INTELLIGENCE

Total hours- 14 hours
Total marks- 20-24 marks

Approx no of questions on this chapt. (1 mark-1 or 2, 2 marks- 1 or 2, 5 marks-2, 10 marks-01)

1 Mark Questions:

1. Who gave the concept of mental age (MA)
   
   Key: Alfred Binet.

2. Who gave the concept of IQ?
   
   Key: William stern.

3. Who is a genius?
   
   Key: A genius is an intellectually gifted/ A genius is a person of great intelligence. Whose IQ is 140 and above.

4. What is mental Retardation? (Mentally Challenged)
   
   Key: Mental Retardation is the inability to meet the demands of every day life. Individuals having IQ below 70 are called as mentally retarded/significantly sub average level of intellectual functioning is known as mental retardation.

5. What is the cause for cretinism?
   
   Key: Deficiency of thyroxin hormone during childhood leads to a disease called cretinism.

6. Who constructed the first intelligence test
   
   Key: Alfred Binet-Simon.

7. Give an example for individual test of intelligence
   
   Key: Stanford-Binet/Wechsler’s test of intelligence, etc.

8. Give an example for group test of intelligence.
   
   Key: R.P.M (Raven’s Progressive matrices)
9. Give an example for non-verbal test of intelligence.

   **Key:** Ex: R.P.M

10. Give an example for verbal test of intelligence

    **Key:** Stanford Binet test of intelligence.

**Two marks questions**

1. What is hydrocephalus?

   **Key:** It is a condition where there is an abnormal accumulation of cerebrospinal fluid with in the cranium causing damage to the brain tissue & enlargement of the cranium. This is known as hydrocephalus.

2. Explain ‘Mental Age’.

   **Key:** M.A. concept Was given by Alfred Binet - It refers to an individual’s level of mental development relative to the environment in which he/she lives.

3. What is the cause for cretinism?

   **Key:** condition seen in children due to deficiency of thyroxin secretion of thyroid gland results in severe stunted physical and mental growth.

4. What are the characteristics of cretinism?

   **Key:**

   1. Retardation of Physical and mental growth.
   2. If untreated at the right time, growth is stunted.
   3. Flattened nose & abdomen protrudes.
   4. Face appears puffy with dull look.
   5. Thick and protruding tongue-dry brittle hair, etc.
5. A ten year old boy’s mental age (M.A) is 15. Then what is his IQ? Calculate.

Key:

\[ \text{MA} = 15 \]
\[ \text{CA} = 10 \]
\[ \text{IQ} = \frac{\text{M.A} \times 100}{\text{C.A}} \]
\[ \text{IQ} = \frac{15 \times 100}{10} = 150 \]
\[ \text{I.Q} = 150 \]

6. Write any two uses of intelligence tests

Key:

1) Intelligence tests are useful in educational guidance
2) Intelligence tests are useful in assessing the mentally retarded children
3) They are useful in determining the I.Q. level of students.
4) Intelligence tests are used in recruitment of army personnel. Etc.

7. What is intelligence? Define.

Key: “Intelligence is the aggregate or global capacity of an individual to act purposefully, to think rationally and to deal effectively with his (her) environment.” (Wechsler)

5/10 Marks questions

1. Explain the growth of intelligence

Key: Intelligence grows rapidly during childhood reaches peak around 16-18 years age. More exposure, good nutrition, parental care, active participation in variety of activities stimulate IQ growth.

Psychologists differ regarding the age at which growth of intelligence ceases. According to Terman-Merril, I.Q growth reaches peak at the age 16. Freeman and Flory opine that it reaches its peak around 20 years of age. Binet test has showed that in some individuals intelligence grow up to the age of 18 years. In majority of person’s intelligence growth reaches peak around 15-16 years. Hence the Psychologists have arrived at a conclusion that intelligence grow up to 16 years age. Now it has been accepted that intelligence grow up to 16 years.
2. How is intelligence distributed in a populations?

**Key:** If we measure the intelligence of a large no. of individuals & plot the IQ score on a graph it assumes the shape of a normal probability curve (NPC). A very few individuals will be at the lowest score & very few will be at the highest level of IQ – Number gradually increases as we go up till the mid-point or average – large no. of individuals cluster around the meanscore. From-there, number gradually decreases till we reach the highest IQ level where we find very few individuals.

(draw a neat diagram of NPC)

Characteristic features of NPC:-

- It has 6 sigmas three are to the right & three to the left of centre point of the curve.
- The measures of central tendency are very close to each other.
- It indicates relation between one score & the other.
- The normal people will fall with in the range covering below or slightly above the mid point.
- As we go further down the scale we notice the different degrees of feeble mindedness.

Table showing the distributions of individuals according IQ scores and their classification :

<table>
<thead>
<tr>
<th>IQ range</th>
<th>classification</th>
<th>percentage of population</th>
</tr>
</thead>
<tbody>
<tr>
<td>140 &amp; above</td>
<td>very superior intelligence</td>
<td>- 1%</td>
</tr>
<tr>
<td>120 - 139</td>
<td>superior intelligence</td>
<td>- 5%</td>
</tr>
<tr>
<td>110 - 119</td>
<td>High average intelligence</td>
<td>- 15%</td>
</tr>
<tr>
<td>90 - 109</td>
<td>Average intelligence</td>
<td>- 58%</td>
</tr>
<tr>
<td>80 - 89</td>
<td>Low average intelligence</td>
<td>- 15%</td>
</tr>
<tr>
<td>70 - 79</td>
<td>Border line defective</td>
<td>- 5%</td>
</tr>
<tr>
<td>60 and below</td>
<td>Mentally defective</td>
<td>- 1%</td>
</tr>
</tbody>
</table>
3. Explain Classification of intelligence tests

Key: All the intelligence tests can be broadly classified into:

1) **Verbal tests** consists of entirely verbal material dealing with vocabulary, general information etc.

   Eg: Binet test(1905), Stanford-Binet test, otis test, etc.

2) **Nonverbal or performance test** – involve no language. But items are pictures, drawing, block patterns, etc. Eg: Goddard form board, R.P.M., etc.

Intelligence tests can also be classified as:

1) **Individual tests** – can be administered to only one individual at a time. 
   Eg: Goddard form board, Bhatia test of intelligence, etc.

2) **Group tests** – can be administered to a large no. of individuals at a time. 
   Eg: Army Alpha, Army Beta & RPM.

Intelligence tests can also be classified as:

1) **Power tests**: Allow sufficient time to the subject to answer the items.

   Eg: Wechsler’s test of Intelligence. etc.

2) **Speed tests**: There is time limit to answer. The subject should try to answer as many items as possible with in that time limit. Eg: Khos block design test, Alexander pass along test, etc.

4. Write any five uses of intelligence tests.

1) Intelligence tests are used to determine the levels of IQ of an individual. 
2) They are useful in educational guidance and vocational guidance in schools and colleges. 
3) Used in educational institutions to select the students for admission. 
4) If the child is exceptionally of superior intelligence he may be a problem – to teachers, parents & associates. 
5) Such a talent is traced and suitable education can be given.
5. Explain APA Classification of mental retardation.

**Key:** The mentally retarded have been classified by American Psychological Association as follows.

1. Border line Mental Retardation  IQ is 68 to 83 – slow learners – verbal learning is slower than motor learning.
   2. Mild mental Retardation.    IQ is 52 to 67 are equal to 8 to 11 years boys lack imagination judgment – need supervision.
   3. Moderate mental retardation  IQ is 36 to 51-Trainable M.R.
   4. Severe mental retardation    IQ is 20 to 35 custodial M.R.
   5. Profound mental retardation  IQ is below 20

6. Explain Clinical types of Mental Retardation.

**Key:**

1. **Down’s syndrome / Trisomy-21. (Mongolism)**

   This is a genetic disorder caused by the presence of an extra chromosome in the 21st pair.

   Named after a British doctor Langdon Down, who discovered this syndrome– at the time of conception baby inherits genetic information from its parents-46 chromosomes. But In Down’s syndromes – child gets an extras chromosome that is 47 instead of 46- this extra chromosome is the cause for this syndrome.

   **Physical features:** head is small, rounded, tongue has large fissures, eyes are narrow, slant & upward- Temperament-pleasant, good natured. They have moderate mental retardation-able to learn self help skills.

2. **Cretinism** – Condition of mental deficiency & lack of Physical & mental development – caused by malfunctioning of thyroid gland during prenatal & postnatal growth period – deficiency of iodine in soil, water, air cause cretinism, Apart from these – birth injuries, infections diseases like measles, diphtheria, etc also responsible for cretinism.-IQ is about 30 to 40. Metal age is usually not higher than 3 to 4 years.

3. **Hydrocephalus** – Accumulation of cerebrospinal fluid in the brain causes damage to the brain tissues – leads to M.R. called Hydrocephalus-I.Q. 30 to 90.- Sensation becomes defective, weak muscles, epileptic seizures common.
4. **Microcephalus** - Head small – called pin-headed people-I.Q. below average-M.A.- 3-7 years.
   causes exposure to X-ray during early pregnancy and infections.


6. **Macrocephales** – Abnormal growth of cells which support the active nerve cells leads to Macrocephalus mental retardation – skull and the face enlarged I.Q. less than 40-M.A. 3 to 7 years.

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