

L18-Growth and Development (0-5 Yrs)

Keywords

Zygote	Infancy	Retarded or slow	Milestones	Cartilage
Genetic heritage	Cognitive	Maturation	Trunk	Ossification
Hormonal Changes	Complementary	Heredity	Time clock	Fracture
Puberty	Coherent	Womb	Inherited	Stares
Perception	Cephalocaudal	Stimulation	Pram	Abdomen
Conception	Torso	Language acquisition	Extremities	Grasp
Prenatal	Proximodistal	Muscular	Erupts	Discriminate
Neonate	Genetic endowment	Endocrine	Canines	Tantrums
Adolescence	Foetus	Proportionate	Incisor	Woes
Immunized	Weaned			

In-text Questions

In-text Questions 18.1

- Match the stages and patterns of development in column I with their description given in column II.

I	II
i. neonate	a. 18/19 years-40 years
ii. adolescence	b. 2-6 years
iii. early adulthood	c. increase in height
iv. early childhood	d. making friends

I	II
v. cognitive process	e. Birth - 1 Month
vi. social process	f. watching a colourful mobile
vii. Biological process	g. 11 - 12 years to 18 - 19 years
	h. expressing happiness
	i. quarrel with peers.

- i. – e
- ii. – g
- iii. – a
- iv. – b
- v. – f
- vi. – d
- vii. – c

2. Select the statements which refer to stages of development, from the statements given in question 1 and write them here.

Answer: The statements which refer to stages of development are:

- Neonate – Birth - 1 Month
- Early Childhood - 2-6 years
- Adolescence - 11 - 12 years to 18 - 19 years
- Early Adulthood - 18/19 years-40 years

3. Select the statements which refer to patterns of development, from the statements given in question 1 and write them here.

Answer: The statements which refer to patterns of development are:

- cognitive process - watching a colorful mobile
- social process - making friends, expressing happiness, quarrel with peers
- Biological process - increase in height, increase in weight

In-text Questions 18.2

Test your word power.

Human Development is a new concept for you and you must have come across some new words. Given below are some of the words used in the text. Choose the option closest to the real meaning of the word.

1. Body build:

- a. building a collection of art
- b. physical structure of a building
- c. **physique** ✓

2. Intellectual capacity:

- a. making interesting conversation
- b. **the ability to think logically** ✓
- c. smart

3. Genetic endowment:

- a. wearing jeans
- b. **born with a particular feature inherited from parents** ✓
- c. to give generously

4. Endocrine functioning:

- a. To attend an important function
- b. to end a crime

- c. working of hormone secreting glands ✓
- 5. Prenatal environment:
 - a. environment of fetus in the womb ✓
 - b. polluted environment
 - c. healthy environment
- 6. Emotional climate of home:
 - a. the atmosphere of happiness in the home
 - b. the atmosphere of fear in the home
 - c. the atmosphere of feelings in the home. ✓

In-text Questions 18.3

1. Match the following motor and social skills in column A with the age the child learns these at, in column B. Some of these may be overlapping answer in column B.

Column A	Column B
i. Walk without support	a. 1-2 years
ii. Sit up without support	b. 3 years
iii. Climb steps	c. 2-3 years
iv. Bladder control	d. 5-6 months
v. Stranger shyness	e. 6 months
vi. Cooperation in simple games	f. 1 year
vii. Cooperative play	g. 8-10 months
viii. Discrimination between strangers and familiar person	h. 2 years
ix. Use 2-3 word sentence	i. 6-8 months
x. Produces babbling sound	j. 1½ years

Column A	Column B
xi. Follows a moving person with eyes	k. 2-4 months

- i. – a
- ii. – i
- iii. – a
- iv. – c
- v. – k
- vi. – f
- vii. – h
- viii. – d
- ix. – h
- x. – i
- xi. – k

2. Define motor development.

Answer: Motor development means the physical growth and strengthening of a child's bones, muscles and ability to move and touch his/her surroundings.

3. Name two types of motor development.

Answer: The two types of motor development are:

- a. Gross Motor Development
- b. Fine Motor Development

- a. **Gross motor development** involves the development of the large muscles in the child's body.
- b. **Fine motor development** involves the small muscles of the body, especially in the hand.

In-text Questions 18.4

From the following list tick mark (✓) those skills which are cognitive. Give reasons for your choice.

i. thinks logically ✓

Because: Cognitive processes involve thinking what is correct and what is wrong as per the situation.

ii. indulges in make belief ✓

Because: Imagination is a part of cognitive development.

iii. follow moving object with eye

iv. confusion about causal relationship ✓

Because: understanding the causes for any situation is a part of cognitive development.

v. recognizes colours

vi. able to eat with spoon

vii. curiosity ✓

Because: Curiosity is because of imagination, attention, understanding and memorizing. All these are part of cognitive development.

viii. easily confused by surface appearance ✓

Because: With cognitive development a child can understand what is making surfaces shiny, dull, dangerous, soft etc.

ix. brush own hair and teeth

x. limited memory span ✓

Because: Memorizing increases with age and is a cognitive development aspect.

In-text Questions 18.5

1. Choose the correct answer. Justify your answer.

i. Children develop unacceptable behaviours if the environment is forbidding.

- a. Forbidding✓
- b. free
- c. forbidding and free
- d. none of the above

Justification: When children are not allowed to express themselves completely, they try to show their frustration through unacceptable behaviours.

ii. A child sucks her thumb because she is:

- a. bored✓
- b. insecure
- c. scared
- d. asking for attention

Justification: When there is no interesting activity to do with hands, child sucks thumbs.

iii. A child wets the bed because she is :

- a. bored

- b. insecure✓
- c. sacred
- d. asking for attention

Justification: A **stressful home life**, as in a home where the parents are in conflict, sometimes causes children to wet the bed. Major changes, such as starting school, a new baby, or moving to a new home, are other stresses that can also cause bedwetting

iv. A child tells lies because she is :

- a. bored
- b. insecure
- c. jealous
- d. asking for attention✓

Justification: Kids tell lies because **they want to impress other people**. When children have a habit of lying to look good in front of others, they may need a boost to their self-esteem

Terminal Questions

1. List milestones of motor development.

Answer: The milestones of motor development are:

Age	Motor Development
0-2 months	<ul style="list-style-type: none"> • Kicks aimlessly • stretches hand and feet • closed fist
2-4 months	<ul style="list-style-type: none"> • Follows a moving person with eyes • Stares at a bright object. • lifts chest short distance when placed on abdomen

Age	Motor Development
	<ul style="list-style-type: none"> • holds head. • Rolls from back to the side. • Begins to grasp toy in hand.
4-6 months	<ul style="list-style-type: none"> • Holds head steady when carried. • Holds toys and reaches for objects. • Raises hands to be lifted. • Lifts head and shoulder and rolls over. • Lifts self by hands or forearms when lying on the stomach. • Sits up when propped.
6-8 months	<ul style="list-style-type: none"> • Can hold head and sit erect without support. • Bangs spoons or pats floors. • Can pick up objects from floor, table. • Can hold a toy in each hand. • Has learnt to use the thumb to grip things.
8-10 months	<ul style="list-style-type: none"> • Begins to crawl • can pull self up to stand by holding on to furniture • Holds small objects like buttons, coins between thumb and finger. • Can hold, Bite and chew objects.
10-12 months	<ul style="list-style-type: none"> • Stands with slight support. • Walk with support. • Can push light objects. • Picks up small and big objects and examines them.
1-2 years	<ul style="list-style-type: none"> • Walks without support. • Drinks from a cup. • Can handle a spoon. • Plays with push and pull toys. • Can climbing stairs and come down as well. • Scribbles. • Eats by self
2-3 years	<ul style="list-style-type: none"> • Plays tirelessly. • Can feed himself well. • Bowel and bladder control is acquired.

Age	Motor Development
	<ul style="list-style-type: none"> • Can brush hair and teeth. • Can take out and put back toys from cupboards. • Follows simple instructions.
3-5 years	<ul style="list-style-type: none"> • Can button and unbutton dress • Can dress without help. • Can attend to personal needs like toilet, washing. • Ready for school.

2. Describe the cognitive characteristics of a 4- year old child.

Answer: The cognitive characteristics of a 4- year old child are:

- Indulges in fantasy and make-belief play
- Has uneven attention
- Has limited memory
- Acquires basic concepts of colour, shape, size, number, days etc.
- Has high level of curiosity

3. Why are some people left handed? What happens if they are forced to become right-handed?

Answer: In case of left-handed people:

- the main centre of speech is on the left-hand side of the brain.
- the handedness centre is on the right side of the brain.

If we force them to write with right-hand, the left-hand side brain has to do the job of both speech and handedness and gets overloaded. Then, the development of both speech and handedness get affected. This leads of speech problems, bad handwriting and other problems of coordination.

4. What points should be considered while selecting clothes for children?

Answer: The points should be considered while selecting clothes for children are:

- A child's garments should be comfortable, soft, of absorbent material like cotton.
- Simple in design, bright in color, and easy to wash.
- They should not have too many frills, trimmings and buttons, draw-strings, and ribbons.
- As they grow fast, clothes should never be too many or too expensive.
- Nappies or diapers should be soft, light weight, absorbent and quick drying.

5. Give the latest immunization schedule for children.

Answer: The latest immunization schedule for children:

FOR WHOM	WHAT	WHEN	WHY
Pregnant Women	T.T	Early in Pregnancy	Protects against Tetanus
		One month after the first shot	
Infants (Below 1 year)	BCG Bacillus Calmette-Guerin Vaccine	At birth	Protects against Tuberculosis
	Oral Polio Vaccine (0)		Protects against Polio
	BCG	At 6 weeks	Protects against Tuberculosis
	DPT-1		Protects against Diphtheria, Pertusis (whooping cough) and Tetanus
	Oral Polio Vaccine (1)		Protects against Polio
	DPT-2	At 10 weeks	Protects against Diphtheria, Pertusis (whooping cough) and Tetanus
	Oral Polio Vaccine (2)		Protects against Polio
	DPT-3	At 14 weeks	Protects against Diphtheria, Pertusis (whooping cough) and Tetanus
	Oral Polio Vaccine (3)		Protects against Polio
	Measles	At 9 months	Protects against Measles
	Chickenpox		Protects against Chickenpox
Children (Above 1 year)	MMR	At 15 months	Protects against Measles, Mumps and Rubella
	DPT Booster	At 16-24 months	Protects against Diphtheria, Pertusis (whooping cough) and Tetanus
	Oral Polio Vaccine Booster		Oral Polio Vaccine
	DT	At 5-6 years	Protects against Diphtheria and Tetanus
	TT	At 10 years	Protects against Tetanus
	TT	At 16 years	Protects against Tetanus

6. Define behavior problems. Give the causes and methods to control any five of them.

Answer: These are behaviours which not only harm children physically but also make them unpopular with other children are termed as behavioral problems.

Sl No.	Behavioral Problem	Cause	Method to Control
1	Hurts other children	<ul style="list-style-type: none"> • Angry • Feeling troubled 	<ul style="list-style-type: none"> • Divert attention • Separate other children quietly • Help the child feel loved by giving other outlets for feelings
2	Sucks the thumb	<ul style="list-style-type: none"> • Need for love, comfort, and assurance • Tiredness • Hunger • Dissatisfaction • Boredom 	<ul style="list-style-type: none"> • Offer love, affection and assurance • Involve in interesting activity • Do not smear with bitter medicine
3	Wets the bed	<ul style="list-style-type: none"> • Fear • Not ready for training • Insecurity 	<ul style="list-style-type: none"> • Accept the child as he is/she is • Help to become confident • Do not punish
4	Refuses to eat	<ul style="list-style-type: none"> • Is not hungry • Not well • Dislikes that particular food 	Be calm Introduce different foods
5	Steals	<ul style="list-style-type: none"> • Irritation • Doesn't know that other's property should not be taken without permission 	<ul style="list-style-type: none"> • Be kind • Help make friends • Let the child own things to understand ownership concept

Previous Year Questions

1. The weight of a newborn child is 3 kg. What will be his/her weight at the age of 1 year? 1

Answer: Formula:

- The birth weight becomes double by 6 months.
- The birth weight become 3 times by 1 year.

Hence, if the birth weight is 3 kg, by 1 year it becomes **9 kg** ($3\text{kg} \times 3 = 9\text{ kg}$).

2. State any *eight* features of cognitive development seen in a child of 4 years. 4

Answer: The *eight* features of cognitive development seen in a child of 4 years are:

- i. Indulges in fantasy and make-belief play
- ii. Has uneven attention
- iii. Has limited memory
- iv. Acquires basic concepts of colour, shape, size, number, days etc.
- v. Has high-level of curiosity
- vi. Confused about causal relationships
- vii. Believes all things (living and non-living) to be possessing life and feelings
- viii. Easily confused by surface appearances

3. What is the age group of a child during prenatal period and infancy? 1

Answer:

Stage of Life	Age
Prenatal Period	conception to birth
Infancy	1 month to 2 years

4. Tabulate the milestones of motor development of a child from 4 months to 8 months. 2

Answer: The milestones of motor development of a child from 4 months to 8 months:

Age	Motor Development
4-6 months	<ul style="list-style-type: none"> • Holds head steady when carried. • Holds toys and reaches for objects. • Raises hands to be lifted. • Lifts head and shoulder and rolls over. • Lifts self by hands or forearms when lying on the stomach. • Sits up when propped.
6-8 months	<ul style="list-style-type: none"> • Can hold head and sit erect without support. • Bangs spoons or pats floors. • Can pick up objects from floor, table. • Can hold a toy in each hand. • Has learnt to use the thumb to grip things.

5. Assess the principles according to which the development takes place among children. 4

Answer: The principles according to which the development takes place among children are:

- All growth and development follow an orderly sequence.
 - For example, a child can sit only when the muscles of the back are ready to support the body.
- Each child normally passes through a number of stages.

- c. Every child grows at his own pace. For example, some children walk at 1 year, while some are late.
 - d. Each part of the body develops at different rates. Basically there are two sequences in the rate of development:
 - **Cephalocaudal** i.e. development proceeds from head to toe. The head and brain develops first, then the torso, the neck etc.
 - **Proximodistal** i.e. development proceeds from centre to extremities. The child first gains control over the spine, then arms, then fingers.
 - e. Development is essentially the result of the interaction between maturation and learning.
 - Maturation is growing as per genetic information.
 - Learning comes from experience and practise.
6. Trace the milestones of physical development in a child from six weeks to six months of age. 4

Answer: The milestones of physical development in a child from six weeks to six months of age:

Age	Physical Development
Six weeks	<ul style="list-style-type: none"> • smiles at mother • eyes stare at a ring on a string • eyes follow the mother.
Three months	<ul style="list-style-type: none"> • turns head towards sound • head bobs down on mother's shoulder.
Six months	<ul style="list-style-type: none"> • head steady and back straight when held on shoulder • sits with support of cushions; • Stretches arms to be lifted up.

7. Three-year old Rinku has started bed-wetting after her younger brother was born. In what *two* ways can her parents help her get rid of this problem? 1

Answer: Her parents can:

- Include Rinku also when they are doing things for baby like singing lullaby.
- Tell her that they love her as much as they love her younger brother.
- Spend time with her.

8. Your sister has given birth to a baby girl on 1.1.2017. To guide your sister, prepare an immunization schedule for her first year. 4

Answer: Immunization schedule for first year:

Age	Immunization Schedule
Birth	BCG, Oral Polio Vaccine
6 weeks	BCG, Oral Polio Vaccine, Diptheria vaccine (DPT)
10 weeks	Oral Polio Vaccine, Diptheria vaccine (DPT)
9 months	Oral Polio Vaccine, Diptheria vaccine (DPT), Chicken pox and Measles vaccine

9. “A child’s development is influenced by his home environment.” Support this statement with the help of four examples. 4

Answer: “A child’s development is influenced by his home environment.”

Examples:

- i. Loneliness at home leads to slowing down of language and cognitive development .
- ii. Fights and shouting at home lead to social and emotional difficulties.
- iii. Physical or mental abuse at home affects all-round development.
- iv. Loss of a dear one at home leads to emotional disturbances.

10. Development of a child follows a fixed pattern. Explain this statement with the help of *two* examples. 2

Answer: All growth and development follow an orderly sequence. For example:

- The neck and shoulder muscles must be strong before a baby can sit
- The trunk must be strong before she can stand.

11. Trace the language development of a child from birth to five years of age. 4

Answer: The language development of a child from birth to five years of age are:

Age	Language Development
At Birth	<ul style="list-style-type: none"> • A child cries to tell about his/her woes and needs. • Slowly the crying becomes more peculiar and the mother can distinguish between hunger, discomfort and pain cries.
Around 3 months	<ul style="list-style-type: none"> • The child starts cooing, i.e. makes happy gurgling sounds when pleased or picked.
Around 6 to 7 months	Cooing is converted to babbling sounds, which is a repetition of syllables like Ma - Ma, Ba - Ba, etc.
By nine months	A child can speak words. One word is used at a time to convey a whole sentence like 'doll' means 'I want a doll'.
By one year	The child can combine two words.
By 2 years	2 to 3 word sentences are spoken easily
By the age of 5 years	A child has a vocabulary of about 500 words.

12. List two indicators of socio-emotional development in the first year of a child. [1]

Answer: The two indicators of socio-emotional development in the first year of a child are:

Age	Socio-emotional Development
At Birth	neither social nor unsocial
Around 3 months	smiles and responds to friendly overtures
Around 5 to 6 months	can discriminate between a stranger and familiar person.
By one year	Cooperates in simple games

13. Identify the characteristic of cognitive development due to which a four year old insists in drinking juice from a tall bottle. [1]

Answer: The characteristic of cognitive development due to which a four year old insists in drinking juice from a tall bottle is:

Basic concepts of colour, shape, size, number, days etc have been acquired.

14. Write two possible reasons each for the following behavior problems in a child. Suggest two ways each to find a solution to these problems. [6]

- i. Sucks thumb
- ii. Tells lies
- iii. Wets the bed

Answer: Two possible reasons and solutions for the following behavior problems are:

SI No.	Behavioral Problem	Reason	Solution
i.	Sucks thumb	<ol style="list-style-type: none"> 1. Need for love, comfort, and assurance 2. Boredom 	<ol style="list-style-type: none"> 1. Offer love, affection and assurance 2. Involve in interesting

SI No.	Behavioral Problem	Reason	Solution
			activity
ii.	Tells lies	1. Fear of Punishment 2. Attention Seeking	1. Understand the reason 2. Give the required attention
iii.	Wets the bed	1. Fear 2. Insecurity	1. Accept the child as he is/she is 2. Help to become confident

15.State any eight indicators of social and emotional development of a four years old child. **[4]**

Answer: The eight indicators of social and emotional development of a four year old child are:

- i. Develops friendships.
- ii. Compares self to others.
- iii. Manages impulses better.
- iv. Can wait longer for turns.
- v. Shows some awareness of good and bad behaviour.
- vi. Cooperates with rules
- vii. Understands the difference between real world and make-believe world
- viii. Sensitive to other's needs.

16.A baby's height at birth is 40 cm. What will be her height when she is one year old? 1

Answer:

Formula: The height of the baby becomes $1\frac{1}{2}$ times of the height at birth in one year.

Hence, if the birth height is 40 cm, in 1-year time the height of the baby becomes 60 cm ($40 \times \frac{3}{2} = \frac{120}{2} = 60$).

17.State any *four* activities depicting fine-motor coordination in pre-school children. 2

Answer: The *four* activities depicting fine-motor coordination in pre-school children are:

- i. Button and unbutton dresss
- ii. Use a zipper
- iii. Paste things on paper
- iv. Use pencils and crayons to do reasonable coloring

18.Briefly describe any *four* factors that affect the growth and development of children. 4

Answer: The *four* factors that affect the growth and development of children are:

SI No.	Factor	Description
1.	Heredity	<ul style="list-style-type: none"> It is the process by which characteristics from father's and mother's family come to the child through genes. Thus features like the colour of the skin and eyes, the height, body build, intellect and talents, etc., are all fixed and no one can change them beyond a limit

Sl No.	Factor	Description
2.	Prenatal environment	<ul style="list-style-type: none"> This is the environment of the foetus in the womb. If the mother gets poor nutrition, is emotionally upset or smokes, drinks, or takes some medicine or suffers from certain diseases, the growth of the child can be affected.
3.	Nutrition	<ul style="list-style-type: none"> Proper nutrition is essential for the healthy development of the child. A malnourished child's growth may be retarded or slow.
4.	Emotional climate of home	<p>The child's development is affected if:</p> <ul style="list-style-type: none"> there is a lot of discord/fights at home the child is not given enough love and attention there is physical/ mental abuse of the child.

19. List any two signs of motor development in a child during 2-4 months of age.

1

Answer: The signs of motor development in a child during 2-4 months of age are:

Age	Motor Development
2-4 months	<ul style="list-style-type: none"> Follows a moving person with eyes Stares at a bright object. lifts chest short distance when placed on abdomen holds head. Rolls from back to the side. Begins to grasp toy in hand.

20. Three-year-old Mohan often hurts other children. What steps will you take to correct his behaviour? 1

Answer:

Behavioral Problem	Solution
Hurts other children	<ul style="list-style-type: none"> • Divert attention • Separate other children quietly • Help the child feel loved by giving other outlets for feelings.

21. Why does a child first learn to crawl and then walk? 2

Answer: A child crawls first because neck, shoulder and trunk get stronger when child crawls. After these become strong, it becomes easy to walk.

22. Emotional climate of the home and level of stimulation both affect the growth and development of the child. Explain with an example of each. 4

Answer: Factors of growth and development:

Factor	Description with Example
Emotional climate of home	<p>The child's development is affected if:</p> <ul style="list-style-type: none"> • there is a lot of discord/fights at home • the child is not given enough love and attention • there is physical/ mental abuse of the child. <p>For example, many children run away from home when they face physical abuse. They should not do such things because it is not safe. They can call child helplines instead.</p>
level of stimulation	<p>The following influence the rate of development:</p> <ul style="list-style-type: none"> • the opportunities for exploration of environment • opportunities of interaction with other

Factor	Description with Example
	<p>people.</p> <p>For example, a child who does not have any company to talk at home, experiences difficulties in language development.</p>

23. 17 Trace the motor development of an infant from birth to one year.

4

Answer: The motor development of an infant from birth to one year:

Age	Motor Development
0-2 months	<ul style="list-style-type: none"> • Kicks aimlessly • stretches hand and feet • closed fist
2-4 months	<ul style="list-style-type: none"> • Follows a moving person with eyes • Stares at a bright object. • lifts chest short distance when placed on abdomen • holds head. • Rolls from back to the side. • Begins to grasp toy in hand.
4-6 months	<ul style="list-style-type: none"> • Holds head steady when carried. • Holds toys and reaches for objects. • Raises hands to be lifted. • Lifts head and shoulder and rolls over. • Lifts self by hands or forearms when lying on the stomach. • Sits up when propped.
6-8 months	<ul style="list-style-type: none"> • Can hold head and sit erect without support. • Bangs spoons or pats floors. • Can pick up objects from floor, table. • Can hold a toy in each hand. • Has learnt to use the thumb to grip things.
8-10 months	<ul style="list-style-type: none"> • Begins to crawl • can pull self up to stand by holding on to furniture • Holds small objects like buttons, coins between thumb

Age	Motor Development
	and finger. • Can hold, Bite and chew objects.
10-12 months	• Stands with slight support. • Walk with support. • Can push light objects. • Picks up small and big objects and examines them.

24. Mention two indicators of language development in a **six** month old infant. **1**

Answer: The indicators of language development in a six month old infant are:

Age	Language Development
At Birth	• A child cries to tell about his/her woes and needs. • Slowly the crying becomes more peculiar and the mother can distinguish between hunger, discomfort and pain cries.
Around 3 months	• The child starts cooing, i.e. makes happy gurgling sounds when pleased or picked.
Around 6 to 7 months	Cooing is converted to babbling sounds, which is a repetition of syllables like Ma - Ma, Ba - Ba, etc.

25. Present the points, to be kept in mind, while selecting clothes for an infant. **2**

Answer: The points should be considered while selecting clothes for children are:

- A child's garments should be comfortable, soft, of absorbent material like cotton.
- Simple in design, bright in color, and easy to wash.

- They should not have too many frills, trimmings and buttons, draw-strings, and ribbons.
- As they grow fast, clothes should never be too many or too expensive.
- Nappies or diapers should be soft, light weight, absorbent and quick drying

26. Enlist any *four* points that you will keep in mind while buying clothes for a six-month-old baby. 4

Answer: Same as above

27. State *one* difference between growth and development. 1

Answer: Difference between growth and development:

SI No.	Growth	Development
1.	Growth indicates the quantitative changes in the body	development refers to both the qualitative and quantitative changes
2.	For example, height and weight	for example, language acquisition