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Name:

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ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

Course: Educational Psychology (840/6308) • Level: MA MEd/BEd

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Assignment No. 2 (Units 5-9)

Total Marks: 100 • Pass Marks: M.A/M.Ed = 40, B.Ed = 50

SOLVED ASSIGNMENT GUIDE

(For Study & Reference)

Note: This guide is prepared for study and reference purposes. Students are advised to read the relevant units of the course book, understand the concepts, and then write the assignment in their own words. Total marks of the assignment are 100; each question carries the marks shown with it.

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Question 1: Physiological and Secondary Needs (20 Marks)

Differentiate between physiological and secondary needs. (20)

Introduction

A need is a state of deficiency or tension within the organism which moves it to action until the need is satisfied and balance is restored. Human needs are not all of one kind. Psychologists commonly divide them into physiological needs and secondary needs. Physiological needs — also called primary, biological or organic needs — arise from the tissues and organs of the body and must be satisfied for life and health to continue: hunger, thirst, air, sleep, sex and the elimination of waste are examples. Secondary needs — also called learned, social or psychological needs — arise not from bodily tissue conditions but from experience, learning

and social life: the needs for achievement, affiliation, power, prestige, approval and security in its social sense belong to this class. The distinction is fundamental in motivation and in education, for the two kinds of need differ in origin, universality, urgency, manner of satisfaction and effect when unsatisfied, and a teacher who confuses them will misread much of his pupils' behaviour. This answer defines and illustrates each class and then differentiates between them point by point.

Physiological Needs

Physiological needs are rooted in the biological nature of man. When the body lacks food, water or oxygen, or when waste products accumulate or rest is overdue, a state of internal imbalance arises which the organism experiences as a drive — hunger, thirst, suffocation, fatigue — and which impels activity directed towards restoring the balance, a process physiologists call homeostasis. These needs are innate and unlearned: the newborn infant hungers and sucks without any teaching. They are universal, appearing in all human beings and, in their basic form, in animals as well. They are also urgent and recurrent: hunger returns a few hours after a meal, however satisfying, and prolonged deprivation of a physiological need leads first to intense discomfort, then to illness and finally to death — a person can survive weeks without food but only minutes without air. In Maslow's hierarchy of needs, physiological needs form the foundation level: until they are reasonably satisfied, they dominate behaviour and higher needs remain weak; a hungry child cannot attend to a lesson, however excellent.

Secondary Needs

Secondary needs are acquired through experience and social interaction; they are learned rather than inborn, and for that reason they are also called social or psychological needs. The child is not born with a need for prestige, for achievement in examinations, for belonging to a respected group or for approving praise, but he acquires all of these as he grows up in a family and a culture that reward them. Important secondary needs include the need for achievement (to master, to excel, to meet high standards), the need for affiliation (to belong, to be loved and accepted by others), the need for power and dominance, the need for approval and recognition, the need for independence, the need for order and the need for acquisition and possession. Secondary needs differ greatly from person to person and from culture to culture: one pupil burns to top the class, another cares only for popularity, a third for leadership. They are not directly necessary for physical survival — no one dies of a frustrated need for prestige in the bodily sense — but their frustration can produce profound unhappiness, anxiety, inferiority feelings and behaviour problems, while their satisfaction is essential for mental health, personality development and sustained effort in learning.

Table 1: Physiological needs and secondary needs compared

Point of difference	Physiological (primary) needs	Secondary (learned/social) needs
Origin	Innate; arise from bodily tissue conditions and internal imbalance.	Acquired through learning, experience and social interaction.
Examples	Hunger, thirst, air, sleep, sex, rest, elimination, avoidance of pain.	Achievement, affiliation, power, prestige, approval, independence, acquisition.

Necessity for survival	Essential for the survival of the individual and the species.	Not essential for physical survival, but important for mental health and social life.
Universality	Universal in all human beings; largely common to animals.	Vary from person to person and culture to culture.
Age of appearance	Present from birth.	Develop gradually as the child grows and socialises.
Mode of arousal	Aroused by bodily deficiency on a homeostatic basis; strongly cyclical and recurrent.	Aroused by social situations, goals, expectations and incentives.
Effect of deprivation	Serious deprivation causes illness and death.	Frustration causes unhappiness, anxiety and maladjustment, not physical death.
Strength and priority	Prepotent when unsatisfied they dominate all other needs (Maslow).	Become dominant only after physiological needs are reasonably met.
Satisfaction	Satisfied by specific material objects — food stills hunger, water stills thirst.	Satisfied by psychological and social outcomes — success, love, recognition, status.
Relation to learning	Mostly unlearned; satisfaction is largely automatic and instinct-guided at first.	Wholly shaped by learning, values and culture; central to school motivation.

Points of Difference Explained

Several contrasts in the table deserve emphasis. The first is the contrast of origin and development. Physiological needs belong to man's animal inheritance; they operate from birth and their strength varies mainly with bodily states. Secondary needs belong to man as a social and cultural being; they are built up by praise and blame, by models, by the values of home and school, and they therefore reflect individual biography — which is why two children of the

same age, equally hungry, may differ utterly in their need for achievement. The second contrast concerns satisfaction. A physiological need has a specific consummatory object and is stilled, for a time, by obtaining it; a secondary need is more open-ended — success in one examination whets rather than ends the need for achievement, and prestige is never finally secured. The third contrast concerns the consequences of frustration. Bodily needs set hard limits: schooling, work and morality all give way when air, water or food are lacking. Secondary needs set the agenda of ordinary life: most of what pupils strive for, compete for, rejoice and grieve over in school — marks, friendship, captaincy, the teacher's regard — belongs to the secondary class, and most classroom motivation works through these needs.

Relation Between the Two and Educational Implications

The two classes of need are distinct but not independent. Secondary needs grow out of physiological ones and often become attached to them: eating begins as hunger but becomes a social occasion governed by manners, tastes and hospitality; the child's first experiences of love and approval come from the very persons who feed and protect him, so that affiliation and approval needs are built around bodily care. With development, secondary needs may even override physiological ones — the student who skips meals during examinations for the sake of achievement, or the martyr who gives up life itself for honour, shows a learned need dominating a bodily one — a possibility Maslow recognised in exceptional persons. For education the implications are direct. First, the school must respect physiological needs: midday meals, drinking water, ventilation, rest and play periods are not concessions but preconditions of learning. Secondly, teaching must deliberately engage secondary needs: work should be arranged so that pupils experience achievement, belong to the class group, win fair

recognition and taste increasing independence. Thirdly, guidance becomes possible: many behaviour problems are frustrated secondary needs in disguise, and the pupil who disrupts lessons for attention needs legitimate routes to recognition rather than punishment alone.

Conclusion

To conclude, physiological and secondary needs differ in origin, universality, survival value, manner of arousal and satisfaction, and consequences of deprivation: physiological needs are innate, universal, bodily and indispensable to life, while secondary needs are learned, individually and culturally variable, social and psychological in nature, and indispensable to mental health and motivated behaviour. Both classes are real motives of human conduct, and effective education must satisfy the first as a foundation while educating and employing the second as the everyday engine of learning.

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Question 2: Learning and Maturation (20 Marks)

Distinguish between learning and maturation. Give examples in support of your answer. (20)

Introduction

Two great processes shape the developing child: maturation and learning. Maturation is the unfolding of inborn potentialities according to a genetic timetable — the orderly, largely irreversible sequence of changes, such as the eruption of teeth, the onset of puberty and the readiness to walk, which occur as the nervous system and body grow, whether or not they are practised. Learning is the relatively permanent modification of behaviour which results from experience and practice — reading, cycling, speaking a language, solving sums and forming

habits and attitudes are learned. In real development the two processes are constantly intertwined, and neither alone explains the child: a skill appears when maturation has prepared the structures and learning has exercised them. Yet confusing the two leads to serious educational errors, such as forcing instruction before a child is ready or, conversely, waiting passively when training is what is lacking. This answer defines both processes, distinguishes between them on definite points, supports the distinctions with examples and classical studies, and draws out their relation and educational significance.

Meaning of Maturation and Learning

Maturation, in Gesell's classical phrase, is the net effect of growth processes operating from within the organism: development that proceeds through an orderly sequence of stages, largely independent of practice or training. The maturation of the nervous system — the growth of nerve fibres and their myelin sheaths, the ripening of the cortex — makes new behaviour possible at predictable ages: the infant holds up his head, then sits, then stands, then walks, in the same order in every culture. Learning, by contrast, originates outside the genetic programme. It is defined by psychologists such as Gates as the modification of behaviour through experience and training, and by Kimble as a relatively permanent change in behavioural potentiality that occurs as a result of reinforced practice. Learning depends upon an active organism meeting an environment: it produces abilities that differ as widely as experiences differ, so that one child learns Urdu and another English, one learns the tabla and another the violin. Two marks distinguish learned change from other change: it is relatively permanent, lasting beyond the moment of practice, and it is attributable to experience rather than to growth, fatigue, drugs or injury.

Table 1: Learning and maturation distinguished

Point of difference	Maturation	Learning
Source	Inborn, genetic programme of growth operating from within.	Experience, practice and interaction with the environment.
Dependence on practice	Occurs whether practiced or not; training before readiness has little lasting effect.	Cannot occur without activity and practice.
Sequence	Fixed, orderly and universal sequence of stages for the species.	No fixed universal sequence; order depends on teaching and opportunity.
Individual differences	Relatively small; all normal children mature in much the same way and time.	Very large; abilities differ according to experience, teaching and effort.
Permanence and direction	Generally irreversible; proceeds in one direction towards maturity.	May be gained, modified or lost; wrong learning (bad habits) is possible.
Relation to age	Closely tied to age and bodily growth.	Can occur at any age when experience is provided.
Examples	Teething, onset of puberty, a baby beginning to walk, a bird beginning to fly.	Reading, writing, typing, cycling, swimming strokes, table manners, attitudes.
Role of the teacher	To recognise readiness and not force or retard development.	To arrange experiences, practice, feedback and reinforcement.

Distinctions Explained with Examples

The sharpest way to see the distinction is to ask whether practice can produce the change before its time or prevent it after its time. A baby of four months cannot be taught to walk,

however devoted the training, because the necessary neural and muscular maturation has not occurred; but the same baby, given ordinary freedom of movement, will walk at about twelve to fifteen months even if nobody has deliberately taught him — maturation supplies the ability, and ordinary experience merely exercises it. Reading is the opposite case: a child of six whose eyes, brain and language are mature will still remain illiterate for life if he is never taught; maturation gives only readiness, and learning must do the rest. The classic experimental evidence comes from Gesell's co-twin control studies: one identical twin was trained early and laboriously in activities such as stair climbing and buttoning, while the other received no training; when the untrained twin had matured a little more, a very short period of training brought her level with her sister, showing that training before maturation is wasteful while training at maturity is highly efficient. Similarly, studies of children reared with restricted movement showed rapid catching-up once freedom was allowed, confirming that maturation, within wide limits, waits for no teacher.

Examples at higher levels show the same partnership. Swimming cannot be mastered by a toddler, whose coordination is immature, but neither does it appear by maturation alone in a grown man who has never entered water; it requires both a mature nervous system and practice. The development of language displays the interplay beautifully: the babbling, first words and sentence stages appear in a maturational order in all children, yet the particular language spoken, its vocabulary and its correctness depend entirely on learning. Even moral and social behaviour divides along the same line — the capacity for self-control matures with the cortex, but the specific standards controlled towards are learned from family and culture. Two further distinctions follow. Maturation never produces wrong development in a normal

organism, whereas learning can be wrong — mispronunciations, faulty methods of study and prejudices are learned as surely as skills. And maturation is largely finished when growth is complete, whereas learning continues through the whole of life.

Relation Between Maturation and Learning

Distinguishing the two processes must not be allowed to suggest that they work separately. Modern developmental psychology stresses their interaction: maturation sets the limits and the timetable within which learning operates, and learning determines how far, within those limits, development actually goes. Readiness — the state in which maturation and previous learning together make a child able to profit from particular instruction — is the practical expression of this partnership. Teaching reading to a child whose visual, auditory and language development is ready succeeds quickly and pleasantly; the same teaching forced a year earlier yields slow progress, dislike of books and a sense of failure. Conversely, readiness unused is opportunity lost: sensitive periods exist in which certain learning, such as language sounds or muscular skills, is acquired with an ease never repeated later. The teacher's art is timing — to diagnose readiness through observation and simple tests, to provide a rich environment that invites learning at each maturational stage, and neither to push the immature nor to bore the mature.

Conclusion

To conclude, maturation is internally programmed, universal, sequential growth that makes behaviour possible, while learning is the relatively permanent modification of behaviour through experience and practice that makes behaviour actual and individual. The co-twin studies, the contrast between walking and reading, and the development of language all show

that practice cannot substitute for maturation nor maturation for practice. Sound education rests squarely on this distinction: it respects the timetable of growth, watches for readiness, and supplies rich, well-timed learning experiences exactly when maturation has prepared the child to profit from them.

Question 3: Categories of Motives and the Role of Motivation in Learning (20 Marks)

Discuss the two broad categories of motives. Also, explain the role of motivation in learning. (20)

Introduction

A motive is an inner state — a need, drive, desire or goal — which arouses, directs and sustains behaviour towards a goal. Nothing in human life, and certainly nothing in school learning, happens without motivation: it is motivation that decides whether a pupil studies or daydreams, persists with a hard problem or abandons it, and remembers what he studied or forgets it by morning. Psychologists classify motives in several ways, but the broadest and most widely used classification divides them into two categories: primary or biological motives, which arise from the bodily needs of the organism, and secondary or psychosocial motives, which are learned through social experience. (Some writers add a third, smaller group of general or unspecific motives such as curiosity and the need for activity, which do not fit neatly into either class; these are noted below.) This answer discusses the two broad categories in detail, with

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their chief members, and then explains the role of motivation in learning and the practical conclusions a teacher should draw.

Category One: Primary (Biological) Motives

Primary motives are unlearned and rooted in the physiology of the body. They arise when the internal balance of the organism — homeostasis — is disturbed: lack of food produces hunger, lack of water thirst, lack of oxygen the air hunger, accumulation of fatigue the need for sleep and rest, and so on. Their common features are that they are present from birth, common to men and animals, cyclical in operation, and pressing in proportion to the deprivation behind them. The chief primary motives are hunger, thirst, sex, sleep and rest, the need for air and a tolerable temperature, the elimination of bodily waste and the avoidance of pain. Each has a characteristic goal object and a consummatory response which ends the drive for the time being: eating ends hunger, drinking ends thirst. Although primary motives belong primarily to survival, they enter the school situation directly. The hungry, thirsty, exhausted or overheated child is a child whose learning motives are temporarily drowned by bodily ones; midday meals, recess, ventilation and reasonable hours are therefore motivational measures, not merely sanitary ones. Moreover, many higher motives are first grafted onto primary ones — the infant's love and trust grow around the mother who feeds and comforts him.

Category Two: Secondary (Psychosocial) Motives

Secondary motives are learned motives. They arise not from tissue deficits but from the individual's life in society — from praise and blame, imitation, competition, the values of his family and culture and his own history of success and failure. They differ widely between

individuals and cultures, persist across the whole of life, and in adult human beings they are usually stronger and more enduring directors of behaviour than the primary motives. The most important secondary motives for education are the following. The achievement motive is the desire to excel, to meet high standards and to succeed in competition with oneself and others; McClelland showed that persons high in achievement motivation choose moderately difficult tasks, persist longer and perform better. The affiliation motive is the desire to belong, to love and be loved, to win the company and acceptance of others; it powers cooperative work and attachment to school, but also conformity to the peer group. The power motive seeks influence, leadership and control over others. The approval and prestige motives seek recognition, praise, status and respect. The acquisition motive seeks possessions and security of property; the independence motive seeks freedom from control and the right to decide for oneself; and aggression, curiosity and exploration appear in learned forms shaped by upbringing. Because secondary motives are learned, they can be educated: the school can build strong achievement and curiosity motives, or it can crush them, according to the experiences of success, recognition and interest it provides.

A brief note on general motives is in order. Curiosity, the urge to explore and manipulate, the need for activity and the need for new experience do not arise from a clear tissue deficit, nor are they wholly learned; they appear in infants and animals in all environments and are sometimes listed as a third, 'general' class. For the teacher they are precious, because they are the natural root of intrinsic motivation — learning undertaken for its own interest and satisfaction — as distinct from extrinsic motivation, in which learning is a means to marks, prizes or the avoidance of punishment. Both kinds operate in schools, but research and

experience agree that intrinsic motivation produces deeper, more durable learning, and the wise teacher uses extrinsic incentives as scaffolding while building genuine interest in the subject itself.

Table 1: The two broad categories of motives

Feature	Primary (biological) motives	Secondary (psychosocial) motives
Basis	Bodily tissue needs and homeostasis.	Learning, social experience, culture and values.
Examples	Hunger, thirst, sex, sleep, air, pain avoidance.	Achievement, affiliation, power, approval, prestige, independence.
Present in	Man and animals; from birth.	Mainly man; develop gradually with socialisation.
Individual differences	Relatively slight.	Very great; differ by person and culture.
Education's task	Satisfy them so they do not obstruct learning.	Build, direct and use them as the engine of learning.

The Role of Motivation in Learning

Motivation performs three functions in learning: it energises behaviour, it directs it, and it sustains and reinforces it. As an energiser, motivation releases and mobilises energy: the motivated pupil works with an alertness, effort and endurance that the unmotivated pupil cannot match, because his drives are engaged in the task. As a director, motivation selects and aims behaviour: among the hundred things a pupil might do, his motives decide that he will open the book, attend to this explanation and practise this skill; goals, interests and incentives

give learning its direction, which is why stating clear objectives and connecting lessons with pupils' purposes so powerfully improves attention. As a sustainer and reinforcer, motivation keeps behaviour going through difficulty and fixes its results: motivated learners persist after failure, practise longer, and experience success itself as a reward which strengthens the motive further, while praise, marks and knowledge of results act as reinforcements that stamp in what has been learned. Motivation also governs the quality of learning — strongly motivated learning is more likely to be meaningful, organised and retained, whereas learning undertaken under mere compulsion is memorised mechanically and forgotten quickly. There are limits to note: motivation follows an optimum rather than a maximum — excessive anxiety and over-motivation disorganise performance on difficult tasks, as the Yerkes-Dodson law states — and motivation cannot replace ability or good teaching, though it multiplies the value of both.

- Set clear, attainable goals: pupils work hardest for goals they understand and believe they can reach; break large tasks into achievable steps so success can motivate further effort.
- Arouse and maintain interest: connect lessons with pupils' needs, experience and curiosity; use novelty, activity, questions and real-life applications.
- Provide knowledge of results and fair recognition: prompt feedback, honest praise for genuine achievement and visible records of progress are powerful, inexpensive motivators.
- Use competition and incentives wisely: healthy competition, prizes and marks can energise, but over-reliance on extrinsic rewards and punishment breeds anxiety and can destroy intrinsic interest.

- Attend to belonging and achievement needs: a pupil who feels accepted by the class and capable of success will invest himself in learning; repeated failure and rejection extinguish motivation.

Conclusion

To conclude, motives fall into two broad categories: primary biological motives, unlearned and survival-based, which education must satisfy so that they do not obstruct learning, and secondary psychosocial motives — achievement, affiliation, power, approval and the rest — which are learned and which supply the everyday driving force of school behaviour, supplemented by general motives such as curiosity. Motivation energises, directs, sustains and reinforces learning, determines its quality and persistence, and works best at an optimum level joined with clear goals, feedback and experiences of success. The teacher is therefore, whether he knows it or not, a manager of motives; understanding the two categories of motives is the first step to managing them well.

Question 4: Theories of Intelligence (20 Marks)

Discuss different theories of intelligence. (20)

Introduction

Intelligence is the most studied and most disputed concept in educational psychology. Everyone recognises it in action — the pupil who grasps quickly, reasons clearly and adapts cleverly is called intelligent — yet psychologists have never agreed on its inner structure. Is intelligence one single general capacity, or a bundle of separate abilities? The theories of intelligence are

essentially rival answers to that question, and each answer has practical consequences: it decides how intelligence is tested, how pupils are grouped and what schools expect of them. This answer discusses the major theories in turn: Binet's unitary view, Spearman's two-factor theory, Thorndike's multifactor theory, Thurstone's group-factor theory, Guilford's structure-of-intellect model, Cattell's distinction between fluid and crystallised intelligence, Gardner's theory of multiple intelligences and Sternberg's triarchic theory, and concludes with their educational significance.

Unitary and Two-Factor Theories

The earliest scientific view, associated with Alfred Binet, treated intelligence as a single, unitary capacity — essentially the capacity to judge well, comprehend well and reason well. Binet's practical achievement was the first successful intelligence test (1905, with Simon), which expressed a child's performance as a mental age; Stern later converted this into the intelligence quotient, IQ = mental age divided by chronological age, multiplied by one hundred. The unitary view survives, in effect, whenever a single IQ score is used to describe a child. Charles Spearman, working with correlations between school subjects and tests, refined the unitary view into his two-factor theory (1904). He found that all mental performances correlate positively with one another, and explained this by a general factor, g, which enters into every intellectual task and represents a person's overall mental energy, together with specific factors, s, each peculiar to one task, such as verbal, numerical, spatial or mechanical ability. A person's performance in any subject is therefore g plus the relevant s. The theory elegantly explains both why good pupils tend to be good at most things and why the same pupil is nevertheless better at some subjects than others.

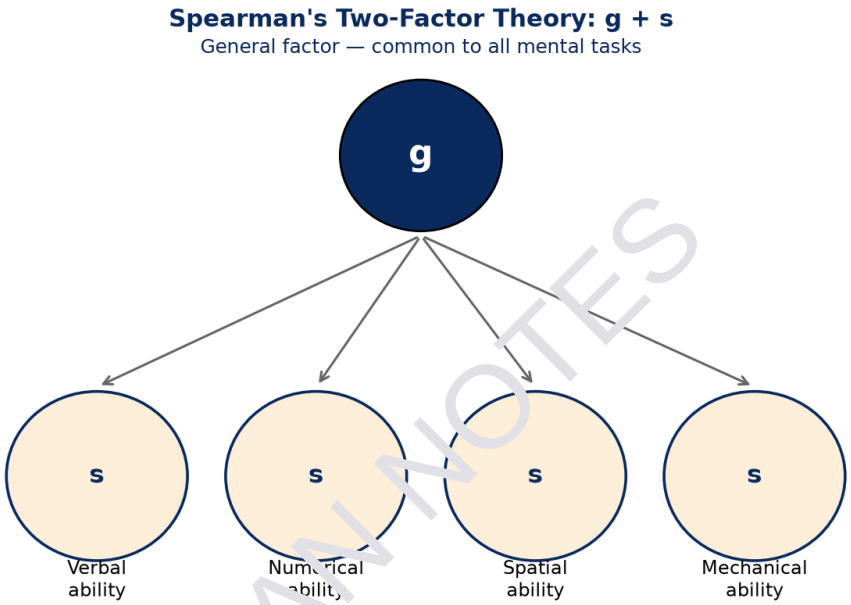


Figure 1: Spearman's two-factor theory — every performance draws on the general factor g plus a specific factor s.

Multifactor and Group-Factor Theories

E. L. Thorndike rejected the idea of a single general intelligence and proposed a multifactor theory: intelligence, in his view, is a combination of many separate abilities or elements, and there is no g beyond them. A person is not intelligent in general; he possesses thousands of specific connections and capacities, though for practical purposes Thorndike grouped abilities into three kinds — abstract intelligence (handling ideas and symbols), mechanical or concrete intelligence (handling objects and machines) and social intelligence (handling people). L. L. Thurstone took a middle position with his group-factor theory. Using the statistical technique of factor analysis on large test batteries, he found not one factor and not thousands, but a small number of group factors which he called the primary mental abilities: verbal comprehension, word fluency, numerical facility, spatial visualisation, associative memory, perceptual speed and

reasoning. Each performance draws on several of these abilities, and a person's intelligence is properly described by a profile of scores on the primary abilities rather than by one number — an idea that strongly influenced modern aptitude testing and vocational guidance.

Guilford's Structure of Intellect and Cattell's Fluid and Crystallised Intelligence

J. P. Guilford carried the analysis farthest in his structure-of-intellect model. He classified every intellectual task along three dimensions: the operation performed (cognition, memory, divergent production, convergent production and evaluation), the content operated upon (figural, symbolic, semantic and behavioural) and the product resulting (units, classes, relations, systems, transformations and implications). The combination of five operations, four contents and six products yields one hundred and fifty distinct abilities in the classic form of the model, each in principle separately measurable. The model's lasting contributions are its distinction between convergent thinking, which produces the one correct answer, and divergent thinking, which produces many possible answers and is the core of creativity — a rebuke to tests and schools that measure only convergence. Raymond Cattell, and after him John Horn, divided Spearman's g into two broad kinds of intelligence. Fluid intelligence is the innate capacity to reason, perceive relations and solve novel problems, independent of schooling; it rises to a peak in early adulthood and declines with age. Crystallised intelligence is the knowledge and skill accumulated through education and culture — vocabulary, information, learned strategies; it grows through most of adult life. The distinction explains why an elderly scholar may reason more slowly on new puzzles yet surpass the young in knowledge-based judgement, and it warns schools not to confuse unfamiliarity with a culture's content with lack of intelligence.

Gardner's Multiple Intelligences and Sternberg's Triarchic Theory

Howard Gardner's theory of multiple intelligences (1983) broke decisively with the single-score tradition. Gardner argued that human competence is plural and identified initially seven, later more, relatively independent intelligences: linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal (understanding others), intrapersonal (understanding oneself), and naturalistic, with existential intelligence sometimes added. Each intelligence has its own developmental course and symbol system and can be damaged or preserved separately by brain injury. Schools, Gardner charged, cultivate almost only the first two intelligences and consequently misjudge and waste the talents of children whose strengths are musical, spatial, bodily or interpersonal. Robert Sternberg's triarchic theory organises intelligence around three aspects of real-world functioning. Analytical intelligence involves analysing, comparing, evaluating and judging — the abilities conventional tests measure. Creative intelligence involves inventing, discovering and coping successfully with novelty. Practical intelligence involves applying knowledge to everyday situations, adapting to environments and shaping them — the 'street wisdom' that often predicts occupational success better than test scores. In his related componential analysis, performance depends on metacomponents that plan and monitor, performance components that execute, and knowledge-acquisition components that learn how to solve problems in the first place.

Table 1: Major theories of intelligence compared

Theory	Proponent	Structure of intelligence
Unitary	Binet	One general capacity to judge, comprehend and reason;

		measured as mental age / IQ.
Two-factor	Spearman	A general factor g common to all tasks plus specific factors s.
Multifactor	Thorndike	Many specific abilities; abstract, mechanical and social intelligence.
Group-factor	Thurstone	Seven primary mental abilities; intelligence is a profile, not a single score.
Structure of intellect	Guilford	150 abilities (operations x contents x products); values divergent thinking.
Fluid / crystallised	Cattell and Horn	Fluid reasoning for novel problems; crystallised knowledge from education and culture.
Multiple intelligences	Gardner	Eight or more independent intelligences, most neglected by schools.
Triarchic	Sternberg	Analytical, creative and practical intelligence in real-life context.

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Conclusion

To conclude, the theories of intelligence move along a clear historical arc: from Binet's single capacity and Spearman's g tempered by s, through Thorndike's many factors and Thurstone's primary abilities, to Guilford's one hundred and fifty abilities, Cattell's fluid and crystallised pair, and finally the deliberately broader visions of Gardner and Sternberg, which restore creativity, practical competence and the diversity of human talent to the concept. For education, the

combined lesson is twofold. Intelligence is real and measurable enough to guide grouping, guidance and expectations, but it is never exhausted by a single test score: a pupil's abilities form a pattern, some of his intelligences are still undeveloped or unrecognised, and wise teaching assesses broadly and provides many routes — verbal, visual, practical, social and creative — by which different minds can learn and show what they know.

Question 5: Group and Individual Tests (20 Marks)

What is the difference between group and individual tests? (20)

Introduction

Psychological and educational tests are classified in several ways, and one of the most useful classifications is by the manner of their administration: into individual tests and group tests. An individual test is administered to one person at a time by a trained examiner, as the Stanford-Binet and the Wechsler scales are. A group test is administered simultaneously to a number of persons, usually by written or digital means, as the Army Alpha examination and most school achievement and aptitude batteries are. The difference is not trivial or merely numerical; it affects the role of the examiner, the behaviour that can be observed, the kind of items that can be used, the cost and time involved, the precision and clinical value of the results and the ages and purposes for which the test is suitable. Examiners choose wrongly between the two types every day — using a quick group test where a careful individual diagnosis is needed, or spending hours on individual testing where a group survey would serve. This answer defines both types, gives examples, and sets out the differences between them point by point, ending

with an appraisal of their respective merits and the principle that should govern the choice between them.

Individual Tests: Meaning and Examples

In an individual test the examiner works with a single examinee in a face-to-face situation. He presents items one by one, often orally or through performance materials, adapts his pacing to the examinee, encourages and reassures him, and observes his behaviour throughout — his approach to problems, persistence, anxiety, language and strategies — as carefully as his answers. The classical examples are the Binet-Simon scale and its revisions, the Stanford-Binet Intelligence Scales, the Wechsler Adult Intelligence Scale and Wechsler Intelligence Scale for Children, performance batteries such as Bhatia's Battery of Performance Tests, and clinical instruments such as the Rorschach administered individually. Individual testing demands specially trained examiners, considerable time — commonly an hour or more per person — and is correspondingly expensive, but it yields both a score and a rich clinical picture of how the person functions, which is why it remains the standard for diagnosing intellectual disability, giftedness, brain injury and learning disorders, and for examining young children and persons who cannot read or write.

Group Tests: Meaning and Examples

In a group test the same standardised material is presented to many examinees at once, typically in a classroom or examination hall, under uniform printed or digital instructions and a common time limit. Group testing was born of necessity in the First World War, when the United States Army needed to classify nearly two million recruits quickly; the Army Alpha test

for literates and the Army Beta, using pictures and performance items, for illiterates and non-English speakers, were the result. Modern examples include group intelligence and aptitude batteries, Raven's Progressive Matrices administered to a class, scholastic achievement tests, interest inventories and large-scale surveys of whole school systems. Group tests can be scored objectively, rapidly and increasingly by machine; they require little specialised training in the administrator, who chiefly distributes materials, reads instructions and keeps time; and they provide norms and comparisons for large populations at a cost per person that individual testing could never approach. Their results are, however, limited to what can be captured in fixed, usually multiple-choice responses, and they reveal nothing directly about how an individual examinee was thinking, feeling or coping during the test.

Table 1: Individual tests and group tests compared

Point of difference	Individual tests	Group tests
Number of examinees	One person at a time.	Many persons simultaneously.
Examiner	Specially trained psychologist; builds rapport, probes and observes behaviour.	Ordinary administrator; reads instructions, distributes material and keeps time.
Mode of items	Oral, manipulative and performance items; no reading required.	Mainly written, paper-pencil or digital items; reading usually required (except non-verbal forms such as Army Beta).
Time and cost	Slow and costly; about an hour or more per examinee.	Quick and economical; hundreds can be tested in one sitting.
Flexibility	Examiner can adapt pacing, repeat or clarify within standard limits and follow up responses.	Completely fixed procedure; no adaptation to the individual.

Observation of behaviour	Full clinical observation of approach, emotion and strategy is possible.	No individual observation possible.
Scoring and results	Scoring may involve judgement; results include a qualitative clinical picture.	Objective, often machine scoring; results are quantitative scores and norms.
Reliability and use	High value for diagnosis of individuals; used with young children, clinical and exceptional cases.	Efficient for screening, survey, selection and classification of large groups.
Motivation and rapport	Examiner sustains motivation and can detect illness, anxiety or misunderstanding.	Motivation varies unnoticed; misunderstanding of instructions can invalidate a result.
Examples	Stanford-Binet, WAIS, WISC, Bhatia's Battery.	Army Alpha and Beta, Raven's Matrices (group form), achievement batteries.

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The Differences Explained

Three differences govern all the others. The first is the examiner's role. In individual testing the examiner is himself part of the instrument: his rapport elicits the examinee's best performance, his questions can uncover the reasoning behind an answer, and his observations convert a score into an understanding of a person. In group testing the examiner is deliberately reduced to a technician so that conditions are identical for all — an advantage for fairness and comparison, purchased at the price of blindness to the individual. The second difference is the population each type can serve. Individual tests, needing no literacy, can examine pre-school children, illiterates, the handicapped and patients; group tests presuppose, in their usual

written form, readers working independently at speed, and even their non-verbal forms presuppose a person who can work unaided in a crowd. The third difference is the kind of decision each supports. A decision about a population — selecting five hundred applicants, surveying a district's achievement — belongs to group tests; a decision about a person — whether this child is intellectually disabled, why that patient has deteriorated — belongs to individual tests, whose findings courts, clinics and placement committees rightly trust more.

Merits, Limitations and the Choice Between Them

The merits of individual tests are precision for the single case, freedom from literacy demands, adaptability, and the clinical richness of observed behaviour; their limitations are cost, time, scarcity of trained examiners and some dependence of results on examiner skill. The merits of group tests are economy, speed, objectivity of scoring, easy construction of norms and suitability for research and selection on a large scale; their limitations are inflexibility, blindness to process and emotion, dependence on reading and self-motivation, and unsuitability for young children and clinical diagnosis. In practice the two types are complements, not rivals, and good assessment programmes use them in sequence: a group test screens the large population cheaply and identifies those who stand out, and individual tests then examine the identified few thoroughly before consequential decisions are taken about them. A low group-test score should therefore be treated as a question, not a verdict — a signal to test individually — because fatigue, misunderstanding or anxiety in the group situation can depress the score of a capable examinee.

Conclusion

To conclude, individual and group tests differ in the number examined at a time, the examiner's training and role, the form of their items, their time and cost, their flexibility, their yield of behavioural observation, their scoring and, consequently, in the decisions they can properly support. Group tests serve breadth — screening, selection and survey of many; individual tests serve depth — diagnosis and understanding of the single person. The competent psychologist and teacher know both, respect the limits of each, and let the purpose of the assessment, and not mere convenience, decide which is used.

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