant and encompasses both the ovum and embryonic period of pre-natal development. This is when all organs, nerve cells, and brain cells develop. This when most spontaneous abortions (miscarriages) occur. They generally are caused by abnormal development of the fetus and are nature's way of eliminating a chromosomal abnormality. It is vital that all necessary nutrients be available to the fetus in order to develop properly. This period is also called the period of the zygote. This stage begins at conception and lasts until the zygote is implanted in the mother's uterus.

The second trimester (month 4-6) is often referred to as the "golden trimester." This is when the mother generally feels the best. Morning sickness and nausea have generally disappeared, and the mother is quite comfortable. In this period, the umbilical cord is connected to the placenta. The placenta is an organ that serves as a medium for the exchange of nutrients and waste products between the mother and the fetus. During this period, all the organs that will remain present at birth are formed. The third trimester comprises month 7-9. These are important months for the baby as its organs and body systems mature and prepare to function on their own. The fat accumulated during this time will give the baby a "head start" on life. The third development period is also called the period of the fetus. The fetus will begin to resemble a human being, and features will increase in clarity. During the fetal period the baby may increase in length by as much as 12 inches.

---

### **3.1.5 : Stages and influences of Prenatal Development**

---

Since the prenatal environment is the mother's body, virtually everything that impinges on her well-being, from her diet to her moods, may alter her unborn child's environment and affects its growth.

Not all environmental hazards are equally risky for all fetuses. Some factors that are teratogenic (birth defect-producing) in some cases have little or no effect in others. The timing of exposure to a teratogen, its intensity, and its interaction with other factors may be important.

The developing organism can be greatly affected by its prenatal environment. The likelihood of a birth defect may depend on the timing and intensity of an environmental event and its interaction with genetic factors.

Important environmental influences involving the mother include nutrition, physical activity, smoking, intake of alcohol or other drugs, transmission of maternal illness or infections, maternal age, incompatibility of blood type, and external environmental hazards, such as chemicals, and radiation. External influences may also affect the father's sperm, such as teratogenic, fetal alcohol syndrome (FAS) and AIDS.

---

### **3.1.6 Check Your Progress**

---

1. What do you mean by prenatal development ?

.....  
.....  
.....

2. What are the stages in prenatal development ?

.....  
.....  
.....

3. What is fetus ?

.....  
.....  
.....

4. What is FAS ?

.....  
.....  
.....

5. What is AIDS ?

.....  
.....  
.....

---

### **3.1.3 Milestones and variations in Development**

---

#### **3.3.2 Objective**

to know the developmental milestones and variation.

**3.3.4 :** Infants go through many changes during their first 12 months and so two infants develop at the same pace. One infant may reach a milestone early, another later. Infants born prematurely tend to reach milestones a little later. It is also not unusual for infants to regress in one skill or another from time to time. Many infants, for example, develop sleep problems when their teeth begin to come in.

The following is a general guide to some basic milestones for physical, cognitive, language and social and emotional development from birth to 12 months.

#### **Newborn to 1 months**

##### **Physical development milestones**

- Infants develop basic reflexes needed to survive, such as sucking, swallowing, coughing, gagging, elimination, grasping, blinking and startle.
- Their eyes are not coordinated and may appear to cross.
- They cannot coordinate their hands and eyes to work together.

##### **Cognitive developmental milestones**

- Infant will watch an object about 12-15 inches away, especially if it is moving slowly from one side of their field of vision to the other.
- They can distinguish smells and taste. They may prefer sweet-tasting liquids and will recoil from unpleasant smells.

##### **Language developmental milestone**

- Infants communicate mostly by crying but sometimes by making other noises.
- They will turn in direction of a familiar voice.

##### **Social and emotional development milestones**

- Infants will sleep, on average, between 17 and 19 hours a day. But they do it in a series of short sleeping periods.
- They enjoy being held and rocked.

## **1–4 months**

### **Physical development milestones**

- Infants when face down, should be able to lift their head and chest and look both ways.
- They move their arms and legs in a squirming fashion and kick their legs out.

### **Cognitive development milestones**

- Infants move their heads toward different colours and changes in lighting.
- They are attracted to people's voices.

### **Language developmental milestones**

- Infants make cooing and gurgling noises, especially when a caregiver talks to or smiles at them.
- They cry when they need something.

### **Social and emotional milestones**

- Infants respond with a smile when someone smiles at them.
- A familiar voice can soothe them when they are upset.

## **4–8 months**

### **Physical development milestones**

- Their first teeth may come in, causing gum swelling and irritation.
- They can support a bottle on their own during a feeding.

### **Cognitive development milestones**

- Infants anticipate being fed and may open their mouth when food is in sight.
- They will focus on an object and reach for it.

### **Language development milestones**

- Infants will recognize their own name.
- They repeat the same sounds over and over.

### **Social and emotional milestones**

- Infants have a strong attachment to, and preference for, their primary caregivers.
- They may start to show stranger anxiety around unknown adults.

## **8–12 months**

### **Physical development milestones**

- They manage to drink from a cup with a little help.
- They can sit up by themselves.

### **Cognitive development milestones**

- Infants imitate the movements of their caregivers.
- They start to understand how to use common objects.

### **Language development milestones**

- Infants will imitate spoken words or sound made by their caregivers.
- Infants begin to interact verbally with their caregivers.

### **Social and emotional development milestones**

- Infants will try to keep their primary caregivers in sight.
- They may share belongings with other infants.

---

## **3.3.4 : Significance of these milestones**

---

All these milestones are the parameters of the development and we can say general guide. Some infants will reach them early, some later, not all infants will show all of the behaviours on the list.

Therefore, doctors consultancy is very important things if it is observed that infant does not achieve a majority of the milestones within a reasonable period of time after the end of stage and it may be seen that infant suddenly stops making consistent progress over several weeks. It is important to intervene early to improve the outcomes of infants who do not have development delays.

---

## **3.3.5 : Check Your Progress**

---

23. Stating is the basic criteria of which milestones ?

.....

.....

.....

24. Mention anyone basic criteria of cognitive development in the month of 1– 4.

.....  
.....  
.....

25. In which duration of month infants will recognize their own name.

.....  
.....  
.....

26. Speaking word is the criteria of which milestones.

.....  
.....  
.....

---

### **3.2.1 Birth and Meonatal Development**

---

#### **3.2.2 : Objectives**

- to know how to screening the newborn
- to know APGAR Score
- to understand reflexes and responses,
- to know neuro-perceptual development.

---

#### **3.2.3 Screeing the newborn**

---

Newbron screeing aims at the earliest possible recognition of disorders to prevent the most serious consequences by timely intervention. Screeing is not a confirmatory diagnosis and requires further investigations. But this screeing is very important before discharze a newborn from their respective clinic. We can take some guidelines from developed countries such as high prevalence of certain endocrinopatheies, metabolic errors and herming loss which, if recognized later, contribute to significant morbidity, It we see the Indian seenario them we will see that neonates are not screened in India

because the health policies have typically targeted mortality and infectious morbidities but not disabilities.

These policies have been successful in lowering infant mortality rates, but the net effect of these gains has been somewhat offset by an increase in disability.

One of the basic requisites for a screening programme is the availability of the epidemiological data regarding disease burden. But in our country like India the diagnosis is delayed due to lack of awareness among the professionals and of easily accessible technical expertise.

Therefore priorities have been given across the country for inclusion in the first phase such as congenital Hypothyroidism.

It has been included in newborn screening programme and serves as a template for both introductions, fulfilment of all criteria and cost effectiveness of the newborn screening. This is because of availability of simple therapeutic measures and the good response that follow early detection and treatment.

**Deafness** — The importance of screening for deafness can clearly be understood from the fact that if hearing aid can be provided in the prelingual phase it can minimize the negative impact of sensorineural hearing loss on speech and language acquisition.

**Hemoglobin Disorders** : It is considered to be a serious problem by WHO. In India, the carrier frequency of beta thalassaemia varies from 1–17% (mean 3.3%). It is estimated that about 10,000 babies affected with beta thalassaemia are born every year.

**G6PD Deficiency** : G6PD screening should be given importance. It should also be included in the first phase but in regionalized manners. Both ELISA and fluorescent immunoassay based tests can be done.

**Congenital Adrenal Hyperplasia (CAH)** : The incidence of CAH in India has been found to be 1 : 2575 from a small sample survey. In a study from ALLMS, New Delhi, CAH was diagnosed in about 38% of children presenting with ambiguous genitalia. What was most striking was that only one child out of the 53 cases studied was brought immediately after birth with 14 presenting after the age of one year.

---

### 3.2.4 : Check Your Progress

---

6. What you mean by Newborn Screening ?

.....

.....  
.....  
7. What is meant by congenital hypothyroidism ?  
.....

.....  
.....  
8. What is Deafness ?  
.....  
.....  
.....

9. What is Hemoglobin Disorder ?  
.....  
.....  
.....

10. What is G 6PD ?  
.....  
.....  
.....

---

### **3.2.5 : The Newborn (APGAR) Scoring System**

---

Almost two decades ago the need was felt for a way to judge the condition of a newborn baby quickly and accurately shortly after birth.

The original intention of establishing a scoring system was to predict survival, to compare methods of resuscitation which were in use at the time, of through the infant's responsiveness after delivery to compare prenatal experience in different hospitals. The influence of various obstetrical practices such as induction of labor, elective cesarean section and maternal anesthesia and analgesia might well be reflected in the score. It

was further more hoped that the scoring system would ensure closer observation of the infant during the 1st minute of life.

Therefore, mostly we can say, the APGAR scoring system is used to assess newborn infants for depression of cardiopulmonary and neurological function. Scoring is done at 1 and 5 minutes after birth.

The scoring system is given below for better understanding the topic.

<b>Sign</b>	<b>0 points</b>	<b>1 points</b>	<b>2 points</b>
Heart	Rate	Absent	<100 >100
Respiratory Effort	Absent	Weak cry	Strong cry
Muscle Tone	Flaccid	Some flexion	Active motion
Reflex Irritability	No response	Grimace	Cough, sneeze, or cry
Colour	Blue, pale	Body-pink; extremities blue	Fully pink

## **Introduction :**

**Minimum Score : 0**

**Maximum Score : 10**

The lower the score the more profoundly affected the infant is with score 5 considered serious. A low initial scores with no improvement in 5 minute score is associated with neonatal problems including death.

---

### **3.2.6 Check Your Progress**

---

11. What do you mean by APGAR Scoring system ?

.....  
.....  
.....

12. What is minimum score ?

.....  
.....  
.....

13. What is maximum score ?

.....  
.....  
.....

14. How mucm points should get for fully pink ?

.....  
.....  
.....

15. Scoring is done within the time of ?

.....  
.....  
.....

---

### **3.2.7 : Reflexes and responses of Newborn**

---

Neonnatal reflexes are inborn reflexes which are present at birth and occur in predictalle fashion. A normally developing newborn should respond to certain stimuli with these reflexes. Which eventually become inhibited as the child matures.

Newborn depend on their inherent refelexes for survival. Absence or extended duration of these reflexes could indicate a problem with the baby's central nerbous system. Just after birth, the newborn will be assesed for the following reflexes.

**Rooting Reflexes :** When a finger or nipple is placed into the baby's mouth, the baby begings to suck. Also, if you lightly stroke the check, the newborn will turn towards the stroking and open her mouth to accept the nipple. This reflex usually lasts for up to seven months.

**Plamar and Plamter Grasp Reflexes :** The baby will graspan object placed in his hands or carl his toes around finges placed near his toes. The palmar reflex usually lastss three to four months and the plantas can last upto a year.

**Moro's Reflex :** This startle reflex appears with a sudden loud noise or any intense stimulation. The arms and legs extend and the fingers fan outward, with the thumb and forefinger forming a e-shape. This reflex usually disappears within there to four months.

**Toxic Neck Reflex :** The baby appear like a "fencer" when lying flat on her back and fauing to the side. Whichefver direction her face is turned, that arm will extend and the other will be flexed. Babies may sleep in this position for a couple of years; however, an awake baby should not display this reflex beyond four months of age. Prolonged display of this reflex in an awalke state could be an indication of cerebral palsy.

**Doll's Eye Reflex :** As with a doll eyes, when an baby is lying on her back, if you turn her head from side to side, her eyes remian fixed. This reflex lasts up to two months of age.

**Babinski's Reflex :** The baby toes will hyperextend when the bottom of his foot is stroked upward from the sole to the ball of his foot. This reflex disapperes within a year.

**Stepping Refelex :** When the bewborn is held upright with the fect on a flat surface, the baby will make stepping motions. This reflex diminishess by the fourth month and does not return until the baby begins to standard walk.

**Baues' Reflex :** When pressure is applied to the soles of the feet of a newborn lying face-down, the baby will making crawling movements. This disappears by sik weeks of age and returns when the baby is learning to crawl.

**Traction Reflex :** When a newborn is pulled up by the wrists to a sitting position, hee hand will first fall back, than life upright and held before it falls forward onto the chest. This is a sign of maturity and musels tone.

**Arm Recoil :** The baby's are will flex rapidly after extending them.

---

### **3.2.8 : Normal Newborn Reflexes and Behaviour**

---

Some newborn behaviour that concern parents are not signs of illness. Most of the following harmless reflex are due to an immature nervous system and will disappear in 3 or 4 montsh :

- Chin trembling
- Lower lip quivering
- Hiccps
- Irregular breathing (This is normal if your baby is content, the rate is less than 60 breath per minue, any pauses are less than 10 seconds long, and your baby doesnot turn black. Occasionally infants take repid, progressively deeper, stepwise breaths to complete

expand their lungs.

- Passing gas (not a temporary behaviour)
- Sleep noise from breathing and moving
- Sneezing
- Spitting up or belching
- Brief stiffening of the body after a noise or sudden movement (also called that startle reflex), the Moro reflex or the embrace reflex.
- Straining with bowel movements.
- Throat clearing (or gurgling sounds of secretions in the throat).

Trembling or jitteriness of arms and legs are common during crying (Jittery babies are common. Convulsions are rare. During suck with their months, and don't cry.) If your baby is trembling and not crying. Give her something to suck on. If the tremblings doesn't stop when your baby is sucking, call your physician's office immediately.

---

### **3.2.9 Check Your Progress**

---

16. What is neonatal reflex ?

.....  
.....  
.....

17. What does indicate in the absence or extended duration of these reflexes ?

.....  
.....  
.....

18. What do you mean by stepping reflex ?

.....  
.....  
.....

19. What is Arm Recoil ?

.....  
.....  
.....

---

### **3.2.10 : Neuro-perceptual Development**

---

#### **3.2.11 Objective**

(i) to know about neuro-preceptual development.

---

#### **3.2.12 : Introduction**

---

Neuro-preceptual development refers to perception of information from objects or events available to multiple senses stimulation. Because most objects and events can be seen, heard, and touched, everyday perception is primarily intermodal. Despite the fact that information about the world is carried through different sensory channels that each provide distinct form of stimulation, we are able to perceive a stable world of unitary objects and events (people speaking, cars honking), rather than separate sights, sounds, and tactile impressions. They seem to work together as a coordinated perceptual system, even in newborns, and intermodal perception develops rapidly and with increasing specificity across infancy.

---

#### **3.2.13 : Importance of perceptual development**

---

How do infants learn to detect unified multimodal events such as person speaking. Evidence indicates that amodal information, particularly temporal synchrony between sights and sound provide the glue that binds information across the senses and thus serves as a solution to the age-old binding problem. Thus, amodal information plays a significant role in guiding and constraining which aspects of events we selectively attend, particularly in early development when attention is least flexible and capacity is most limited. Later, when attention is more flexible and efficient, we can attend to amodal properties as well as more specific properties of the same events in a shorter time. Furthermore, because selective attention provides the basis for what is perceived, learned, and later remembered intersensory redundancy has a powerful organizing influence on early perceptual, cognitive, social and emotional development.

---

### 3.2.14 : Development of auditory-visual perception

---

Scientists have discovered that even young infants are skilled at perceiving amodal information, that intermodal perception improves across the first year of life, and that it develops in order of increasing specificity, with global information detected developmentally prior to more specific levels of stimulation. Consistent with the pattern of differentiation and "increasing specificity" proposed by Gibson.

**Audiovisual Space :** As early as the first weeks of life, infants reliably move their eyes in the direction of a sound. This early coordination of auditory and visual space is important because it enables infants to discover visual information at the source of the sound and thus promotes detection of intersensory redundancy.

**Object and event perception :** In the first month following birth, infants can detect the temporal synchrony and spatial collocation uniting the sights and sounds of an object moving and striking a surface. By two to five months, infants match soundtracks with object motions on the basis of various levels of amodal information, such as substance (elastic vs rigid), composition, tempo, and rhythm. These remarkable abilities illustrate the principle of increasing specificity and how processing of global information such as intersensory redundancy scaffolds the development of more specific processing.

**Social development :** People provide a great deal of multimodal stimulation for infants, including talking, laughing, singing and touching. Adults and infants also engage in richly structured multimodal interactions, called protoconversation.

**Speech perception and language :** Speech is inherently multimodal, involving coordinated facial, vocal and gestural information, and audiovisual redundancy promotes learning in these domains as well.

**Development of visual-tactile and visual motor perception :** Amodal information also guides and constrains perception across vision and touch. For example, when we feel an object with our hands, we can perceive the same shape, size, texture, and substance that we see.

**Odor and vision :** Young infants show recognition of their mother on the basis of her smell, and breastfed infants prefer the order of their mother over that of another lactating woman, illustrating their sensitivity to object odor combinations.

---

### 3.2.15 Check Your Progress

---

20. What is neruo-perceptual development ?

.....  
.....  
.....

21. When infants can detect the temporal synchrony ?

.....  
.....  
.....

22. What is scaffolding ?

.....  
.....  
.....

---

## 3.4 Environmental factors inflencing early childhood development

---

### 3.4.1 : Objective

(i) to know how environmental factors influence early childhood development.

---

### 3.4.2 Introduction :

---

The factors lying outside the individual in his environment are said to be the external factors influencing development. The principle intention of this. S. M is to highlighted the factors which extemally influence the development of the early childhood. Early childhood is an extremely sensitive period in human development, during which the brain, especially the circuitry governing emotion, attention, self-control and stress, is shaped by a chil's environment. As children grow, the biological and environmental factors that determine their development become intertwined. When the environment is a secure, positive one, these factors join forces to help maximize childrne's potential.

But when children face enduring obstacles to healthy development, such as poverty, inappropriate care, or violence, environment and biology may route them on "course to emotional, physical and mental health problems.

---

### **3.4.3 Environment available after birth**

---

The children are influenced in various ways from their immediate environment. These may be described as follows.

(i) **Accidents and incidents in life :** The growth and development of a child is greatly influenced by the good and bad incidents and accidents which he happens to meet in his life time. Sometimes, a small injury or an incident may change the entire development course of his life. For example, if a child's nervous system is damaged in an accident, it will hamper his mental development and in turn it will affect his development in other spheres—social, emotional, moral and physical.

(ii) **The Quality of Physical environment, medical care and nourishment :** A child's growth and development is greatly influenced by the quality of his physical environment and medical care and nourishment available to him for his living and working. Those include open space, balanced diet, good living and working condition and proper medical care. The proper development depends on above mentioned proper condition.

(iii) **The Quality of the facilities and opportunities provided by the social and cultural forces :**

Social and cultural environment of a child are crucial factors for his proper development. Because a child gets huge potential from his social and cultural environment which influence the entire course of his development.

**A few of such conditions are pointed out below :**

- (i) Economic and social status of the parents and the family.
- (ii) The quality of the neighbourhood and surrounding environment.
- (iii) The quality of schooling received by a child.
- (iv) The quality of peer group relationships and company of a child.
- (v) The quality of treatment mode available to a child and his family with regard to his caste, religion, nationality or citizenship.

---

### **3.4.5 Check Your Progress**

---

27. What is environment ?

.....  
.....  
.....

28. What is medical care ?

.....  
.....  
.....

29. Who are the peer group ?

.....  
.....  
.....

30. What is quality schooling ?

.....  
.....  
.....

31. What do you mean by economics status of a family ?

.....  
.....  
.....

### **3.5.1 Role of play in enhancing development**

---

#### **3.5.2 Objective :**

---

(i) to know the role of play in enhancing development.

---

### **3.5.3. Introduction :**

---

In the childhood development play has a unique role to play. This issue is very important because of the recent impetus for a more academic focus in early childhood classrooms and questions about the development benefits of play. This concern is not only important for academic excellency but emotional and social developmental. In this aspect, the role teachers and parents could play in making play a developmental and educational purpose.

---

### **3.5.4 The importance of play in promoting healthy child development :**

---

Play is essential to development because it contributes to the cognitive, physical, social and emotional well-being of children and youth, play also offers an ideal opportunity for parcents to engage fully with theri children. Despite the benefits derived from play for both children and parents, time for free play has been markedy reduced for some children. In modern times, the variety of factors that have reduced play, including a hurried lifestyle, changes in family structure, and increased attention to academics and enrichment activities at the expenses of recessor free child centred play.

Therefore, the childentric education offers guidelines on how pediatricians can advocate for children by helping families, shcool system,s and communities consider how best to ensure that play is protected as they seek the balance in children's lives to create the optimal developmental milieu.

---

### **3.5.5 Check Your Progress**

---

32. What is child centric education ?

.....  
.....  
.....

33. What do you mean by academic excellency ?

.....  
.....  
.....

34. What does it mean by alround development ?

.....  
.....  
.....

35. What do you mean by optional development ?

.....  
.....  
.....

---

### **3.5.6 Reference :**

---

- (i) Loeber G, Webster D, Aznarez A. Quality evaluation of neonatal screeing programs. *Acta Paediatri* 1999, 88 : 3.6
- (ii) Shetty T. K. Metabolomics : Impact on diagnosis and monitoring of inborn/aequired metabolic disorders. *Indian J Clin Biochem* 2007, 22 : 3–5.
- (iii) Devi AR, Naujhad SM. Newborn screening in India. *Indian J Pediatr* 2004; 71: 157–160.
- (iv) Berkow R Fletcher Aj et al. *The Merck Manual of Diagnosis and Therapy* 16 editin. 1992. Pages 1978–1979.
- (v) Graef JW. *Manual of Pediatric Therapeutics* 5 edition. Little Brown and Co. 1994.
- (vi) Ahvenainen, E. K, and Verstola, T : Evaluation of the Newborn Infant. *Ann, Paed. Fenn*, 5:27, Fasc. 1.1959.
- (vii) Gibson, E.J, & Pick, A.D. (2000). *An ecological approach to perceptual learning and development*.  
New York : Oxford University Press.
- (viii) Rosenblum, L. D. (2005) Primacy of multimodal speach perception. In D. Pisoni & R. Ramez (Eds), *Handbook of speech perception* (pp. 51–78). Melden, M. A : Blackwell.
- (ix) Mittal. S. (2006) *child development—Experimental Psychology*, Isha books, Delhi.
- (x) Cobb. N. J. (2001). *The child infants, children and adolescents*, May field publishing company, California.

---

### 3.5.7 Let us Sum-up

---

Early childhood is the most rapid period of development in a human life. Although individual childhood develop at their own pace, all children progress through and identifiable sequence of physical, cognitive, and entronal growth and change.

Because of identifiable sequences of physical cognitive, and emotional growth, it always go through a stages from pre-natal to old age. The prenatal means the growth and development of a new life in the moters wombs. It extences up to old age and passes various stages like infance early childhood, childhood, adolescence and adulthood.

The early child development approach is based on the porcess fact that young children respond best when casegives use speceific techniques disigned to encourage and stimulate progress to the next level of development. In this aspect the newborn screeing is the best thing at the earliest possible of recognition of disorders to prevent the most serious consequences by timely intervention.

The another thing of newbron caring is APGAR scoring system.

The APGAR scoring system is used to asses newborn infants for depression of cardiopulmonery and neurological function. The scoring is done at 1 and 5 minute after birth.

In the same way, newborn reflexes are also an important thing to judge the baby's condition at the time of birth. Newborn depend on their inherent of these reflexes could indicate a problem with the baby's central nervous system.

In the total developmental processes, neuro-perceptual development perception is vital things because without proper development the infant may face permanent disability. Hence, neuro-perceptual development refers to perception of information from objects or events available to multiple senses stimulation. Becuae most objects and events can be seen, heard, and touched everyday perception is primarily intermodal.

It is also an important task to detect the variations in development. The process of knowing the variations in development is called developmental molestones. Through this milestones we can asses the physical, cognitive, language, social and emotional development from birth to 12 months.

As a conscios and mature caregivers, we should be more aware about the environment of early childhood as an external factors of development. Early childhood is an extremely sesitive period in human development, during which the brain, especially the circuitory governing emotion, attention, self-control and stress, is shaped by a child's environmental.

Within this environmental factors, play is essential to development, because it contributes to the cognitive, physical, social and emotional well-being of childhood and youth.

---

### **3.5.8 Unit End Exercises**

---

- (1) What do you mean by prenatal development ? Explain briefly the stage of prenatal development.
- (2) What is newborn screening ? Why newborn screening is very important after birth of a newborn ?
- (3) What is APGAR scoring system ? Briefly explains the importance of APGAR scoring.
- (4) What do you mean by neonatal reflexes ? Discuss any two reflexes.
- (5) What do you mean by neuro-perceptual development ? Write an essay about neuro-perceptual development.
- (6) What are milestones of development ? Write necessity and importance of milestones in development.
- (7) Briefly outline how do the environmental factors influence early childhood development.
- (8) Write note on the role of play in enhancing development.

---

### **3.5.9 Answer to check progress**

---

- (1) The prenatal development means the growth and development of a newlife in the mother's womb.
- (2) There are three stages in the prenatal development.
- (3) Fetus means the development of infant within 3 month's in the mother ovum womb.
- (4) FAS means, Fetal Alcoholic Syndrome.
- (5) AIDS is one kind of sexually transmitted disease.
- (6) Newborn screening is the earliest possible recognitions of disorders to prevent the most serious consequences by timely intervention.
- (7) Congenital Hypothyroidism is the first phase intervention of screening.
- (8) Deafness refers to hearing impairment.

- (9) Hemoglobin, Disorders—It is considered to be a serious health problem by WHO.
- (10) G 6PD Deficiency is one kind of disorder is observed in the newborn.
- (11) APGAR scoring means a way to judge the condition of a newborn baby quickly and accurately.
- (12) Minimum Score in 'O'.
- (13) Maximum Score is '10'.
- (14) At least 2 points.
- (15) Scoring is done within 1 and 5 minutes.
- (16) Neonatal reflexes are inborn reflexes which are present at birth and occur in predictable fashion.
- (17) Absence or extended duration of these reflexes could indicate a problem with the baby's central nervous system.
- (18) Steeping reflex means the baby will make steeping motions.
- (19) Arem Recoil means the baby's are willflex repidly after extending them.
- (20) Neuro-preceptual development reflex to perception of information from objects or events available to multiple sensus stimulation.
- (21) In the first month following birth, infants can detect the temporal synchrony.
- (22) Scaffolding means support based development.
- (23) Sucking indicates physical development milistones.
- (24) Criteria of cognitive development as like a baby can distinguish smells and taste.
- (25) Infants can recognite their own name in the duration of 4–8 months.
- (26) Speaking word is the criteira of language mulistones.
- (27) The environment means the atmosphere where we born and stay up to our last breath.
- (28) Medical care refers to medicalo support with medium and treatment if there is any kind of disease or other things.
- (29) The peer group may be classmate or same age someone.
- (30) Qulity schooling refers to school environment which essens quality education in this school ....

- (31) Economic status means financial strength of a family.
- (32) Child centric education means children are the ultimatium of education.
- (33) Academic excellency means good academic performance.
- (34) All round development refers to the development of physical, mental and social development.
- (35) Optimal development means highest level of development.