

Question	Difficulty Level	Marks	Image File Path
Elucidate any three salient features of academic disciplines?		3	
State any 3 characteristics of academic disciplines.		3	
List the characteristics of academic disciplines.		3	
Enumerate the characteristics of Hard-Pure Disciplines.		3	
List any three aspects of place of commerce in the present school curriculum.		3	

Mention any 3 points for nature of Commerce Education.		3	
Give any three objectives of teaching Commerce at Higher Secondary level.		3	
What are the objectives of teaching commerce at the secondary stage?		3	
Mention any 3 aims of teaching Commerce at Higher Secondary Level.		3	
State the role of teachers in inculcating the value of Global Citizenship among students while teaching Commerce.		3	

Discuss the role of teacher in inculcating vocational value.		3	
Elucidate the importance of the Use of Maxims of teaching – ‘Concrete to Abstract’ in teaching of Commerce.		3	
What is the usefulness of correlation?		3	
State 3 points for importance of Correlation.		3	

Elucidate the importance of teaching of Commerce with use of Principle of Learner Centeredness.		3	
What is principle of flexibility?		3	
What is the importance of Field Visits in Commerce teaching?		3	
Why field visit is important in Commerce teaching?		3	

Why commerce teacher takes students to visit?		3	
Give any three Internal Academic criteria of a good Commerce textbook.		3	
Discuss the characteristics of commerce textbook.		3	
Give 3 reasons for popularity of MOOCs in Commerce teaching.		3	

<p>State any three advantages of Problem Solving method in teaching of Economics.</p>		3	
<p>“Project method helps the Economics teacher in integrating classroom experiences with real life.” Give reasons</p>		3	

What are the merits of project method?		3	
State the advantages of Seminar Method.		3	
State the limitations of discussion method		3	
What is the importance of using round table co-operative learning strategy in Commerce teaching?		3	
State the demerits of constructivism.		3	
List any 3 models of Blended Learning.		3	
State the advantages of using constructivism in teaching commerce.		3	

What are the challenges faced by the Commerce teacher while teaching Commerce?		3	
What are the roles of an commerce teacher?		3	
What are the challenges faced by an commerce teacher?		3	
Give any three needs for the professional growth of a Commerce teacher.		3	
Professional growth of a Commerce teacher is a need of an hour'. Justify		3	

How can a Commerce teacher grow in his/her profession?		3	
State the importance of Diagnostic Testing.		3	
Mention any 3 objectives of Remedial teaching.		3	
Why diagnostic testing is important in Commerce teaching?		3	

Topic	Model Answer	Allow Image Upload In Exam
1a	<p>Disciplines must have some institutional manifestation in the form of subjects taught at universities or colleges, respective academic departments and professional associations connected to it. Disciplines have a body of accumulated specialist knowledge referring to their object of research, which is specific to them and not generally shared with another discipline; Disciplines have specific theories and concepts. Disciplines use specific terminologies or a specific technical language adjusted to their research object. Disciplines have a particular object of research. Disciplines have developed specific research methods according to their specific research requirements.</p>	no
1a	<p>1. Body of specialized knowledge 2. Has theories &amp; concepts 3. Specific terminology 4. Specific object of research 5. Definite methods of research 6. Institutional manifestation in form of subjects taught</p>	no
1a	<p>1. Body of specialized knowledge 2. Has theories &amp; concepts 3. Specific terminology 4. Specific object of research 5. Definite methods of research 6. Institutional manifestation in form of subjects taught</p>	no
1b	<p>Knowledge growth can be compared to crystal growth (building on what already exists) Relationship between knowledge and knowledge seeker is unbiased and objective Knowledge is verified by fixed criteria High degree of consensus between two knowledge seekers Academic communities in hard-pure disciplines are well organized, their work is quite competitive and publication rates are high Quantitative data Concerned with universal phenomena Nature of knowledge is cumulative</p>	no
1c	<p>1. It helps in industrial growth 2. Generates employment opportunities and career aspects for students 3. Commerce links production, consumption, exchange distribution aspects</p>	no

2a	1. Integrated subject & academic discipline 2. Both knowledge & skill subject 3. Both Science & Art 4. Provides occupational training 5. Intellectual & cultural development 6. Studied for 2 reasons - further studies & getting into a job	no
2b	To equip the students with essential fundamental knowledge for setting up, organizing and handling routine operations of a small scale factory.To acquire the knowledge of basic terms, definitions, concept of Book-keeping and Accountancy.To understand conventions, practices and procedure of Accounting.To understand the principles of B.K. and Accountancy.To develop understanding of business principles through studies of business transactions and their effects on business operations.To develop in the students an interest in the theory and practice in business, trade and industry.To acquaint students with the theoretical foundations and practices of organizing, managing and handling routine operations of a business firm.To inculcate attitude and values leading to the integration of business with the social system with a positive approach.To enable students to apply the principles and functions management to specific aspects of business.	no
2b	1.To enable students to apply principles and functions og management 2.to help analyze financial statements and intepret them 3.To acquaint students with modern techniques of ,maintaining records	no
2b	1. Vocational aim 2. Consumer Efficiency aim 3. Character devt aim 4. Career devt. aim 5. Citizenship devt. aim 6. Social efficiency aim 7. Ethical-moral-spiritual aim 8. Hobby devt aim	no
2c	Organize a workshop for students on sustainable practices.The teacher should make the students aware of happenings of the world to make them a global citizen. The teacher can conduct various activities to inculcate this value among students:Read and discuss news around the worldAsk students to display daily news around the world on the bulletin boardDevelop a news map in the classArrange for debates on various happenings of the worldArrange for a various expert talk from other countries to make students aware about various foreign policies.Arranging for Peace rallies to show your participation on some foreign tragedyThe teacher can also correlate global news in her lessons	no

2c	<p>1. Teacher can give an understanding of book keeping and accountancy with accompanied skill and help students become useful workers</p> <p>2. different activities and varied experiences of banks and types of banks helps them decide on account type</p> <p>3. give referances of industries and help student prepare for higher education</p>	no
3a	<p>For example, while teaching Commerce, the knowledge of the trade, commerce, and industry can be either imparted through seen or perceptual things or through their models, pictures and lines very successfully. It is a psychological fact that the mental development of the pupil begins with the concrete objects and afterward, he gains micro-words for them. Therefore to begin with the teaching of the subject, the student should be provided with knowledge of concrete material which can be perceived through sense organs and then knowledge of abstract things should be provided to the students. In other words, when knowledge about small (micro) things is to be imparted to the pupils of the lower class in order to provide a definite shape to their ideas, some objects should be shown or their models, pictures, and lines can be used.</p>	no
3b	<p>1. Makes knowledge stable</p> <p>2. lighten the burden of curriculum</p> <p>3. helps students acquire knowledge in a short period of time</p>	no
3b	<p>1. Unification of knowledge 2. Makes learning interesting 3. Helps in attaining goals of education 4. Bridges the gap</p>	no

3c	<p>i. The entire teaching endeavour is for the child. Therefore, it is essential that teaching strategies should cater to the aptitude, interest, and abilities of the student.ii. In the drama of education, the child should be assigned to the role of ‘Hero’ .iii. Learner-centered education stresses the need for taking care of the child, its growth, and development.iv. It requires an individualization approach so that one must study each child carefully, keep observation over a period of time, study the growth and development in sensory-motor area, intellectual area, emotional area, social area, language area and so on.v An educational theory or system should emphasize the pupil and individual characteristics as central in conducting instruction instead of focusing on subject matter, external authority and educational requirements.vi. The curriculum should be constructed according to the pupil’s interest and needs.vii. The child is the agent of his own learning, among all the components of learning; the privileged position is to be given to the learner.viii. The curriculum must be thought of in terms of activities and experiences which appeal most to the child. ix Learner-centered approach gives freedom to the learner under the creative and sympathetic direction of the teacher.</p>	no
3c	<p>1. learning can take place anywhere 2. it can take place in variety of environments like online 3. students can choice their schedules</p>	no
4a	<p>Visits develop skills like planning, organizing, co-operation, and toleranceIt provides first-hand experience and its application to the studentsIt gives relief from daily classroom teaching when students spend a few hours in an informal atmosphereIt motivates the student to learn Economics and stimulate their interestStudents learn to cooperate amongst themselves and also with the member of the communityIt develops the power of critical thinkingIt provides clear idea about the lesson or topic that is being taughtIt provides an opportunity for correlation.It develops leadership, self-confidence among the studentsVisits are very helpful in integrating classroom instructions, stimulating imagination and providing learning by sensory perception. It also helps in expanding the emotional and intellectual horizon.Visit help in developing a new interest in occupationsVisit helps students in having more intelligent concern for democratic institutions, their functions, and contributions.It develops keen observation on the part of the students as after visits they are required to prepare the report on whatever they have observed</p>	no
4a	<p>1.insight regarding internal working 2.exposure to current work practices 3.breaks the monotony of classroom</p>	no

4a	It provides firsthand experience and its application to the students. It gives relief from daily classroom teaching when students spend a few hours in an informal atmosphere. Makes the learning more permanent.	no
4b	On the title page, there should be the suitable title, author's name and publisher's name, place of publication with the year. The selection of the content for the textbook should have;a. relevant to the instructional objectives.b. Coverage of the prescribed syllabus.c. Authentic and up-to-date content for the course.d. Integrated from the preceding to the succeeding class or stage. Linking with practical life situations.The organization of content should be divided into units and selection properly. The subject matter of the textbook should be developed in a psychological manner.Each chapter or unit should begin with an introduction and end with a summary and title of the chapter should be appropriate and motivating. Language should be according to the level of class standard. Sentences used in the textbook should be simple and not ambiguous with correct spelling, correct punctuation, lucid language and grammatically correct language should be used in the textbook.Illustrations used in the textbook for demonstrating the purpose of content should be authentic, proper size suitably captioned. Each chapter should contain assignments at the end and should be for both the gifted and slow learners.The textbook should have a suitable preface and effective introduction, table of contents, bibliography, suitable glossary, and index.	no
4b	1.relevant comprehensive and adequate content 2.continuity and balance 3.division into units and sections	no
4c	1. Improves access to higher education globally 2. Affordable 3. Self paced learning	no

5a	<p>Improves communication skills This approach is most effective in developing skill in employing the science processes. The scientific method can likewise be used effectively in other non-science subjects. It is a general procedure in finding solutions to daily occurrences that urgently need to be addressed. The student's active involvement resulting in meaningful experiences serves as a strong motivation to follow the scientific procedure in future undertakings Problem-solving develops higher level thinking skills. A keen sense of responsibility, originality and resourcefulness are developed, which are much-needed ingredients for independent study. The students become appreciative and grateful for the achievement of scientists. Critical thinking, open-mindedness and wise judgment are among scientific attitudes and values inculcated through competence in the scientific method. The students learn to accept the opinions and evidence shared by others. Intellectual teamwork</p>	no
5a	<p>Mostly the projects are undertaken in the classroom as classroom assignments, because of which load of homework from the students get reduced to considerable extent. As students get proper freedom to execute the project in accordance with their interest and abilities, because of which they get their psychological needs satisfied to considerable extent. This method is not only subject centred, but due importance is being provided to the students also. Students are permitted to choose projects on their own, as a result of which they make use of their abilities to maximum possible extent. Through this method, students are provided with various opportunities by which they can satisfy their interests and desires. Habit of critical thinking gets developed among the students through this method. Not only this, an urge to make use of scientific methods to solve various problems also developed among the students through this method. With this method, students get the ample chances in which they can develop coordination among their body and mind. Through this method, teachers can lead a well balanced development of the students. Through this method, science teaching can be done with considerable success, as science is a practical subject and this method is also scientific and practical in nature. Not only this, through the information gained, they become able to solve their own life problems independently and effectively. This method helps in promoting social interaction and co-operation among the students, as they have to work in a group and have to interact with various persons for gathering information. As the student works with full agreement of the social needs, he gets moulded in accordance with the social needs of the society in which he lives or exists. Thus, through this method, a sense</p>	no

5a	1. provide real life experience 2.useful for training in citizenship 3.inculcates dignity of labour	no
5b	1. Learner centered 2. Learning is by self 3. Develops public speaking skills 4. Develops reading comprehension	no
5b	<ul style="list-style-type: none"> <li>•All types of topics cannot be taught by Discussion Method.</li> <li>•This method cannot be used for teaching small children.</li> <li>•The students may not follow the rules of discussion.</li> <li>•Some students may not take part while others may try to dominate</li> <li>•The teacher may not be able to guide and provide true leadership in the discussion.</li> <li>•Go off the track</li> <li>•Sometimes discussion leads to an argument</li> </ul>	no
5b	<ul style="list-style-type: none"> <li>•Provides opportunities for higher order thinking as opposed to passive listening.</li> <li>•Promotes greater student-faculty and student-student interaction.</li> <li>•Increases student retention and limits anxiety.</li> <li>•Permits opportunities to connect the content to real life.</li> <li>•Builds self-esteem in students.</li> </ul>	no
5c	1.Teachers need to be trained to implement 5E model 2.does not consider individual differences and different learning styles 3. learners do not always actively construct meaning	no
5c	1. Flex Model 2. Rotation Model 3. A La Carte Model 4. Enriched Virtual Model	no
5c	<input type="checkbox"/> Constructivism helps to transmission of knowledge about facts, principles and theories from the teacher to the learner through various hands on experiences. <input type="checkbox"/> Learning is based on previous knowledge; hence constructivism helps to build association to create between prior knowledge of commerce with the present new knowledge and understandings. <input type="checkbox"/> By using constructivism, the teacher can engage students in learning experiences through brainstorming their prior knowledge and make them to synthesis with the new information. <input type="checkbox"/> Helps students in detail and deeper understanding of the concepts. <input type="checkbox"/> Teaching content through constructivism develops the interest and attention of the learners.	no

6a	<p>Commerce instructors tend to privilege theory or practice while neglecting the other. Some teachers drift off into theory-intensive approaches to economics, exploring the dominant theorists and philosophies and overlooking the economic climates that facilitated such theory. Lack of learner autonomy" Lack of access into the world of economics concepts and ideas" Lack of Practical Pedagogical Method Emphasis on Teaching than Learning" Lack of proper infrastructure" Inadequate teaching aids like commerce lab, CTV-Video films"</p>	no
6a	<p>1. teacher should have deep knowledge and understanding about the subject and act as a guide  2. teacher should be a rationalist by basing its actions on reason  3. teacher should be a upholder of norms and values and present it in a dignified manner</p>	no
6a	<p>1. Inadequate resources  2. craze for science maths and engineering courses  3. Lack of infrastructue like books and library and biasness</p>	no
6b	<p>Develop the ability to contribute and participate in the construction and revision work of economics curriculum, revision of textbook, instructional material and scheme of evaluation. Reorient oneself with updated knowledge and latest development. Acquaint and acquire latest strategies techniques, the methodology of teaching Commerce. Develop proper scientific attitude, temper, and interest and learn ways of solving commercial problems. Acquire necessary knowledge, abilities, and skills necessary for the organization of co-curricular activities. Acquire necessary competency in motivating the students for learning. Acquire necessary skills for providing better guidance to students.</p>	no
6b	<p>To Reorient oneself with updated knowledge and latest development. Acquaint and acquire latest strategies techniques, the methodology of teaching Commerce. Acquire necessary skills for providing better guidance to students.</p>	no

6b	<ul style="list-style-type: none"> <li>oAttending school programmes</li> <li>oAttending seminars and conferences/workshops</li> <li>oParticipating in refresher courses and summer institutes</li> <li>oContribution in paper and journals</li> <li>oSetting up of association</li> <li>oAttending talk of eminent personalities</li> <li>oVisits</li> <li>oBench marking</li> <li>oPerformance appraisal</li> <li>oMembership to professional body</li> <li>oOrganising co-curricular activities</li> <li>oResearch activities</li> <li>oTeacher exchange programmes</li> </ul>	no
6c	1. identify weak links in teaching-learning process 2. Identify weak areas of learner 3. Helps locate causes of deficiency	no
6c	1. solve doubts 2. Address problems in teaching 3. Overcome deficiencies in work, study & skills	no
6c	1. identify weak links in teaching-learning process 2. Identify weak areas of learner 3. Helps locate causes of deficiency	no

<b>Question</b>	<b>Difficulty Level</b>	<b>Marks</b>	<b>Image File Path</b>
Explain pure-hard disciplines given by Becher-Biglan.		3	
Discuss the relationship between Economics and Mathematics.			
Describe the importance of Economics?			

<p>Explain the scope of Economics.</p>			
<p>Why the economics teacher organises the visit to a Bank?</p>			
<p>What are the uses of Internet in the teaching of Economics</p>			
<p>Discuss the principle of individual differences.</p>			
<p>How will teacher correlate Economics with History?</p>			

<p>What are the advantages of Project method?</p>			
<p>Describe the limitations of Discussion method.</p>			
<p>Discuss the avenues of professional growth of a teacher.</p>			

<p>What are the challenges faced by the economics teacher?</p>			
<p>Explain the three characteristics of academic discipline.</p>			
<p>What are the objectives of teaching economics at the higher secondary stage?</p>			
<p>What is the role of teacher in inculcating entrepreneurship value?</p>			
<p>What are the characteristics of economics textbook?</p>			
<p>Explain the importance of visit to an industry.</p>			
<p>What is the usefulness of correlation?</p>			
<p>State the merits of lecture method.</p>			
<p>State the demerits of constructivism(5E).</p>			

What are the qualities of an economics teacher?			
What are the challenges faced by an economics teacher?			
State the meaning of Academic Disciplines.			
Why is Economics important?			
How will an economics teacher provide varied entrepreneurship experiences?			
What are the physical characteristics of an economic textbook?			

Explain the uses of magazines in Economics teaching.			
How will a teacher correlate Economics with Mathematics?			
Explain any one principle of teaching Economics.			
What are the demerits of lecture method?			
State the procedure of project method.			

<p>State are the qualities of an Economics teacher.</p>			
<p>Elucidate any three avenues of Continuous Professional Development of an Economics teacher.</p>			
<p>Enumerate the characteristics of Hard-Pure Disciplines.</p>			
<p>Elucidate any three salient features of academic disciplines?</p>			
<p>State the role of teachers in inculcating the value of Entrepreneurship among students while teaching Economics.</p>			

<p>Give any three objectives of teaching Economics at the Higher Secondary level.</p>			
<p>Give any three Internal Academic criteria of a good textbook.</p>			
<p>Visits to places of economic importance helps in achieving objectives of Economics teaching, Give Reasons</p>			

<p>Enumerate the importance of the teaching of Economics with use of Principles of Learner Centeredness.</p>			
<p>Illustrate relationship of Economics with Commerce?</p>			
<p>State any three advantages of the Lecture Method in teaching Economics.</p>			

<p>“Project Method helps the Economics teacher in integrating classroom experiences with real life.” Give reasons.</p>			
<p>What are the challenges faced by an Economics teacher while teaching Economics?</p>			
<p>Give any three needs for the professional growth of an Economics teacher.</p>			

Explain the nature of knowledge in applied- soft discipline.			
What is the place of social science in school curriculum?			
State the objectives of teaching Economics at higher secondary level.			
Explain the role of teacher in inculcating the value of entrepreneurship.			
List any three characteristics of a good Economics textbook.			
What is the importance of print media in teaching of Economics?			

<p>Illustrate the maxim 'Particular to General' in teaching of Economics.</p>			
<p>Explain importance of correlation.</p>			
<p>Why discussion method beneficial in teaching Economics?</p>			
<p>Explain the procedure of problem solving method of teaching Economics.</p>			
<p>What are the avenues of professional development for an Economics Teacher?</p>			
<p>What are the qualities of an Economics teacher?</p>			
<p>Discuss the principles of flexibility in Economics teaching.</p>			

What is Problem Solving?			
Why there is a need of continuous professional development for a teacher?			

Topic	Model Answer
1b	<p>Quantitative data Concerned with Universal phenomena</p> <ul style="list-style-type: none"> <li>• Nature of knowledge is cumulative</li> <li>• Knowledge growth can be compared to crystal growth (building on what already exists)</li> <li>• As new knowledge is found, old knowledge gets enhanced</li> <li>• Relationship between knowledge and knowledge seeker is unbiased and objective</li> <li>• Knowledge is verified by fixed criteria</li> <li>• High degree of consensus between two knowledge seekers</li> <li>• Academic communities in hard-pure disciplines are well organized. Eg; Physics, Chemistry</li> </ul>
1a	<ul style="list-style-type: none"> <li>• Economics is concerned with the production, consumption, and transfer of wealth.</li> <li>• Statistics is the practice or science of collecting and analyzing numerical data in large quantities.</li> <li>• Economists make use of statistics on matters such as income, employment, prices and expenditure patterns.</li> <li>• Statistical data and economic theories go together. Statistics test the consistency of economic theory</li> <li>• Factors affecting supply and demand has to follow the scientific steps of Statistics.</li> <li>• Statistics is used in the analysis of the labour market, trade, industry, international trade &amp; for economic planning.</li> </ul>
2a	<ul style="list-style-type: none"> <li>• Helpful in tackling Economic problems</li> <li>• Means of Livelihood</li> <li>• Provides factual information</li> <li>• Helpful to enrich the practical knowledge</li> <li>• Knowledge of other nations</li> <li>• Helps in maintaining the democratic set up</li> <li>• National Consciousness</li> <li>• Knowledge about production, consumption, price</li> <li>• International outlook</li> <li>• Capability of using national resources properly</li> <li>• Economic inter-dependence</li> </ul>

2a	<ul style="list-style-type: none"> <li>•Consumption</li> <li>•Production</li> <li>•Exchange</li> <li>•Distribution</li> <li>•Public finance</li> <li>•Microeconomics</li> <li>•Macroeconomics</li> </ul>
3c	<ul style="list-style-type: none"> <li><input type="checkbox"/> Knowledge of one of the important financial institutions.</li> <li><input type="checkbox"/> Understanding of the departmental coordination at the banking system.</li> <li><input type="checkbox"/> Makes the students aware about a particular type of bank.</li> <li><input type="checkbox"/> Understanding of various primary and secondary functions of Banks.</li> <li><input type="checkbox"/> Promotes an understanding of financial transactions.</li> <li><input type="checkbox"/> Understanding of various job opportunities in banking field.</li> </ul>
3b	<ul style="list-style-type: none"> <li>• Provides extensive learning resources and study materials.</li> <li>• Keeps the learner in touch with latest arrivals in education.</li> <li>• Students get each and every type of guidance and answers</li> <li>• Thirst of knowledge can easily be satisfied</li> <li>• Informative as well as Explorative</li> <li>• Current affairs; Economic</li> <li>• Video conferencing, web conferencing, Google meet, Google classroom connects the learner and taught</li> <li>• Create blogs for studying the subjects</li> </ul>
4c	<ul style="list-style-type: none"> <li>•This principle means the individual differences of the pupils should be considered.</li> <li>•While teaching taking care intelligence, nature, ability, interest, potentialities and needs of each learner.</li> <li>•Each pupil is unique and not at the same level.</li> <li>•In order to develop all the pupils and for equal opportunities, the teacher should impart proper guidance and motivation to the gifted/talented and specially-abled pupils.</li> <li>•The economics teachers should take care that though his/her students have their individual differences, each student should participate in the learning process.</li> </ul>
4b	<ul style="list-style-type: none"> <li>•Economic conditions play vital role in the course of history. History is concerned mainly with the study of man's growth through the ages while economics is concerned with the study of progress of man how he has achieved his position &amp; how much has yet to be achieved.</li> <li>•History also provides us the knowledge about the time of discovery &amp; exposition of various economic theories. It also tells us about the economic development of different countries.</li> <li>•E.g. While teaching Economics about trade, the teacher correlate it with History, by discussing about the trade in India during the British era.</li> </ul>

5b	<ul style="list-style-type: none"> <li><input type="checkbox"/> This is based on various psychological laws and principles.</li> <li><input type="checkbox"/> It develops self-confidence and self-discipline among the students</li> <li><input type="checkbox"/> It provides scope for independent work and individual development.</li> <li><input type="checkbox"/> It promotes habits of critical thinking and encourages the students to adopt problem-solving methods.</li> <li><input type="checkbox"/> This method the children are active participants in the learning task.</li> <li><input type="checkbox"/> Psychological basis: child centered, self-chosen as per interest, law of readiness, work in social environment, learning by doing</li> <li><input type="checkbox"/> Provides integration of physical and mental activities</li> <li><input type="checkbox"/> Democratic way of teaching</li> <li><input type="checkbox"/> Development of social values</li> </ul>
5a	<ul style="list-style-type: none"> <li>• All types of topics cannot be taught by Discussion Method.</li> <li>• This method cannot be used for teaching small children.</li> <li>• The students may not follow the rules of discussion.</li> <li>• Some students may not take part while others may try to dominate</li> <li>• The teacher may not be able to guide and provide true leadership in the discussion.</li> <li>• Go off the track</li> <li>• Sometimes discussion leads to an argument</li> </ul>
	<ul style="list-style-type: none"> <li>o Attending school programmes</li> <li>o Attending seminars and conferences/workshops</li> <li>o Participating in refresher courses and summer institutes</li> <li>o Contribution in paper and journals</li> <li>o Setting up of association</li> <li>o Attending talk of eminent personalities</li> <li>o Visits</li> <li>o Bench marking</li> <li>o Performance appraisal</li> <li>o Membership to professional body</li> <li>o Organising co-curricular activities</li> <li>o Research activities</li> <li>o Teacher exchange programmes</li> </ul>

6b	<ol style="list-style-type: none"> <li>1. Vast scope of the subject</li> <li>2. Time-consuming process to complete the syllabus.</li> <li>3. Limited number of lectures</li> <li>4. Uneven student-teacher ratio</li> <li>5. Lack of interest in students for the subject compare to other subjects.</li> <li>6. Non-availability of Resources</li> <li>7. Additional responsibilities of teaching other subjects apart from teaching economics</li> <li>8. Absenteeism of students</li> <li>9. Pressure of completion of syllabus</li> <li>10. Content in the text-books are usually not up-to-date</li> <li>11. Less opportunities to grow professionally</li> </ol>
1a	<ol style="list-style-type: none"> <li>1. Disciplines have particular objects of research</li> <li>2. They have specific terminologies</li> <li>3. They have theories and concepts</li> </ol>
2b	<ol style="list-style-type: none"> <li>1. To cope up with stress and strain that occur in the process of economic reconstruction</li> <li>2. to help understand various sectors and their linkages</li> <li>3. To acquaint students with economic problems at national and local level</li> </ol>
2b	<ol style="list-style-type: none"> <li>1. Teacher can discuss biographies of various businessmen and their methods to run business</li> <li>2. different activities and varied experiences</li> <li>3. give referances of small and large scale industries</li> </ol>
3a	<ol style="list-style-type: none"> <li>1. relevant comprehensive and adequate content</li> <li>2. continuity and balance</li> <li>3. division into units and sections</li> </ol>
3c	<ol style="list-style-type: none"> <li>1. insight regarding internal working</li> <li>2. exposure to current work practices</li> <li>3. breaks the monotony of classroom</li> </ol>
4b	<ol style="list-style-type: none"> <li>1. Makes knowledge stable</li> <li>2. lighten the burden of curriculum</li> <li>3. helps students acquire knowledge in a short period of time</li> </ol>
5a	<ol style="list-style-type: none"> <li>1. its economical</li> <li>2. useful when class number is large</li> <li>3. useful when books are scarce and resources limited</li> </ol>
5c	<ol style="list-style-type: none"> <li>1. Teachers need to be trained to implement 5E model</li> <li>2. does not consider individual differences and different learning styles</li> <li>3. learners do not always actively construct meaning</li> </ol>

6a	1.teacher should have deep knowledge and understanding about the subject 2. professional ethics 3.good communication skills
6b	1.Inadequate resources 2.lack of learner autonomy 3. Lack of infrastructure like books and library and biasness
1 (a)	Branch of knowledge taught and researched as part of higher education, Branch of learning or Scholarly instructions, Definition by Arthur Dirk- category of experience, methodlogies pursuit of knowledge, Definition by Moti Nissani- self contained domain of human experience with own community of experts
2 (a )	<ul style="list-style-type: none"> <li>• Helpful in tackling Economic problems</li> <li>• Means of Livelihood</li> <li>• Provides factual information</li> <li>• Helpful to enrich the practical knowledge</li> <li>• Knowledge of other nations</li> <li>• Helps in maintaining the democratic set up</li> <li>• National Consciousness</li> <li>• Knowledge about production, consumption, price</li> <li>• International outlook</li> <li>• Capability of using national resources properly</li> <li>• Economic inter-dependence</li> </ul>
2 (c )	<p>a. Teacher can arrange a talk of renowned businessman.</p> <p>b. Giving references of the business strategies followed by small- and large-scale entrepreneurs.</p> <p>c. Discussing the biographies of successful entrepreneurs.</p> <p>d. Giving examples of various articles published in magazines, newspaper on success stories of businessman also the failures and how they overcome it.</p> <p>e. Arranging debate, essay writing competition on skills required for entrepreneurs.</p> <p>f. Giving opportunities to the economics students to show their creativity in solving organizational issues by providing case studies. g.Asking students to read the balance sheets of the organizations and predict the future growth of the same.</p> <p>h.Giving opportunities to students to start their co-operative stores in the school premises.</p> <p>i.Providing career guidance in the field of business both national as well as international by arranging expert counselling sessions.</p>
3a	<p>* Size of the Book: Suitable size, Suitable volume, Suitable price of paper</p> <p>* Printing Layout: Suitable length, Suitable type, Appropriate margin, Aesthetic outlook, Appropriate spacing</p> <p>* Durability: Durable paper, Life of the book</p>

3-b	<ul style="list-style-type: none"> <li>•Magazine can be used for illustrations</li> <li>•Unlike newspaper Magazine are more durable, provide a thoughtful analysis of current cultural, political, economic and social events.</li> <li>•Helps to know the facts of Economics</li> <li>•Keeps abreast with latest happenings in socio economic environment</li> <li>•Basic facts associated with the information in Magazines help in enrichment of Economics knowledge</li> <li>•Reading habit is cultivated in the learner</li> <li>•Quest of knowledge in Economics is enhanced</li> <li>•Specialised Magazines provide articles, news, comments in Economics thus giving vivid information.</li> </ul>
4 (b )	<p>1. Correlation of Economics with Mathematics: There exists a very close relationship between Economics &amp; Math's particularly statistics. Most of the Economic theories are propounded on the basis of statistical data. This statistical data is multiplied, subtracted, added &amp; so forth. All these have a direct relationship with Math's.</p> <p>To formulate Economic theories, Geometry &amp; Algebra are widely used. To draw graphs, sketches &amp; tables the teacher of Economics depends to a great extent on his Mathematical knowledge. Thus there is a close relationship between Economics &amp; Maths.</p> <p>1 Example; to be written by the student</p>
4 (c )	<p>Principles of teaching; 1. Activity 2. Individual differences 3. Learner-centeredness 4. Community-centeredness 5. Flexibility (Any one out of these in detail)</p>
5(a )	<ol style="list-style-type: none"> <li>1.Passive learners</li> <li>2.No individual attention</li> <li>3.Against learning by doing thought</li> <li>4.Uninteresting environment</li> <li>5.Goal is to complete syllabus</li> </ol>
5 (b )	<ol style="list-style-type: none"> <li>1.Providing the situation</li> <li>2.Proposing and choosing the project</li> <li>3.Planning the project</li> <li>4.Execution of the project</li> <li>5.Evaluation of the project</li> <li>6.Recording of the project</li> </ol>

6 (a )	<ol style="list-style-type: none"> <li>1. Keep up-to-date information</li> <li>2. Impartial</li> <li>3. Creative</li> <li>4. Scientific outlook</li> <li>5. Care for students</li> <li>6. Interest in professional development</li> <li>7. Using various methodologies of teaching</li> <li>8. Detail content knowledge</li> <li>9. Teaching through teaching aids</li> <li>10. Integrity</li> <li>11. Presentable &amp; Optimistic</li> <li>12. Balanced temperament and behaviour</li> <li>13. Regularity and discipline</li> <li>14. Life-long learner</li> </ol>
6 (b )	<p>1. Carry out research work  2. Acquiring more formal degrees  3. Attending workshops and conferences.</p>
1b	<p>Relationship between knowledge and knowledge seeker is unbiased and objective  Knowledge is verified by fixed criteria  High degree of consensus between two knowledge seekers  Academic communities in hard-pure disciplines are well organized, their work is quite competitive and publication rates are high  Quantitative data  Concerned with universal phenomena  Nature of knowledge is cumulative  Knowledge growth can be compared to crystal growth (building on what already exists)</p>
1b	<p>Disciplines have a body of accumulated specialist knowledge referring to their object of research, which is specific to them and not generally shared with another discipline;  Disciplines have specific theories and concepts.  Disciplines use specific terminologies or a specific technical language adjusted to their research object.  Disciplines have a particular object of research.  Disciplines have developed specific research methods according to their specific research requirements.  Disciplines must have some institutional manifestation in the form of subjects taught at universities or colleges, respective academic departments and professional associations connected to it.</p>
2c	<p>The teacher can arrange a talk with a renowned businessman.  Give references of business strategies followed by small and large scale entrepreneurs.  Discuss the biography of the famous entrepreneur.  Give examples of various articles published in magazines, newspaper on success stories of businessmen.  Arranging debates, essay writing competitions on skills required for entrepreneurs.</p>

2b	<p>1) To acquire the knowledge of facts, terms, concepts, conventions, trends, principles and generalizations, assumptions, hypotheses, problems, processes etc. in Economics. To develop an understanding and trends, principles and generalizations, assumptions, hypotheses, problems, processes etc. in Economics. To apply the acquired knowledge and its understanding to unfamiliar situations like analyzing the unfamiliar situation or problem, establishing a relationship, suggesting alternative methods for solving the problems, drawing inferences and making generalizations and predicting the outcome of a giving situation. To acquire economic skills essential for the study of Economics like drawing maps, charts, tables, diagrams, graphs, etc. from the given data, translating data from one form of presentation to another, and preparing models. To develop an interest in the subject and problems related to the economic life of people. To develop desirable attitudes necessary for developing a broader outlook.</p>
3a	<p>The selection of the content for the textbook should have relevant to the instructional objectives. Coverage of the prescribed syllabus. Authentic and up-to-date content for the course. Integrated from the preceding to the succeeding class or stage. Linking with practical life situations. The organization of content should be divided into units and selection properly. The subject matter of the textbook should be developed in a psychological manner. Each chapter or unit should begin with an introduction and end with a summary and title of the chapter should be appropriate and motivating. Language should be according to the level of class standard. Sentences used in the textbook should be simple and not ambiguous with correct spelling, correct punctuation, lucid language and grammatically correct language should be used in the textbook. Illustrations used in the textbook for demonstrating the purpose of content should be authentic, proper size suitably captioned. Each chapter should contain assignments at the end and should be for both the gifted and slow learners. 5) The textbook should have a suitable preface and effective introduction, table of contents, bibliography, suitable glossary, and index. On the title page, there should be a suitable title, author's name and publisher's name, place of publication with the year.</p>
3c	<p>It provides first-hand experience and its application to the students. It gives relief from daily classroom teaching when students spend a few hours in an informal atmosphere. It motivates the student to learn Economics and stimulate their interest. Students learn to cooperate amongst themselves and also with the member of the community. It develops the power of critical thinking. It provides a clear idea about the lesson or topic that is being taught. It provides an opportunity for correlation. It develops leadership, self-confidence among the students. Visits are very helpful in integrating classroom instructions, stimulating imagination and providing learning by sensory perception. It also helps in expanding the emotional and intellectual horizon. Visit help in developing a new interest in occupations. Visit helps students in having more intelligent concern for democratic institutions, their functions, and contributions. It develops keen observation on the part of the students as after visits they are required to prepare the report on whatever they have observed. Visits also develop skills like planning, organizing, co-operation, and tolerance. Knowledge is easily assimilated if it the result of purposeful activity.</p>

4c	<p>i. The entire teaching endeavour is for the child. Therefore, it is essential that teaching strategies should cater to the aptitude, interest, and abilities of the student.</p> <p>ii. In the drama of education, the child should be assigned the role of ‘Hero’.</p> <p>iii. Learner-centered education stresses the need for taking care of the child, its growth, and development.</p> <p>iv. It requires an individualization approach so that one must study each child carefully, keep observation over a period of time, study the growth and development in sensory-motor area, intellectual area, emotional area, social area, language area and so on.</p> <p>v. An educational theory or system should emphasize the pupil and individual characteristics as central in conducting instruction instead of focusing on the subject matter, external authority and educational requirements.</p> <p>vi. The curriculum should be constructed according to the pupil’s interest and needs.</p> <p>vii. The child is the agent of his own learning, among all the components of learning; the privileged position is to be given to the learner.</p> <p>viii. The curriculum must be thought of in terms of activities and experiences which appeal most to the child.</p> <p>ix. Learner-centered approach gives freedom to the learner under the creative and sympathetic direction of the teacher.</p>
4b	<p>i. In commerce, we study business, industry, trade, and organization of all these things. Commerce studies all the activities beginning with the production and leading up to the distribution.</p> <p>ii. Many of the topics studied in Economics from the subject matter of the study of commerce as well.</p> <p>iii. The main aim of the study of commerce is to acquaint the students with the trade and commerce of the country.</p> <p>iv. Trade, Banking, Export and Import, Book-keeping etc. form the subject matter of the study of commerce. These things have much to do with the economic life of a society. These factors cannot be studied without studying Economics.</p> <p>v. Economics and commerce cannot be studied separately. Their subject-matters are intertwined.</p> <p>vi. It is possible to run the economy of the country efficiently through the knowledge of commerce.</p> <p>vii. The teacher of Economics should try to teach the subject matter in such a way that he/she may explain to them the bearing of the subject-matter of Economics on Commerce and vice versa.</p>
5a	<p>Gives the benefit of the lecture as well as the questioning method</p> <p>Adapted to the abilities, interest, previous knowledge and needs of the students</p> <p>Include teacher and students</p> <p>Teacher and students both are active</p> <p>Based on a psychological and sociological perspective</p> <p>Intellectual teamwork</p> <p>Improves communication skills</p>

5b	<ul style="list-style-type: none"> <li>● As students get proper freedom to execute the project in accordance with their interest and abilities, because of which they get their psychological needs satisfied to a considerable extent.■ This method is not only subject centred, but due importance is also being provided to the students also. Students are permitted to choose projects on their own, as a result of which they make use of their abilities to the maximum possible extent.■ Through this method, students are provided with various opportunities by which they can satisfy their interests and desires.■ The habit of critical thinking gets developed among the students through this method.■ Not only this but an urge to make use of scientific methods to solve various problems also developed among the students through this method.■ With this method, students get ample chances in which they can develop coordination among their body and mind.■ Through this method, teachers can lead a well-balanced development of the students.■ Through this method, science teaching can be done with considerable success, as science is a practical subject and this method is also scientific and practical in nature.■ The selected project correlates with the real problems of life which students confront in their everyday life. Thus, they find it quite interesting to sort out such problems.■ Not only this, through the information gained, they become able to solve their own life problems independently and effectively.■ This method helps in promoting social interaction and co-operation among the students, as they have to work in a group and have to interact with various persons for gathering information.■ As the student works with the full agreement of the social needs, he gets moulded in accordance with the social needs of the society in which he lives or exists.■ Thus, through this method, a sense of social cooperation and responsibility gets developed among the students, by which they can become responsible citizens in the future.■ As students gain knowledge directly through their own efforts, they acquire permanent information, which is retained by them for a long period of time.</li> </ul>
	<p>Economics instructors tend to privilege theory or practice while neglecting the other. Some teachers drift off into theory-intensive approaches to Economics, exploring the dominant theorists and philosophies and overlooking the economic climates that facilitated such theory.Lack of learner autonomy"Lack of access to the world of Economics concepts and ideas"Lack of Practical Pedagogical MethodEmphasis on Teaching than Learning"Lack of proper infrastructure"Inadequate teaching aids like commerce lab, CTV-Video films"Untrained and ill-equipped teachers"The dearth of Economics Teacher"Lack of appointment of Economics teacher in school"</p>
6c	<p>Reorient oneself with update knowledge and the latest developmentAcquaint and acquire the latest strategies techniques, the methodology of teaching Economics.Develop proper scientific attitude, temper, and interest and learn ways of solving economic problems.Acquire the necessary knowledge, abilities, and skills necessary for the organization of co-curricular activitiesAcquire necessary competency in motivating the students for learningAcquire necessary skills for providing better guidance to students (Emotional, Personal, Vocational)Develop the ability to contribute and participate in the construction and revision work of Economics curriculum, revision of textbook, instructional material and scheme of evaluation</p>

1b	<p>Dependent on soft pure knowledge          Concerned with development of professional knowledge          Aims to yield procedures and protocols.          Eg: Education, Law.</p>
1c	<p>At primary level- EVS (environmental studies) subject is introduced.          At Upper primary level- Social studies will draw its content from History, Geography, Political science and Economics.          At secondary stage focus will be contemporary India with deeper understanding of social and economic challenges.</p>
2b	<p>Knowledge of economics conditions and problems faced by India          Knowledge of principles and theories of economics          Development of Economic consciousness          Knowledge of economic structure of government and society          Training in practical use of money          Development of broad and international outlook          Development of scientific outlook</p>
2c	<p>Arrange a talk of renowned entrepreneur          Discuss biography of famous entrepreneurs          Read success stories of various entrepreneurs          Arranging debate, essay writing competition on skills required for entrepreneurs.          Showing documentaries of inspirational entrepreneurs          Dedicating bulletin board to the famous entrepreneurs of our country          Conducting interviews of some local entrepreneurs</p>
3a	<p>Child- centered          Well illustrated          Full of useful experiences &amp; illustrations          Logical &amp; systematic treatment of topics          Simple and clear language          Suggesting good methods of learning          Constant modification &amp; revision          Free from bias          Accurate          Satisfactory get up</p>
3b	<p>Enhances students interest and broadens perspectives towards global happenings          Newspapers and magazines give updated knowledge          Brings real life situations and is an authentic source of information</p>

4a	<p>Presenting particular examples, leading students to general rule/ law/ principle  Students analysis different examples, see commonalities between them and come to generalization  Eg: Mr. Chheda sells his products in various countries of the world, such other examples to teach international trade.</p>
4b	<p>knowledge acquired more stable&amp; permanent.  leads to economy in knowledge &amp; enables the students to acquire knowledge in a short period of time.  helps to lighten the burden of curriculum.</p>
5a	<p>Develops power of speaking in students.  Develops reasoning power and thinking power of students.  Students make great preparation for discussion as they have to compete with other students in discussion.  Creates great motivation in students to learn the subject.  Develops imagination and power of giving arguments among the students.  Develops team spirit.  Represents a type of pooled knowledge, ideas and feelings of several persons.</p>
5b	<p>Recognition of the problem.  Defining the problem.  Collecting relevant data.  Organising the data.  Formulating tentative solution.  Arriving at the correct solution.  Verifying the results.</p>
6c	<p>Participation in seminars, workshops and conferences  Reading literature  Membership of subject organisations  Classroom visitations  Conducting research and guiding research work  Subscribing literature, etc.</p>
6a	<p>Content mastery  Punctual  Good communication skills  Unbiased  Regular</p>
4c	<p>The principle of flexible learning environments acknowledges By offering choice through such environment, student determine . The role of teacher in a flexible learning environment is to be a learning facilitator.</p>

5b	1. This approach is most effective in developing skill in employing the scientific and systematic process of solving a problem. 2. The student's active involvement resulting in meaningful experiences. 3. Problem-solving develops higher level thinking skills. 4. A keen sense of responsibility, originality and resourcefulness are developed.
6c	<ul style="list-style-type: none"> <li>• Reorient oneself with update knowledge and latest development.</li> <li>• Acquaint and acquire latest strategies techniques, methodology of teaching economics.</li> <li>• Develop proper scientific attitude ,temper and interest and learn ways of solving economic problems.</li> <li>• Acquire necessary knowledge ,abilities and skills necessary for organization of co-curricular activities.</li> </ul>

<b>Allow Image Upload In Exam</b>
No
No
No

No

No
No

**Question**

State the features of diagnostic assessment.

Explain the nature of Assessment

What are the features of formative assessments?

State the function of Assessment

Describe the role of teacher in the process of Assessment of learning.

Explain any three fundamental elements of learner centered assessment.

List three ways in which Assessment for Learning helps teachers.

Mention any three features of Summative Assessment.

Difference between summative assessment and formative assessment

Why is internal assessment considered as an important part of teaching-learning process?

State the criteria of writing statements of objectives

Explain the taxonomy of Affective domain given by Krathwohl.

Differentiate between aims and objectives (any three points)

Explain the level of Psychomotor domain of learning as suggested by Dr. R.H.Dave.

Illustrate the criteria for writing statements of specifications

Explain the levels of Cognitive domain of learning(revised Bloom's taxonomy)

State three characteristics of Learning outcomes.

“Continuous and Comprehensive Assessment plays a significant role in overall development of students.” Justify.

State the implications of Profiteering by private agencies on Assessment

Describe the salient points of the No detention policy (RTE Act,2009)

Why was it necessary to implement 'No Detention Policy (RTE Act, 2009)' ?

Write any three Objectives of Continuous and Comprehensive Assessment.

“Competitive ranking of schools helps in quality improvement of education”. Justify with reference to its implications.

State the significance of Internal Assessment.

State the implications of Competitive Ranking of Schools on Assessment.

Elaborate any three merits of written tests.

Explain any three characteristics of a good measuring tool.

Elucidate purpose of rubrics as a tool of assessment.

Explain any three merits of "Online examination".

Enumerate the steps involved in the construction of rubrics

Write any three uses of Checklist as a tool of assessment.

What are the advantages of Essay Type Tests?

What are the limitations of Online examination

Recommend three ways to overcome the lack of Objectivity of Essay type questions.

Explain th significance of maintaining Student Portfolios

Differentiate between Criterion and Norm Referenced Test

State any 3 ways by which Learner Profiles promote competency-based learning.

List any three advantages of Norm Referenced Tests

What are the characteristics of Criterion Reference Test

State the uses of Reflective Journal.

Explain the purpose of self -assessment.

Explain the uses of Cumulative Record Card

Differentiate between Teacher Assessment and Self-Assessment. (Any 3 points).

Enumerate three guidelines for writing a Reflective Journal

State any three ways for providing Constructive Feedback

In history text Suresh's PR=68 and Seema's PR=86, Interpret and Compare their performance.

Explain any three different modes of Reporting.

Suresh's PR in Maths Test is 71 and Suresh's PR in science test is 61.  
Interpret and compare their performance.

Elucidate the criteria for providing Constructive Feedback.

State any three guidelines for Constructive Feedback.

What is the purpose of constructive feedback ?

What do you mean by Reporting ?

Calculate the mean of the given distribution using Assumed mean method

CI	f
45-49	2
40-44	4
35-39	6
30-34	7
25-29	8
20-24	6
15-19	4
10-14	3
	N=40

Find the median in the given distribution :

<b>CLASS INTERVAL</b>	<b>FREQUENCY (f)</b>
<b>45-49</b>	<b>2</b>
<b>40-44</b>	<b>3</b>
<b>35-39</b>	<b>2</b>
<b>30-35</b>	<b>6</b>
<b>25-29</b>	<b>8</b>
<b>20-24</b>	<b>8</b>
<b>15-19</b>	<b>7</b>
<b>10-14</b>	<b>5</b>
<b>5-9</b>	<b>9</b>
	<b>N=50</b>

<b>Difficulty Level</b>	<b>Marks</b>	<b>Image File Path</b>	<b>Topic</b>
2	3		1
2	3		1
1	3		1
1	3		1
3	3		1

2	3		1
2	3		1
2	3		1
2	3		1
3	3		2
1	3		2
3	3		2

2	3		2
3	3		2
1	3		2
3			2

2	3		2
3	3		3
2	3		3
1	3		3
2	3		3
1	3		3

3	3		3
2	3		3

3	3		3
2	3		4
3	3		4
1	3		4
1	3		4
3	3		4
2	3		4

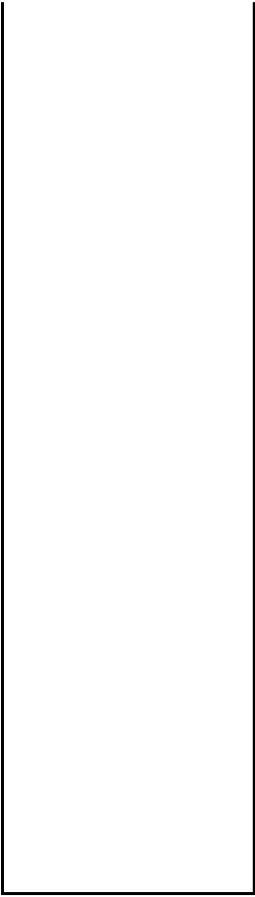
1	3		4
1	3		4
2	3		4
2	3		5
3	3		5
3	3		5
2	3		5

2	3		5
1	3		5
1	3		5

1	3		5
2	3		5
2	3		5
2	3		6
2	3		6
2	3		6

2	3		6
2	3		6
1	3		6
2	3		6

1	3		6
3	3		6
	3		
3			6



## Model Answer

It assesses what the learner already knows and/or the nature of difficulties that the learner might have, which, if undiagnosed, might limit their engagement in new learning, It is often used before teaching or when a problem arises, Observational techniques or specially prepared diagnostic techniques can be used to diagnose problems, Feedback as diagnostic information is of great importance to students, The diagnostic feedback can help students in understanding what learning objectives have not been achieved and need additional work, Such types of feedback enable students to set specific learning goals and improve learner

Assessment is embedded in the learning process. It is tightly interconnected with curriculum and instruction. Classroom assessment involves students and teachers in continuous monitoring of students' learning. It gives students a measure of their progress as learners. It provides opportunity for close observation of students in the process of learning. It helps in collection of frequent feedback on students' learning and how they respond to particular teaching approaches. Assessment has profound impact on the self-

assessment used to monitor students' learning progress during instruction with the purpose of providing on-going feedback to students and teachers regarding success and failure of teaching and learning. an integral part of teaching and learning. It does not contribute to the final mark given for the module; instead it contributes to learning through providing feedback. Design is quite flexible Aims at attainment of specific objectives from different domains of development Feedback to the learner is immediate (or nearly so), to enable the learner to change his/her behaviour and understandings right away enables the teacher to

- 1) Monitoring the progress of learner
- 2) Decision making: Helps in making Decisions and decide what has to be done for improvement.
- 3) The teacher has to assess the probable incidence of the problem.
- 4) Diagnostic process
- 5) Placement of students in remedial courses
- 6) Instructional planning
- 7) Evaluation of instructional programme
- 8) Feedback

Where assessment informs students, teachers and parents, as well as the broader educational community, of achievement at a certain point in time in order to celebrate success, plan interventions and support continued progress. Teachers have the responsibility of reporting student learning accurately and fairly, based on evidence obtained from a variety of contexts and applications. Effective assessment of learning requires that teachers provide: • A

The fundamental elements of learner centred assessment are

- a) Formulate statements of intended learning outcomes.
- b) Develop or select assessment measures
- c) Create experiences leading to outcomes
- d) Discuss and use assessment results to improve learning.

- plan and modify teaching and learning programmes for individual students, groups of students, and the class as a whole
- pinpoint students' strengths so that both teachers and students can build on them
- identify students' learning needs in a clear and constructive way so they can be addressed
- involve parents and families in their children's learning.

The features of Summative Assessment are as follows:

- It is concerned with judgments about the merits of an already completed programme.
- It comes at the end of a course or term.
- It involves terminal assessment of the learners' performance.
- It determines the extent to which broad objectives are achieved.
- It provides feedback to the classroom teacher for the success or failure of the programme of instruction.

Formative assessment: 1. Formative evaluation is used during the teaching learning process to monitor the learning process. 2. Formative evaluation is developmental in nature. The aim of this evaluation is to improve student's learning and teacher's teaching 3. Generally teacher made tests are used for this purpose. 4. The test items are prepared for limited content area. Summative assessment: 1. Summative evaluation is used after the course completion to assign the grades. 2. Summative evaluation is terminal in nature. Its purpose

It aids teachers, students, and parents in evaluating student progress continually. Helps in diagnostic & remedial teaching. It can use number of ways of assessing learning which are not measurable by the external exam. Unit tests, by way of internal assessment provide a basis for feedback. Helps in testing the objectives of affective domains. Helps in improvement of teaching learning process. Inculcates regular study habits in students.

The statement of specification should:-

1. Contain Non-Action Verb
2. Contain Two parts : Modification and Content Part
3. Indicate a worthwhile specification
4. Be in the form of students' achievement & not teacher's intention
5. Contain only one behaviour to be developed or achieved
6. Be written in the form of achievement of every single student not in group of students.

1. Receiving 2. Responding 3. Valuing 4. organizing 5. characterizing

Aims : aims are abstract in nature 2. aims are long term outcomes 3. Aims is the ultimate goal Objectives : objectives are concrete 2. objectives are short term outcomes 3. Objective

□ Imitation: Imitation of an action or performance, which are not observable. Initially crude and lacks coordination.

□ Manipulation of an act Learner performs the act with instructions rather than just observation. This includes differentiating among various movements; selecting the proper one and moving towards fixation. Actions require repetition for fixation.

□ Precision in reproducing a given act This includes refinement, accuracy, proportion and exactness in performance. Learner can perform without instruction and can control the speed.

The statement of specification should:-

1. Contain Action Verb
2. Contain Two parts : Modification and Content Part
3. Indicate a worthwhile specification
4. Be in the form of students' achievement & not teacher's intention
5. Contain only one behaviour to be developed or achieved
6. Be written in the form of achievement of every single student not in group of students.

- Remembering – Retrieving, recognizing, and recalling relevant knowledge from long-term memory
- Understanding – Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining
- Applying – Using information in new ways; carrying out or using a procedure or process through executing or implementing
- Analyzing – Breaking material into constituent parts; determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing
- Evaluating – Making judgments based on criteria and standards through checking and critiquing; defending concepts and ideas

- Are very specific, and use active language – that make expectations clear
- Should be flexible: instructors should feel comfortable adding, removing, or adjusting learning outcomes over the length of a course if initial outcomes prove to be inadequate.
- Are focused on the learner: good learning outcomes describe knowledge or skills that the student will employ, and help the learner understand why that knowledge and those skills are useful and valuable to their personal, professional, and academic future.
- Are realistic, not aspirational: all students should be able to demonstrate the knowledge or skill described by the learning outcome at the conclusion of the course.
- Focus on the application and integration of acquired knowledge and skills: good learning outcomes reflect and indicate the ways in which the described knowledge and skills may be used by the learner now and in the future.
- Indicate useful modes of assessment and the specific elements that will be assessed: good learning outcomes prepare students for assessment and help them feel engaged in and

• CCE is a curricular initiative, attempting to shift emphasis from memorizing to holistic learning.

- It helps to develop cognitive, psychomotor and affective skills.
- It aims at creating citizens possessing sound values, appropriate skills and desirable qualities besides academic excellence.
- It equips the learners to meet the challenges of life with confidence and success.
- It makes evaluation an integral part of teaching-learning process.
- It helps to use evaluation for improvement of students' achievement and teaching - learning strategies on the basis of regular diagnosis followed by remedial measures.
- It makes evaluation a quality control device to raise standards of performance.
- To help to determine social utility, desirability or effectiveness of a program and take appropriate decisions about the learner, the process of learning and the learning

- Assessment is done to ensure that the students end up scoring well.
- Malpractices in the process of assessment.
- Assessment is restricted only to scoring marks irrespective of the teaching or learning.
- Outcome of assessment is only judged in terms of scores not in terms of learning levels of

recognize NDP as a measure of last recourse. -Students analyze and assess their progress. enforce mechanisms for taking into consideration parental and student views in detention decisions . provide failing students yearlong opportunities to retake exams. provide additional resources to cover the syllabus in the second year . ensure reasonable

1. recognize NDP as a measure of last recourse 2. provide continuous year-long catch-up opportunities to students at risk of repetition 3. put in place a consistent definition of what constitutes failure leading to detention (e.g. all or some subjects and by how much) 4. enforce mechanisms for taking into consideration parental and student views in detention

1.Help develop cognitive, Psychomotor and affective skills. 2 To make evaluation an integral part of teaching-learning process. 3 To use evaluation for improvement of students achievement through diagnosis and remediation. 4 To make sound judgement and take timely decisions for learner's growth, learning process, learning pace and learning

- Purposeful failing of students at standard IXth level.
- Encouraging these students to appear through private X th
- Encouraging students to take up private tuitions and extra coaching
- Assessment is only scoring of marks
- Assessment of affective and psychomotor domain is completely neglected.
- Pressure on students, parents and school to show the performance.
- True spirit of assessment is lost.
- Assessment – involves check on memorization rather than understanding and application
- Competition within Boards for better performance, hence new policy such as ‘best of five’.
- Assessment does not help the pupil form a realistic image of his/her learning and development.
- Such half-baked policy related to assessment does not provide correct picture to the students and parents who are not able to cope up with further higher studies

The significance of Internal Assessment is as follows:

- Good study habits are developed.
- Minimizes anxiety and nervous breakdown.
- Gives a comprehensive picture (quantitative + qualitative) of pupils’ progress.
- Helps in diagnosing strengths and weaknesses.
- Based on the principle – ‘The teacher who teaches should assess’
- Helps in planning and decision making.
- Long ranged objectives can be tested.
- Gives feedback to teachers so that they can improve their teaching.
- Provides data for students’ level of understanding.
- Motivates students to study hard for external exam seeing the internal marks.
- Helps students in continuous learning.

- PURPOSEFUL failing of students at standard IXth level.
- Encouraging these students to appear through private Xth
- Encouraging students to take up private tuitions and extra coaching
- Assessment is only scoring of marks
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- Pressure on students, parents and school to SHOW the performance.
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- Assessment – involves check on memorization rather than understanding and application
- Competition within Boards for better performance, hence new policy such as ‘best of five’.
- Such half-baked policy related to assessment does not provide correct picture to the students and parents who are not able to cope up with further higher studies.
- Assessment does not help the pupil form a realistic image of his/her learning and development

Easy to prepare and administer, assess examinee's ability to organize in a logical way, helps to develop critical thinking, reasoning, systematic presentation, develop good study habits,

Planning, Validity, Reliability, Usability- Scorability and Administrability, Objectivity of scoring and test items.

1. To inform the students before they begin an assignment to ensure that learning expectations have been clearly communicated. 2. To define academic expectations for students and help to ensure consistency in the evaluation of academic work from student to student, assignment to assignment, or course to course. 3 Helps them to frame policies to achieve the goals of education outlined by their organization 4 It provides an opportunity

User-friendly system: Responsive design: Offering several types of questions: Auto exam publish: Automatically checked answers: Reports and performance analysis: It saves you

The three guidelines for developing an Evaluation Rubric are:

- Identifying Performance Criteria- Identify the criteria that define the performance task or expected learning outcome.
- Setting Performance Levels - To decide how many levels of performance are appropriate for the assessment. Typically, rubrics have from three to six rating levels. Choice of the number of levels depends on the purpose for the assessment.
- Creating Performance Description -To write a description for each cell in the matrix.

The three uses of checklist are:-

- a) It is useful for surveys and research.
- b) The amount of characteristics of traits of subjects can be known.
- c) It is helpful to give the appropriate guideline to the subjects.
- d) It helps to know the development direction of the specific behaviour pattern checklist is used.
- e) It is useful for self evaluation and other's evaluation.

The advantages of Essay type Tests are:-

- 1) Easy to prepare.
- 2) Useful in measuring certain abilities and skills.
- 3) Permit the examinee to write down comprehensively what he knows about something.
- 4) Promotes originality and creative thinking.
- 5) Possibility of guess work can be eliminated.
- 6) Reduces the chance of copying.
- 7) Low printing cost.

Some test takers are resistant to the computerized testing process

Some can read more quickly and more easily on paper than on a glaring computer screen.

Technical problems- software versions, computers hang

Connectivity issues

Hacking

Power failures

Less use of paper but not low power

The Objectivity of test items can be increased by:

- Making essay type test items more unambiguous and giving specific directions.
- Prepare a marking scheme and a scoring key.
- Setting realistic standards.
- Asking two independent examiners to evaluate the test and using the average score of the two as the final score.

gathers authentic information for assessment. -develops in student's a sense of responsibility for his/ her learning. students demonstrate & assess both process and

1. Purpose: 2. CRT - performance evaluated against absolute criteria NRT - evaluated against relative criteria. 3. CRT- tasks are set and performance evaluated against set criteria.

- encourage student ownership
- encourage anytime, anywhere learning
- encourage personalization
- allow for portability across systems
- facilitate demonstration of college and career readiness

- in aptitude testing for making differential prediction
- to get a reliable rank ordering of the pupils with respect to the achievement we are measuring
- to identify the pupils who have mastered the essentials of the course
- to select the best of the applicants for a particular programme

- To determine whether each student has achieved specific skills or concepts.
- To find out how much students know before instruction begins and after it has finished.
- Measures specific skills which make up a designated curriculum.
- These skills are identified by teachers and curriculum experts.
- Each skill is expressed as an instructional objective.
- Each individual is compared with a preset standard for acceptable achievement.
- The performance of other examinees is irrelevant.
- Each skill is tested by at least four items in order to obtain an adequate sample of student performance and to minimize the effect of guessing.

- Used to reflect self ideas and understanding.
- They are used in between activity for in-action learning.
- Once the activity is finished, try to recall what you have memorized.
- You make a note which helps you easily recall what has been taught.
- Give you a more clear idea about the topic.

- To make judgments about the progress of one's own learning is integral to the learning process.
- To build self-evaluation on a natural tendency to check out the progress of one's own learning.
- To recognize the further need of the learner.
- If a student can identify his/her learning progress, this may motivate further learning.
- Self-evaluation encourages reflection on one's own learning. Self-assessment can promote learner responsibility and independence.
- Self-assessment tasks encourage student ownership of the learning.
- Self-assessment tasks shift the focus from something imposed by someone else to a potential partnership.
- Self-assessment emphasizes the formative aspects of assessment.
- Self-assessment encourages a focus on process.
- Self-assessment can accommodate diversity of learner's readiness, experience and backgrounds.
- Self-assessment practices help teacher to shift his focus from the higher education literature to teacher performance which emphasis on student learning.
- Self-assessment help teacher to focus on his responsibility to make judgments is "a

- Knowledge of pupil
- Migration cases
- Selection and promotion
- Location and diagnosis
- Link between teacher and parents
- Preparing certificates:
- Improving methods of teaching.
- Providing educational and vocational guidance
- Useful for new teacher
- Useful for evaluation

) The differences between Teacher Assessment and Self-Assessment are as follows:

- Meaning (Done by teacher v/s self)
- Purpose (Make inferences about student learning v/s deeper understanding of the subject matter and critical reflection)
- Process (undertaken by teacher for making inferences about student's learning v/s

- Situation: What actually happened?
- Affect: What was its impact on you personally?
- Interpretation: What did you learn from the experience?
- Action: What did you decide to do so as to become a better professional

- If you can't think of a constructive purpose for giving feedback, don't give it at all
- Focus on description rather than judgment.
- Focus on observation rather than inference
- Focus on behavior rather than the person
- Be aware of feedback overload

Interpretation: 68% of the students have scored equal or less than Suresh and 86% of the students have scored equal or less than Seema. Or 32% of students scored more than Suresh and 14% of students scored more than Seema. Comparison: This means less number of students have scored above Seema than Suresh therefore, Seema's performance is better

1. Written Reports 2. Parent-teacher Meetings (Student-parent-teacher) 3. Parent Group

Interpretation:

PR of Suresh = 71 means 71% of students have scored below Suresh's score in Mathematics test.

PR OF Suresh = 61 means 61% of students have scored below Suresh's score in Science test.

29 % of students have scored above Suresh's score in Mathematics

39% of students have scored above Suresh's score in Science

Comparison:

This means that lesser number of students have scored above Suresh's score in

---

1. Well timed and expected (quick)

2. Based on first hand data (without any intermediate source and through direct observation)

3. Confidential (to maintain trust and respect)

4. Quantity regulated (reasonable amount of information)

5. Balanced (appreciation for good things and suggestions for improvement)

6. Clear (in terms of goals, criterion etc)

7. Encouraging (for efforts)

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Well timed and expected (as early as possible and agreed between participants for their common goal/s)

Based on first hand data (without any intermediate source and through direct observation)

Confidential (to maintain trust and respect)

Quantity regulated (reasonable amount of information)

Balanced (appreciation for good things and suggestions for improvement)

Clear (in terms of goals, criterion and standards)

Encouraging (for time, effort, positive believes i.e encouragement for whatever is right or good, interaction and dialogues with peer and teacher)

Helpful (for teaching and learning activities i.e. helpful in improving teaching and for achieving common academic goals)

Opportunistic (with opportunities for raising current performance to meet standard performance)

Purposeful (to plan a strategy, to improve results, to clarify standards, etc.)

Relevant and tailored (according to needs and interest of an individual)

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• Improve morale

• Reduce confusion regarding expectations and current performance

• Provide a new perspective and give valuable insight to the person receiving feedback

• Positively impact an individual's behavior

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- Reporting is the process of communicating information about student achievement and progress gained from the assessment process.
- The purpose of reporting is to support learning and teaching by providing feedback to students.
- Students' learning achievements and progress is reported to parents.
- Information about students' achievements is also valuable to a teacher for systematic planning of further learning activities.

CLASS INTERVAL	FREQUENCY (f)	MID POINT (x)	DEVIATION FROM MEAN $d=(X-A)$	d	fd
45-49	2	47	47-27	20	40
40-44	4	42	42-27	15	30
35-39	6	37	37-27	10	60
30-34	7	32	32-27	5	35
25-29	8	27	27-27	0	0
20-24	6	22	22-27	-5	-30
15-19	4	17	17-27	-10	-40
10-14	3	12	12-27	-15	-45
	N=40				50

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Mean= A.M+  $\sum fx'/N *i$  MEAN = 28.25

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**CLASS INTERVAL**

<b>CLASS INTERVAL</b>	<b>EXACT CLASS INTERVAL (C.I)</b>	<b>FREQUENCY (f)</b>	<b>CUMULATIVE FREQUENCY (F)</b>
<b>45-49</b>	44.5-49.5	<b>2</b>	50
<b>40-44</b>	39.5 - 44.5	<b>3</b>	48
<b>35-39</b>	34.5-39.5	<b>2</b>	45
<b>30-35</b>	29.5-34.5	<b>6</b>	43
<b>25-29</b>	24.5-29.5	<b>8</b>	37
<b>20-24</b>	19.5-24.5	<b>8</b>	29
<b>15-19</b>	14.5-19.5	<b>7</b>	21
<b>10-14</b>	9.5-14.5	<b>5</b>	14
<b>5-9</b>	4.5-9.5	<b>9</b>	9
		<b>N=50</b>	

Therefore, **Median** =  $19.5 + \frac{50/2 - 21}{8} \cdot 5$

$$= 19.5 + \frac{25-21}{8} \cdot 5$$

$$= 19.5 + \frac{4}{8} \cdot 5 = 19.5 + \frac{5}{2} = 19.5 + 2.5$$

$$= 22$$

**Allow Image Upload In Exam**

No

No
No
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No

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No

No

No

No

No

No

QUESTION	DIFFICULTY LEVEL	MARKS FOR THE QUESTION	Image File Path	Topic
Why do teachers need knowledge about discipline and subjects?	Difficult	3		1
State the highlights of Bechar-Biglan Typology for classification of academic disciplines.	Average	3		1
Explain the three language Formula.	Average	3		1
What is meant by an academic discipline?	Easy	3		1
Differentiate between pure and applied disciplines.	Average	3		1

State any 3 characteristics of academic disciplines.	Average	3		1
What is meant by Pure Disciplines?	Easy	3		1
What is meant by Soft Disciplines?	Easy	3		1
Enlist the Significance of registers.	Average	3		2
How can the teacher effectively deal with students in a multi lingual classroom?	Average	3		2
Suggest any three ways to incorporate multicultural awareness in a classroom.	Average	3		2
State any three points on the nature of language.	Easy	3		2
What is meant by Frozen	Average	3		2

register?				
What is the importance of English in day to day Life?	Easy	3		2
What is meant by a Formal Register?	Easy	3		2
State the features of Communicative approach.	Average	3		3
Why is recitation important in Poetry Appreciation?	Easy	3		3
Write merits of the communicative approach.	Average	3		3
Explain significance of 'Brainstorming' technique of teaching.	Average	3		3
State the Inducto-Deductive Approach in the teaching of English.		3		3

State the limitations of Brainstorming techniques.	Average	3		3
Write the advantages of Dramatization Technique.	Average	3		3
Sate the demerits of Discussion Technique.	Average	3		3
Mention any three ways of appreciating a poem.	Difficult	3		3
State the merits of Constructivist Approach.	Average	3		3
Give any 3 objectives of teaching English as first language.	Average	3		4
Illustrate the maxim whole to parts.	Average	3		4
State any three Palmer's principles of language teaching.	Average	3		4
How can an English	Average			4

Teacher apply				
Why is English taught as second language?	Difficult	3		4
Why are Maxims of teaching beneficial in Teaching - Learning process?	Difficult	3		4
Illustrate external correlation of English. (Any three)	Average	3		4
Explain the Maxim of teaching Simple to Complex.	Easy	3		4
What is the importance of Correlation?	Average	3		4
State any three avenues for Professional development of teachers	Average	3		5

What is Chomskys Universal Grammar?	Difficult	3		5
Explain the Educational implications of Chomsky's theory of language acquisition device	Difficult	3		5
What are the challenges faced in classroom by an English teacher?	Average	3		5
State the need of Continuous Professional Development.	Average	3		5
Write the Characteristic features of R. K. Narayan's Style of writing	Average	3		5

State the Significance of Library	Average	3		6
Explain techniques of assessing Speaking.	Difficult	3		6
How can E-Portfolios be useful for assessment?	Average	3		6
What are the various types of Learning Resources?	Easy	3		6
How can an English teacher use blogs in the teaching of English Language?	Difficult	3		6
What is a blog?	Average	3		6
Explain the use of ICT in assessment.	Average	3		6
Explain the techniques of assessment for listening skill.	Average	3		6
What is the importance of Blogs for a Language teacher?	Average	3		6

Write the use of Library for a Language Teacher.	Average	3		6
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<b>Model Answer</b>	<b>Allow Image Upload In Exam</b>
Definite focus while teaching a subject, Appreciate other subjects within one's discipline, More meaningful experiences can be arranged, Clarity of concepts, Teachers may need to give vocational and academic advice to students, Creates inter disciplinary bent of mind, Help in research work, Community of practice benefit better contribution to academic bodies and journals, Helps to face real world challenges	no
Anthony Biglan - similarities and differences between several academic fields- concentrated on the cognitive dimension of disciplines, Pure vs applied, Hard vs soft ( or paradigmatic vs non paradigmatic disciplines) Concerned with life systems vs those not concerned with life systems. From this emerged the Biglan-Becher typology of academic disciplines. 1. Hard and Pure disciplines, Hard and Applied discipline, Soft and Pure disciplines, Soft and Applied disciplines	no
First language- the mother tongue or the regional language. Second language – In Hindi speaking States- modern Indian language or English, and – In non-Hindi speaking states- Hindi or English . Third language – In Hindi speaking States- English or a modern Indian language not studied as the second language, and – In non-Hindi speaking States,-English or a modern Indian language not studied as the second language.	no
An academic discipline is a branch of knowledge that is taught and researched as part of higher education.	no
According to Zongyi Deng “an academic discipline is a field or branch of learning affiliated with an academic department within a university, formulated for the advancement of research and scholarship and the professional training of researchers, academics, and specialists.	no
An academic discipline is defined by its expertise, people, projects, communities, challenges, studies, inquiry and research areas. Examples of disciplines are physics, mathematics, social sciences, humanities, engineering etc.	no
<b>Pure Disciplines</b>	no
Concentrate on fundamental research	no
systematic observation of phenomena solely for the purpose of discovering unknown facts which may develop into theories	no
Result in new knowledge	no
Eg. Pure Mathematics, pure chemistry	no
<b>Applied Disciplines</b>	no
relate existing knowledge to real world situations	no

Application of theory to real life	no
Aims at problem solving	no
Eg Education, applied psychology, Engineering	no
1.Body of specialized knowledge 2. Has theories and concepts. 3.Specific terminology 4. Specific object of research. 5 Definite methodology of research. 6. Institutional manifestation in form of subjects taught , professional organizations	no
1. Concentrate on fundamental research 2. systematic observation of phenomena solely for the purpose of discovering unknown facts which may develop into theories,3. Result in new knowledge, Eg Pure Mathematics, pure chemistry	no
1. Rely on qualitative data 2.Generally do not use experimental methods and hence do not make predictions 3. concern for general education development, character development, critical thinking and ‘scholarly’ activities (such as the reading of research articles). 4.Eg: History, Sociology, Law, Language	no
helps in better and effective communication, students score better with use of formal language, technical registers useful at the job, avoids coming across as offensive and ignorant while communicating, etiquette and make our social behavior acceptable and desirable.	no
positive attitude, remedial classes, ICT, audios, videos, creative methods, various activities that exploit the multiple intelligences of the students, awareness of the mother tongues of the students.	no
Attitude – positive : Keeping the learner in the centre and her needs : Teaching methods- creative, many to suit the learners : Teaching materials-interesting : Know the languages of the students : Using code switching and code mixing in the class.	no
1. Learnt 2. System 3.System of Symbols 4. Symbols- Vocal 5.Symbols-arbitrary 6. Unique 7. Communication 8. Culture 9. Ever changing	no
‘Register’ to refer to particular varieties or styles of speaking and writing a language. Registers	no
Frozen Register: This is where the use of language is fixed and relatively static. Also referred to as static register.	no

Printed unchanging language, such as Biblical quotations, the national pledge, anthem, biblical verse, and The Lords Prayer, Preamble to Constitution are examples of a frozen register.	no
1. Link Language 2. Educational Importance 3.Role in Trade, Industry and Commerce 4. International Status 5. Cultural Values 6. Window to the world 7.English at the Administrative Level 8. Employability 9. Language for Library	no
1. One-way participation; no interruption; 2. Technical vocabulary or exact definitions are important; 3. Follows a commonly accepted format – complete sentences, more complex syntax and specific word usage. 4. Often used to show respect 5. Examples	no
1) Meaning is paramount, 2) dialogues centre around communicative functions, 3)Language learning is learning to communicate, 4)Effective communication is sought. 5) Drilling may occur but peripherally, 6) Comprehensible pronunciation is sought, 7)Attempts to communicate- encouraged from beginning, 7) Translation used when students need, 8) Communicative competence is the desired goal. etc	no
poetry is sound,to appreciate the rhythm and musical devices,to concentate only on sound,to imagine the word pictures	no
1.It is an interactive process. 2 It is concerned with the functional utility of the language. 3 It develops skills of listening, speaking, reading & writing. 4 It emphasizes on the semantic objective of the language. 5 It provides opportunities to the students to communicate their ideas through discussion, dialogue delivery, debate & cultural activities. 6 It does not lay stress on grammar & structure of the language. 7 It provides diagnosis & remedial teaching to the weak students. 8 A teacher's main role is a facilitator and monitor rather than leading the class.	no
It is an intellectual activity : Maximum or all students can participate : An idea is neither right nor wrong : It involves divergent thinking	no
Examples to generalisation and again examples for verification	no
Example	no
Helps in learning new concepts and ensures has taken place	no

All the members of the group may not be interested equally in the solution of the problem. 2. Technique is difficult for introverts, 3 Limitation of time is not conducive to great ideas, 4) Time consuming, 5) Utopian ideas, 6) Intolerance of peers to each others ideas, 7) Expert facilitator required	no
1. Stimulates authentic conversation 2. Drama is a fluency activity 3. Suitable for consolidation of events 4. Creates sensitivity and sense of awareness 5. Increases motivation 6. A break from routine 7. Prepares students for real life and unpredictability 8. Makes students more resourceful	no
1. Time consuming 2. Easily dominated by the outspoken pupils 3. Some pupils may be disinterested and may lose direction 4. It kills student's time dragging them into mere discussion 5. In discussion some students may remain active not giving shy opportunity to participate equally 6. Shy and dull students do not derive much benefit through it 7. Its proper conduction is possible in higher classes.	no
1) Rhyme Scheme, 2) Language style, 3) Figures of speech, 4) tone of the speaker, 5) Setting of the poem, 6) Title, 7) Purpose of writing, 8) Genre, etc	no
1. Students listen to their peers 2. Students collaborate with group members 3. Students explore independently 4. Teacher evaluates what students have learned 5. Each person builds their own knowledge 6. Focuses on student-centered learning 7. Teacher guides students in building their own understanding and knowledge 8. Students actively engage in their learning process.	no
to enable to understand the spoken language, to be able to converse in the language in an intelligible manner, to be able to read texts and poems and extract meaning, to write letters, essays using idiomatic language	no
1) Whole is more meaningful to the child than part learning. 2) It makes more sense to the learner. 3) Eg: while teaching prose, teacher reads the entire content and then deals with its parts. first read the whole lesson/poem and then read it para/stanza wise to appreciate and analyse	no
Palmer (1922) identified those teaching principles as "initial preparation, habit-forming, accuracy, gradation, proportion, concreteness, interest, order of progression, and multiple line approach."	no
Sense of progress	no
Games	no

Variety	no
Economic Reason: Jobs, economic facilities and central services.	no
Contact Language: English is contact language in our country.	no
Social Status: English language becomes sign of social status in our country, if a person can afford to send their children in English medium institution, he feel happy and satisfy."	no
Educational Opportunities: Competitive examination IAS, PCS and other entrance examinations are organized through English medium tests. Higher and technical literature are available in English language.	no
1) Maxims make concepts easy to comprehend, 2) Helpful in obtaining active involvement and participation of learners, 3) They provide guideline for teaching, 4) Quicken the interest of learners and motivate them to learn, 5) Make students attentive to teaching	no
Illustrate with examples LANGUAGE AND GEOGRAPHY-write a poem on changing season 2) LANGUAGE AND SCIENCE-story of a great scientist..3) LANGUAGE AND HISTORY-essay on historical events. 4) LANGUAGE AND MATHS-life history of mathematicians.	no
1. Simple task or topic should be taught first and then the complex 2. Simple and complex from the point of view of the child. 3. Example	no
1. Makes knowledge more stable and permanent 2.Enables students to acquire knowledge in short period of time 3. to generate and develop interest in students 4.Helps to generate and develop interest in students 5.Makes knowledge broad-based (possible for students to utilize knowledge easily) 6.Strikes relationships (how one thing affects other)	no
Courses/ workshops,Educational conferences/seminars, Visits, Research, Action Research, Publishing articles in news papers/ magazines, Internet research, Peer Coaching, In-service training Taking up refresher courses to learn new techniques of teaching,evaluationg,carrying out research,reading and keeping abreast with latest trends,mambership in Subject associations,observing colleagues	no

<p>We have innate, genetically determined language faculty that knows the rules common to all languages making it easier and faster for children to learn to speak-human babies are born with the core linguistic sense common to all language, any specific language from the environment can be picked up- According to Chomsky, the language faculty is part of our biological endowment,geneticall determined--although grammars differ from one another, their basic forms – deep structures – are universal-there is evidence to support his theory.</p>	<p>no</p>
<p>Teacher as a facilitator. 2)Teacher needs to create an interest in the child to acquire the language. 3)the teacher’s role in the transmission of learning is to keep the children engaged in the learning process and interested in exploration and independence. 4) As per Chomsky, language development starts at the birth in a child hence it is the duty of the teacher to give enough exposure to the child in his early days of learning 5) The focus of the teacher should be on the students learning rather than the teachers teaching. 6) Intellectual development is impossible without language</p>	<p>no</p>
<p>1. Over Dependence in teacher 2.Students are bored or inattentive or unmotivated 3.Introvert learners 4.Lack of participation or hesitation 5.The use of Mother Tongue 6.Fear of Feedback 7. Lack of clear cut Aims 8.Over-crowded classes 9. Lack of competent teachers 10.Faulty methods of teaching 11. Inadequate teaching aids 12. Faulty examination System 13. Lack of motivation 14.Difference in English</p>	<p>no</p>
<p>1.To play ones role as a teacher effectively 2.To gain competence and confidence 3.To be in touch with latest trends. 4.To profit from experience of other professionals 5.To grow in knowledge continuously 6. To be able to generate new knowledge and ideas 7.To update skills, attitudes etc 8.To exchange information and expertise with other teachers 9.To help weaker teachers become more effective 10.To update knowledge</p>	<p>no</p>
<p>The imaginative superiority of R. K. Narayan is unique. 2) Easy and short way of telling story. 3) understanding of psychological behaviour of people, 4)practical approach towards the art of depiction. 5) smooth plot making and use of stylist writing make him the novelist of unique and intellect. 6) R. K. Narayan’s novels give imaginative happiness to his readers. 7) natural element of humor 8) focused on common people 9) wrote about the workings of Indian society</p>	<p>no</p>

reading of literature,Gk books,improves skill and speed of reading,vocabulary,idiomatic language,writing,researching aability,love for good literature	no
speaking on a topic extempore,Presentation on a topic ,a self-prepared report,Expressing opinion on some current event/issue,Describing a picture Narrating a story, dialogue,Role play,Group Discussion,Debate, Dramatization	no
assessing students work and development as presented in their portfolios	no
Concrete Resources like Models, specimen, ppt, mobile phones : Mass Media : Library : ICT based (e-resources) : Internet : Blogs : e-books : Social networking	no
Post current events/articles to invite student's thoughts, reactions and possible solutions.	no
To create a literature circle.	no
Post photos and ask students to create captions.	no
Foster book discussions in the form of an online book club.	no
Encourage student writing to demonstrate learning.	no
Direct students to curriculum websites and have them read and make responses.	no
Communicate with another classroom.	no
1.A continually updated log 2. Grows over time 3.Archives information	no
E-Portfolios, Rubrics, Assignments, Online testes, Projects	no
after listening,making a flow chart,filling information in a table,answering questions,drawing a diagram,making a concept map,giving a suitable title to a story.	no
1. Blogs could be used for developing the writing skills of a learner 2 It can be used for remedial teaching 3.Could be used to develop reading comprehension of students 4. It helps in self evaluation of students 5. It helps in self evaluation of students 6. It promotes peer feedback within the group	no

• Listening and Speaking: Dictionary and encyclopaedia can be used to hone the language skills. Teacher can use resources for preparation of her lessons, Give students tasks where library resources can be used to develop the listening and speaking skills, Reading : teacher can develop silent reading in her and among her students by reading various resources from the library, Writing Skill: She could ask students to produce various literary works like essays, letters, dramas, dialogues, speeches etc by givng assignments to read from journals, magazines, newspapers etc.

no

QUESTION TEXT	DIFFICULTY LEVEL	MARKS
Enumerate any three characteristics of Hard-Pure Disciplines.	Average	3
State the meaning of Academic Disciplines.	Average	3
What is the place of Social Science in Curriculum in the Indian context of Education?	Average	3
State any three characteristics of academic disciplines.	Average	3
Describe soft discipline with examples.	Average	3
Describe Hard discipline with examples.	Average	3

Explain any three Historical-thinking concept by Peter Sexias and Morton.	Difficult	3
Explain any three objectives of teaching History at Secondary level.	Easy	3
Explain any three objectives of teaching Political Science at Secondary level.	Easy	3
State nature of History.	Easy	3
What is the meaning of Historical thinking concept 'Establishing Historical significance'?	Average	3
State any three values of teaching history and political science.	Easy	3
Explain any three advantages of films in teaching History.	Average	3
Elaborate any three way to detect the biases from the History textbook.	Difficult	3
State the advantages of organizing field visit to teach History.	Average	3

State any three advantages of using AV resources for teaching History and Political Science.	Average	3
Describe any three internal characteristics of good history textbook	Easy	3
Describe any three external characteristics of good history textbook	Easy	3
Explain significance of museum (any 3).	Average	3
What are advantages of field trip?	Average	3
What are the advantages of Print Media?	Average	3
Explain the importance of Co-relation in History.	Average	3
Explain maxim Known to unknown .	Easy	3
State correlation of History with Geography.	Average	3

List the steps involved in concept based learning.	Difficult	3
Describe simple to complex maxim of teaching History	Easy	3
State procedure of Generalization based learning.	Difficult	3
Write any three advantages of Generalisation based teaching.	Average	3
State any three merits of the story-telling method.	Average	3
What are steps of Social Inquiry method?	Difficult	3
State three Limitations of story telling method.	Average	3
State the steps involved in think, pair, share technique.	Easy	3
Explain the steps of project based learning.	Difficult	3

Write merits of the Social Inquiry Method.	Average	3
Explain the limitations of Project Based Learning	Average	3
List any three advantages of lecture-cum-discussion method.	Average	3
State the qualities of a History teacher	Easy	3
Explain the technological challenges posed in front of a History teacher .	Average	3
List any three avenues of continuous professional development for history teacher.	Average	3
What is the need of professional growth?	Average	3
List the pedagogical challenges of teaching history.	Average	3

Image File Path	Topic
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## Model Answer

1. Relationship between knowledge and knowledge seeker is unbiased and objective
2. Knowledge is verified by fixed criteria
3. High degree of consensus between two knowledge seekers
4. Academic communities in hard-pure disciplines are well organized, their work is quite competitive and publication rates are high
5. Quantitative data
6. Concerned with universal phenomena
7. Nature of knowledge is cumulative
8. Knowledge growth can be compared to crystal growth (building on what already exists)

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Branch of knowledge taught and researched as part of higher education, Branch of learning or Scholarly instructions, Definition by Arthur Dirk- category of experience, methodologies pursuit of knowledge, Definition by Moti Nissani- self contained domain of human experience with own community of experts

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Social science is a common core subject for all primary, lower secondary and upper secondary education programmes. Learning in the subject shall therefore be made as relevant as possible for pupils by adapting the subject to the different education programmes. At the lower primary school level (i.e., class I-V), social sciences are taught to the learners as the part of environmental studies or environmental sciences curriculum. At the upper primary school level (i.e. class VI-VIII) and secondary school level (i.e. Class IX and X), social sciences are taught to the learners as a core composite instructional area of curriculum, and this area of curriculum is called as 'social studies' or 'social sciences'.

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1. Body of specialized knowledge
2. Has theories & concepts
3. Specific terminology
4. Specific object of research
5. Definite methods of research
6. Institutional manifestation in form of subjects taught., etc.

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~~Soft Disciplines: Soft disciplines are those disciplines that rely on qualitative data. They generally do not use experimental methods and hence cannot make conclusive predictions concerning the future. Examples of soft disciplines are Languages, Law, Anthropology and Education. The soft disciplines as being characterized by greater concern for general education development, character development, critical thinking and 'scholarly' activities.~~

~~Hard disciplines: Disciplines that tend to use quantitative data, tend to be predictive and use experimental methods are classified as a hard disciplines. Eg: Physics, Chemistry, Engineering, Computing are all examples of hard disciplines as they deal with quantitative data. They use experimental methods to build their repository of knowledge. Braxton (1995) represents the hard disciplines as being characterized by greater concern for career~~

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1. Establish Historical significance 2. Use primary source evidence 3. Identify continuity and change 4. Analyze cause and consequence 5. Take historical perspectives 6. Understand the ethical dimension of historical interpretations

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1. To safeguard the comprehensive and unbiased perspective in the teaching of history. 2. To interpret and analyse the past in order to understand the present and to face ably the challenges of the future. 3. To develop students curiosity and analytical reasoning in the subject of history. 4. To develop a contemporary, cultural, social and modern point of view and to build a scientific attitude free from narrow mindedness, regressive prejudices and

1. To introduce to students the importance of political science in human life from a primitive age to Modern Times. 2. To introduce to students Political concepts and political ideologies. 3. To introduce India's political system to students. 4. To introduce students attitudes and values strengthening healthy civics and political life. 5. To develop a sense of responsibility regarding the voting process for or developing Participatory democracy. 6. To

History is as historians see it. The word 'history' is derived from the Greek word 'historia' which means information or an inquiry designed to elicit truth. i) It is a study of the past happenings in the life of a social group, based on objective evidence as far as possible. One should prefer original source, free from subjective interpretation and ensure authenticity. ii) All aspects of the life of a social group are closely interrelated. So the happenings should cover the life of the social group and not just one aspect. For example, political concept dominated in the past. iii) Every happening in the life of a social group need not be remembered. The past is everything that ever happened to anyone anywhere. There is too much history to remember all of it. Significant events include those that resulted in great change over long periods of time for large numbers of people. Significance depends upon one's perspective and purpose. A historical person or event can acquire significance if the historians, can link it to larger trends and stories that reveal something important for us today.

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Disciplinary, Informative, Cultural, Political, Nationalistic, Educational etc. (any 3 value - 1-2 line description of each value)

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1. Learning from films is motivating and enjoyable 2. Film provide authentic and varied language 3. film gives a visual context 4. Variety and flexibility 5. Films are mobile and the moments shown in them are well co-ordinated. Therefore, knowledge can be co-ordinated well. 6. some objects and activities cannot be presented effectively as they can be done by the use of films. 7. Films display activities in real times and attract the attention of students

1) INFLAMMATORY LANGUAGE: The author uses inflammatory language in the most extreme cases, racial epithets, slurs, etc. Inflammatory language can include single words, phrases, names, or various discourse strategies. 2) MAKING CLAIMS TO ELEVATE THE DEMEAN CLASS/ EVENT / PERSONALITY: Sometimes content in the history textbook over glorify a class, event, personality. It exaggerate the role of a particular leader, or event

1) Field trips help students interact with what they are learning. 2) Field trips provide entertainment for students. 3) Field trips take the book learning from the classroom and extend it to life. 4) Leaving the classroom for a field trip places the kids in a different social environment. 5) A school trip gives students the opportunity to experience new venues 6) Field trips expand children's learning through active hands-on experience with the

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Concept clarity, creating interest, student attention & engagement, reduces mistake, etc.

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The textbook is supposed to contain the facts which are carefully sifted and aimed. Some important characteristics are as following (any 3) 1. Diction of the textbook should be according to the age and standard of pupil. 2. Text book should be course and not manuals 3. Textbook should give a cause effect relationship 4. Text book should be well illustrated. 5. Free from bias

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1. Attractive cover page 2. Properly worded title 3. Good binding, 4, Clear print 5. affordable cost

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1. Museum provides students with opportunities and resources not available in the classroom. Though the physical participation of seeing, feeling, touching and overall experiencing the past. 2. Museums plays an important role in the preservation of history. 3. It encourages love for history 4. Museums are full of stories, and it is critical for our children to hear those stories. 5. It offers opportunities for children to compare and

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Develops power of imagination, better learning, Better retention, first hand experience, enjoyable learning

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easily be transported; produced though the use of computers or handwritten; not expensive; most commonly used

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1. It makes the knowledge acquired more stable & permanent. 2. It leads to economy in knowledge & enables the students to acquire knowledge in a short period of time. 3. It helps to lighten the burden of curriculum. 4. It leads to the knowledge of various laws of learning & makes the knowledge convenient.

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This maxim is based on the assumption that the student knows something. We are to increase his knowledge and widen his outlook. We have to interpret all new knowledge' in terms of the old. It is said that old knowledge serves as a hook on which the new one can be hung. Known is trustworthy and unknown cannot be trusted. So while teaching we should

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proceed from known and go towards unknown

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History and geography are inseparable. The relationship between history and geography is especially close because they represent two fundamental dimensions of the same phenomenon. History views human experience from the perspective of time, geography from the perspective of space. These dimensions of time and space are locked in an interactive feedback loop in which one dimension constantly affects the other

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a. Identification of main and sub concepts, b. Concept Clarification, c. Stating different relationships with the content d. Finding the similarities in different similar situations e. Form generalization relating two or more concepts (All the steps)

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1. It is well known maxims of teaching and this is the natural process of mind. 2. It is also psychologically successful method for imparting the knowledge. 3. When simple matter is presented to the learner, they feel confident and interested in learning 4. It motivates further learning and makes learner more receptive to learn complex or difficult aspects

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1. Concept clarification 2. Organization of data in definite order 3. Find relationship between the concepts or sets of data 4. Formulation of generalization 5. Verification of generalization

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In depth understanding; Reflective thinking ability; Decision making ability; Historical inquiry skills; Widening of the perspectives; Self learning ability; Applicability of knowledge; Active learning

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Storytelling method creates immense interest in the classroom. It develops the power of imagination. It promotes the growth of the pupil's creative talents through story-writing, designing, drawing pictures, making models, etc. It inculcates virtues in young students. It helps in understanding and remembering historical facts easily.

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#### 1] ORIENTATION:

Sensitization of students to a problem in social domain.

#### 2] HYPOTHESIS:

It will serve as a guide to the inquiry. The hypothesis is tested by the class in terms of its ~~validity compatibility with previously devised generalizations and experiences and the~~ Extensive use may create passive listener, exaggerations of facts may create misconception & wrong ideas, May not work for higher grade students and adult learners, Not all content of history can be presented by this method, needs expertise of part of teacher. etc. (Any 3 limitations with 1-2 line description - one marks for each limitation)

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about what they know or have learned about the topic.

2. P : (Pair) Each student should be paired with another student or a small group.

3. S : (Share) Students share their thinking with their partner. Teachers expand the "share" into a whole-class discussion.

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1. Providing a situation 2. Choosing and proposing 3. Planning 4. Executing 5. Judging 6. Recording

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1. Develops higher order skills such as analytical thinking, critical thinking, logical thinking
  2. Helps in developing research skills and attitude
  3. Gives information about current affairs
  4. Helps to develop problem solving approach
  5. It develops reasoning power
  6. Makes learning permanent
- 

~~1. Project-based learning may not ensure that students learn all the required material and standards they are expected to learn in a course, subject area, or grade level~~  
~~2. Many teachers will not have the time or specialized training required to use project-based learning effectively~~  
~~3. The projects that students select and design may vary widely in academic rigor and quality~~  
~~4. Project-based learning could open the door to watered-down learning~~

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Creation of democratic environment; Improving the content of learning material; Improving teacher communication skills and student participation; Developing open-minded and respectful students; Assessing students' knowledge during the learning process

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~~1) The history teacher should be academically well equipped. He should be graduate in history and also acquire a good background knowledge of the trends in recent international relationship.~~  
~~2) The teacher should acquire classroom management skills, skill of using teaching aids, skill of communication, skill of interaction etc.~~  
~~3) For being a successful teacher, knowledge of child psychology is essential.~~  
~~4) He has to update his knowledge~~

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1) The computers are not available in all the classroom  
2) There is no technical specialists to assist teachers in schools.  
3) There really are an unbelievably large number of software applications available to the classroom teacher. All require some time to master their use and format of operation.  
4) Resistance to technology comes in many forms

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Workshop and seminar, Refresher courses, Reading literature and relevant books, Professional writing activities, etc., (Any 3 points)

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1. To play ones role as a teacher effectively.  
2. To gain competence and confidence  
3. To be in touch with the latest trends, issues and practices in education  
4. To contribute ones gifts, talents and expertise  
5. To profit from the experience and expertise of other professionals.  
6. To be continuously growing and learning

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1. Rigid Curriculum  
2. Vast Syllabus  
3. Inclusive Education  
4. Poor Methods of Teaching  
5. Students from various backgrounds  
6. Less importance in comparison with other subjects

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<b>Allow Image Upload In Exam</b>
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<b>Question</b>	<b>Difficulty Level</b>	<b>Marks</b>	<b>Image File Path</b>
Explain pure-hard disciplines given by Becher-Biglan.		3	
Discuss the relationship between Economics and Mathematics.			
Describe the importance of Economics?			

<p>Explain the scope of Economics.</p>			
<p>Why the economics teacher organises the visit to a Bank?</p>			
<p>What are the uses of Internet in the teaching of Economics</p>			
<p>Discuss the principle of individual differences.</p>			
<p>How will teacher correlate Economics with History?</p>			

<p>What are the advantages of Project method?</p>			
<p>Describe the limitations of Discussion method.</p>			
<p>Discuss the avenues of professional growth of a teacher.</p>			

What are the challenges faced by the economics teacher?			
Explain the three characteristics of academic discipline.			
What are the objectives of teaching economics at the higher secondary stage?			
What is the role of teacher in inculcating entrepreneurship value?			
What are the characteristics of economics textbook?			
Explain the importance of visit to an industry.			
What is the usefulness of correlation?			
State the merits of lecture method.			
State the demerits of constructivism(5E).			

What are the qualities of an economics teacher?			
What are the challenges faced by an economics teacher?			
State the meaning of Academic Disciplines.			
Why is Economics important?			
How will an economics teacher provide varied entrepreneurship experiences?			
What are the physical characteristics of an economic textbook?			

Explain the uses of magazines in Economics teaching.			
How will a teacher correlate Economics with Mathematics?			
Explain any one principle of teaching Economics.			
What are the demerits of lecture method?			
State the procedure of project method.			

<p>State are the qualities of an Economics teacher.</p>			
<p>Elucidate any three avenues of Continuous Professional Development of an Economics teacher.</p>			
<p>Enumerate the characteristics of Hard-Pure Disciplines.</p>			
<p>Elucidate any three salient features of academic disciplines?</p>			
<p>State the role of teachers in inculcating the value of Entrepreneurship among students while teaching Economics.</p>			

<p>Give any three objectives of teaching Economics at the Higher Secondary level.</p>			
<p>Give any three Internal Academic criteria of a good textbook.</p>			
<p>Visits to places of economic importance helps in achieving objectives of Economics teaching, Give Reasons</p>			

<p>Enumerate the importance of the teaching of Economics with use of Principles of Learner Centeredness.</p>			
<p>Illustrate relationship of Economics with Commerce?</p>			
<p>State any three advantages of the Lecture Method in teaching Economics.</p>			

<p>“Project Method helps the Economics teacher in integrating classroom experiences with real life.” Give reasons.</p>			
<p>What are the challenges faced by an Economics teacher while teaching Economics?</p>			
<p>Give any three needs for the professional growth of an Economics teacher.</p>			

<p>Explain the nature of knowledge in applied- soft discipline.</p>			
<p>What is the place of social science in school curriculum?</p>			
<p>State the objectives of teaching Economics at higher secondary level.</p>			
<p>Explain the role of teacher in inculcating the value of entrepreneurship.</p>			
<p>List any three characteristics of a good Economics textbook.</p>			
<p>What is the importance of print media in teaching of Economics?</p>			

<p>Illustrate the maxim ‘Particular to General’ in teaching of Economics.</p>			
<p>Explain importance of correlation.</p>			
<p>Why discussion method beneficial in teaching Economics?</p>			
<p>Explain the procedure of problem solving method of teaching Economics.</p>			
<p>What are the avenues of professional development for an Economics Teacher?</p>			
<p>What are the qualities of an Economics teacher?</p>			
<p>Discuss the principles of flexibility in Economics teaching.</p>			

What is Problem Solving?			
Why there is a need of continuous professional development for a teacher?			

Topic	Model Answer
1b	<p>Quantitative data Concerned with Universal phenomena</p> <ul style="list-style-type: none"> <li>• Nature of knowledge is cumulative</li> <li>• Knowledge growth can be compared to crystal growth (building on what already exists)</li> <li>• As new knowledge is found, old knowledge gets enhanced</li> <li>• Relationship between knowledge and knowledge seeker is unbiased and objective</li> <li>• Knowledge is verified by fixed criteria</li> <li>• High degree of consensus between two knowledge seekers</li> <li>• Academic communities in hard-pure disciplines are well organized. Eg; Physics, Chemistry</li> </ul>
1a	<ul style="list-style-type: none"> <li>• Economics is concerned with the production, consumption, and transfer of wealth.</li> <li>• Statistics is the practice or science of collecting and analyzing numerical data in large quantities.</li> <li>• Economists make use of statistics on matters such as income, employment, prices and expenditure patterns.</li> <li>• Statistical data and economic theories go together. Statistics test the consistency of economic theory</li> <li>• Factors affecting supply and demand has to follow the scientific steps of Statistics.</li> <li>• Statistics is used in the analysis of the labour market, trade, industry, international trade &amp; for economic planning.</li> </ul>
2a	<ul style="list-style-type: none"> <li>• Helpful in tackling Economic problems</li> <li>• Means of Livelihood</li> <li>• Provides factual information</li> <li>• Helpful to enrich the practical knowledge</li> <li>• Knowledge of other nations</li> <li>• Helps in maintaining the democratic set up</li> <li>• National Consciousness</li> <li>• Knowledge about production, consumption, price</li> <li>• International outlook</li> <li>• Capability of using national resources properly</li> <li>• Economic inter-dependence</li> </ul>

2a	<ul style="list-style-type: none"> <li>•Consumption</li> <li>•Production</li> <li>•Exchange</li> <li>•Distribution</li> <li>•Public finance</li> <li>•Microeconomics</li> <li>•Macroeconomics</li> </ul>
3c	<ul style="list-style-type: none"> <li><input type="checkbox"/> Knowledge of one of the important financial institutions.</li> <li><input type="checkbox"/> Understanding of the departmental coordination at the banking system.</li> <li><input type="checkbox"/> Makes the students aware about a particular type of bank.</li> <li><input type="checkbox"/> Understanding of various primary and secondary functions of Banks.</li> <li><input type="checkbox"/> Promotes an understanding of financial transactions.</li> <li><input type="checkbox"/> Understanding of various job opportunities in banking field.</li> </ul>
3b	<ul style="list-style-type: none"> <li>• Provides extensive learning resources and study materials.</li> <li>• Keeps the learner in touch with latest arrivals in education.</li> <li>• Students get each and every type of guidance and answers</li> <li>• Thirst of knowledge can easily be satisfied</li> <li>• Informative as well as Explorative</li> <li>• Current affairs; Economic</li> <li>• Video conferencing, web conferencing, Google meet, Google classroom connects the learner and taught</li> <li>• Create blogs for studying the subjects</li> </ul>
4c	<ul style="list-style-type: none"> <li>•This principle means the individual differences of the pupils should be considered.</li> <li>•While teaching taking care intelligence, nature, ability, interest, potentialities and needs of each learner.</li> <li>•Each pupil is unique and not at the same level.</li> <li>•In order to develop all the pupils and for equal opportunities, the teacher should impart proper guidance and motivation to the gifted/talented and specially-abled pupils.</li> <li>•The economics teachers should take care that though his/her students have their individual differences, each student should participate in the learning process.</li> </ul>
4b	<ul style="list-style-type: none"> <li>•Economic conditions play vital role in the course of history. History is concerned mainly with the study of man's growth through the ages while economics is concerned with the study of progress of man how he has achieved his position &amp; how much has yet to be achieved.</li> <li>•History also provides us the knowledge about the time of discovery &amp; exposition of various economic theories. It also tells us about the economic development of different countries.</li> <li>•El.g. While teaching Economics about trade, the teacher correlate it with History, by discussing about the trade in India during the British era.</li> </ul>

5b	<ul style="list-style-type: none"> <li><input type="checkbox"/> This is based on various psychological laws and principles.</li> <li><input type="checkbox"/> It develops self-confidence and self-discipline among the students</li> <li><input type="checkbox"/> It provides scope for independent work and individual development.</li> <li><input type="checkbox"/> It promotes habits of critical thinking and encourages the students to adopt problem-solving methods.</li> <li><input type="checkbox"/> This method the children are active participants in the learning task.</li> <li><input type="checkbox"/> Psychological basis: child centered, self-chosen as per interest, law of readiness, work in social environment, learning by doing</li> <li><input type="checkbox"/> Provides integration of physical and mental activities</li> <li><input type="checkbox"/> Democratic way of teaching</li> <li><input type="checkbox"/> Development of social values</li> </ul>
5a	<ul style="list-style-type: none"> <li>• All types of topics cannot be taught by Discussion Method.</li> <li>• This method cannot be used for teaching small children.</li> <li>• The students may not follow the rules of discussion.</li> <li>• Some students may not take part while others may try to dominate</li> <li>• The teacher may not be able to guide and provide true leadership in the discussion.</li> <li>• Go off the track</li> <li>• Sometimes discussion leads to an argument</li> </ul>
	<ul style="list-style-type: none"> <li>o Attending school programmes</li> <li>o Attending seminars and conferences/workshops</li> <li>o Participating in refresher courses and summer institutes</li> <li>o Contribution in paper and journals</li> <li>o Setting up of association</li> <li>o Attending talk of eminent personalities</li> <li>o Visits</li> <li>o Bench marking</li> <li>o Performance appraisal</li> <li>o Membership to professional body</li> <li>o Organising co-curricular activities</li> <li>o Research activities</li> <li>o Teacher exchange programmes</li> </ul>

6b	<ol style="list-style-type: none"> <li>1. Vast scope of the subject</li> <li>2. Time-consuming process to complete the syllabus.</li> <li>3. Limited number of lectures</li> <li>4. Uneven student-teacher ratio</li> <li>5. Lack of interest in students for the subject compare to other subjects.</li> <li>6. Non-availability of Resources</li> <li>7. Additional responsibilities of teaching other subjects apart from teaching economics</li> <li>8. Absenteeism of students</li> <li>9. Pressure of completion of syllabus</li> <li>10. Content in the text-books are usually not up-to-date</li> <li>11. Less opportunities to grow professionally</li> </ol>
1a	<ol style="list-style-type: none"> <li>1. Disciplines have particular objects of research</li> <li>2. They have specific terminologies</li> <li>3. They have theories and concepts</li> </ol>
2b	<ol style="list-style-type: none"> <li>1. To cope up with stress and strain that occur in the process of economic reconstruction</li> <li>2. to help understand various sectors and their linkages</li> <li>3. To acquaint students with economic problems at national and local level</li> </ol>
2b	<ol style="list-style-type: none"> <li>1. Teacher can discuss biographies of various businessmen and their methods to run business</li> <li>2. different activities and varied experiences</li> <li>3. give referances of small and large scale industries</li> </ol>
3a	<ol style="list-style-type: none"> <li>1. relevant comprehensive and adequate content</li> <li>2. continuity and balance</li> <li>3. division into units and sections</li> </ol>
3c	<ol style="list-style-type: none"> <li>1. insight regarding internal working</li> <li>2. exposure to current work practices</li> <li>3. breaks the monotony of classroom</li> </ol>
4b	<ol style="list-style-type: none"> <li>1. Makes knowledge stable</li> <li>2. lighten the burden of curriculum</li> <li>3. helps students acquire knowledge in a short period of time</li> </ol>
5a	<ol style="list-style-type: none"> <li>1. its economical</li> <li>2. useful when class number is large</li> <li>3. useful when books are scarce and resources limited</li> </ol>
5c	<ol style="list-style-type: none"> <li>1. Teachers need to be trained to implement 5E model</li> <li>2. does not consider individual differences and different learning styles</li> <li>3. learners do not always actively construct meaning</li> </ol>

6a	1.teacher should have deep knowledge and understanding about the subject 2. professional ethics 3.good communication skills
6b	1.Inadequate resources 2.lack of learner autonomy 3. Lack of infrastructure like books and library and biasness
1 (a)	Branch of knowledge taught and researched as part of higher education, Branch of learning or Scholarly instructions, Definition by Arthur Dirk- category of experience, methodlogies pursuit of knowledge, Definition by Moti Nissani- self contained domain of human experience with own community of experts
2 (a )	<ul style="list-style-type: none"> <li>• Helpful in tackling Economic problems</li> <li>• Means of Livelihood</li> <li>• Provides factual information</li> <li>• Helpful to enrich the practical knowledge</li> <li>• Knowledge of other nations</li> <li>• Helps in maintaining the democratic set up</li> <li>• National Consciousness</li> <li>• Knowledge about production, consumption, price</li> <li>• International outlook</li> <li>• Capability of using national resources properly</li> <li>• Economic inter-dependence</li> </ul>
2 (c )	<ol style="list-style-type: none"> <li>a. Teacher can arrange a talk of renowned businessman.</li> <li>b. Giving references of the business strategies followed by small- and large-scale entrepreneurs.</li> <li>c. Discussing the biographies of successful entrepreneurs.</li> <li>d. Giving examples of various articles published in magazines, newspaper on success stories of businessman also the failures and how they overcome it.</li> <li>e. Arranging debate, essay writing competition on skills required for entrepreneurs.</li> <li>f. Giving opportunities to the economics students to show their creativity in solving organizational issues by providing case studies. g.Asking students to read the balance sheets of the organizations and predict the future growth of the same.</li> <li>h.Giving opportunities to students to start their co-operative stores in the school premises.</li> <li>i.Providing career guidance in the field of business both national as well as international by arranging expert counselling sessions.</li> </ol>
3a	<ul style="list-style-type: none"> <li>* Size of the Book: Suitable size, Suitable volume, Suitable price of paper</li> <li>* Printing Layout: Suitable length, Suitable type, Appropriate margin, Aesthetic outlook, Appropriate spacing</li> <li>* Durability: Durable paper, Life of the book</li> </ul>

3-b	<ul style="list-style-type: none"> <li>•Magazine can be used for illustrations</li> <li>•Unlike newspaper Magazine are more durable, provide a thoughtful analysis of current cultural, political, economic and social events.</li> <li>•Helps to know the facts of Economics</li> <li>•Keeps abreast with latest happenings in socio economic environment</li> <li>•Basic facts associated with the information in Magazines help in enrichment of Economics knowledge</li> <li>•Reading habit is cultivated in the learner</li> <li>•Quest of knowledge in Economics is enhanced</li> <li>•Specialised Magazines provide articles, news, comments in Economics thus giving vivid information.</li> </ul>
4 (b )	<p>1. Correlation of Economics with Mathematics: There exists a very close relationship between Economics &amp; Math's particularly statistics. Most of the Economic theories are propounded on the basis of statistical data. This statistical data is multiplied, subtracted, added &amp; so forth. All these have a direct relationship with Math's.</p> <p>To formulate Economic theories, Geometry &amp; Algebra are widely used. To draw graphs, sketches &amp; tables the teacher of Economics depends to a great extent on his Mathematical knowledge. Thus there is a close relationship between Economics &amp; Maths.</p> <p>1 Example; to be written by the student</p>
4 (c )	<p>Principles of teaching; 1. Activity 2. Individual differences 3. Learner-centeredness 4. Community-centeredness 5. Flexibility (Any one out of these in detail)</p>
5(a )	<ol style="list-style-type: none"> <li>1.Passive learners</li> <li>2.No individual attention</li> <li>3.Against learning by doing thought</li> <li>4.Uninteresting environment</li> <li>5.Goal is to complete syllabus</li> </ol>
5 (b )	<ol style="list-style-type: none"> <li>1.Providing the situation</li> <li>2.Proposing and choosing the project</li> <li>3.Planning the project</li> <li>4.Execution of the project</li> <li>5.Evaluation of the project</li> <li>6.Recording of the project</li> </ol>

6 (a )	<ol style="list-style-type: none"> <li>1. Keep up-to-date information</li> <li>2. Impartial</li> <li>3. Creative</li> <li>4. Scientific outlook</li> <li>5. Care for students</li> <li>6. Interest in professional development</li> <li>7. Using various methodologies of teaching</li> <li>8. Detail content knowledge</li> <li>9. Teaching through teaching aids</li> <li>10. Integrity</li> <li>11. Presentable &amp; Optimistic</li> <li>12. Balanced temperament and behaviour</li> <li>13. Regularity and discipline</li> <li>14. Life-long learner</li> </ol>
6 (b )	<p>1. Carry out research work  2. Acquiring more formal degrees  3. Attending workshops and conferences.</p>
1b	<p>Relationship between knowledge and knowledge seeker is unbiased and objective  Knowledge is verified by fixed criteria  High degree of consensus between two knowledge seekers  Academic communities in hard-pure disciplines are well organized, their work is quite competitive and publication rates are high  Quantitative data  Concerned with universal phenomena  Nature of knowledge is cumulative  Knowledge growth can be compared to crystal growth (building on what already exists)</p>
1b	<p>Disciplines have a body of accumulated specialist knowledge referring to their object of research, which is specific to them and not generally shared with another discipline;  Disciplines have specific theories and concepts.  Disciplines use specific terminologies or a specific technical language adjusted to their research object.  Disciplines have a particular object of research.  Disciplines have developed specific research methods according to their specific research requirements.  Disciplines must have some institutional manifestation in the form of subjects taught at universities or colleges, respective academic departments and professional associations connected to it.</p>
2c	<p>The teacher can arrange a talk with a renowned businessman.  Give references of business strategies followed by small and large scale entrepreneurs.  Discuss the biography of the famous entrepreneur.  Give examples of various articles published in magazines, newspaper on success stories of businessmen.  Arranging debates, essay writing competitions on skills required for entrepreneurs.</p>

2b	<p>1) To acquire the knowledge of facts, terms, concepts, conventions, trends, principles and generalizations, assumptions, hypotheses, problems, processes etc. in Economics. To develop an understanding and trends, principles and generalizations, assumptions, hypotheses, problems, processes etc. in Economics. To apply the acquired knowledge and its understanding to unfamiliar situations like analyzing the unfamiliar situation or problem, establishing a relationship, suggesting alternative methods for solving the problems, drawing inferences and making generalizations and predicting the outcome of a giving situation. To acquire economic skills essential for the study of Economics like drawing maps, charts, tables, diagrams, graphs, etc. from the given data, translating data from one form of presentation to another, and preparing models. To develop an interest in the subject and problems related to the economic life of people. To develop desirable attitudes necessary for developing a broader outlook.</p>
3a	<p>The selection of the content for the textbook should have relevant to the instructional objectives. Coverage of the prescribed syllabus. Authentic and up-to-date content for the course. Integrated from the preceding to the succeeding class or stage. Linking with practical life situations. The organization of content should be divided into units and selection properly. The subject matter of the textbook should be developed in a psychological manner. Each chapter or unit should begin with an introduction and end with a summary and title of the chapter should be appropriate and motivating. Language should be according to the level of class standard. Sentences used in the textbook should be simple and not ambiguous with correct spelling, correct punctuation, lucid language and grammatically correct language should be used in the textbook. Illustrations used in the textbook for demonstrating the purpose of content should be authentic, proper size suitably captioned. Each chapter should contain assignments at the end and should be for both the gifted and slow learners. 5) The textbook should have a suitable preface and effective introduction, table of contents, bibliography, suitable glossary, and index. On the title page, there should be a suitable title, author's name and publisher's name, place of publication with the year.</p>
3c	<p>It provides first-hand experience and its application to the students. It gives relief from daily classroom teaching when students spend a few hours in an informal atmosphere. It motivates the student to learn Economics and stimulate their interest. Students learn to cooperate amongst themselves and also with the member of the community. It develops the power of critical thinking. It provides a clear idea about the lesson or topic that is being taught. It provides an opportunity for correlation. It develops leadership, self-confidence among the students. Visits are very helpful in integrating classroom instructions, stimulating imagination and providing learning by sensory perception. It also helps in expanding the emotional and intellectual horizon. Visit help in developing a new interest in occupations. Visit helps students in having more intelligent concern for democratic institutions, their functions, and contributions. It develops keen observation on the part of the students as after visits they are required to prepare the report on whatever they have observed. Visits also develop skills like planning, organizing, co-operation, and tolerance. Knowledge is easily assimilated if it the result of purposeful activity.</p>

4c	<p>i. The entire teaching endeavour is for the child. Therefore, it is essential that teaching strategies should cater to the aptitude, interest, and abilities of the student.</p> <p>ii. In the drama of education, the child should be assigned the role of ‘Hero’.</p> <p>iii. Learner-centered education stresses the need for taking care of the child, its growth, and development.</p> <p>iv. It requires an individualization approach so that one must study each child carefully, keep observation over a period of time, study the growth and development in sensory-motor area, intellectual area, emotional area, social area, language area and so on.</p> <p>v. An educational theory or system should emphasize the pupil and individual characteristics as central in conducting instruction instead of focusing on the subject matter, external authority and educational requirements.</p> <p>vi. The curriculum should be constructed according to the pupil’s interest and needs.</p> <p>vii. The child is the agent of his own learning, among all the components of learning; the privileged position is to be given to the learner.</p> <p>viii. The curriculum must be thought of in terms of activities and experiences which appeal most to the child.</p> <p>ix. Learner-centered approach gives freedom to the learner under the creative and sympathetic direction of the teacher.</p>
4b	<p>i. In commerce, we study business, industry, trade, and organization of all these things. Commerce studies all the activities beginning with the production and leading up to the distribution.</p> <p>ii. Many of the topics studied in Economics from the subject matter of the study of commerce as well.</p> <p>iii. The main aim of the study of commerce is to acquaint the students with the trade and commerce of the country.</p> <p>iv. Trade, Banking, Export and Import, Book-keeping etc. form the subject matter of the study of commerce. These things have much to do with the economic life of a society. These factors cannot be studied without studying Economics.</p> <p>v. Economics and commerce cannot be studied separately. Their subject-matters are intertwined.</p> <p>vi. It is possible to run the economy of the country efficiently through the knowledge of commerce.</p> <p>vii. The teacher of Economics should try to teach the subject matter in such a way that he/she may explain to them the bearing of the subject-matter of Economics on Commerce and vice versa.</p>
5a	<p>Gives the benefit of the lecture as well as the questioning method</p> <p>Adapted to the abilities, interest, previous knowledge and needs of the students</p> <p>Include teacher and students</p> <p>Teacher and students both are active</p> <p>Based on a psychological and sociological perspective</p> <p>Intellectual teamwork</p> <p>Improves communication skills</p>

5b	<ul style="list-style-type: none"> <li>● As students get proper freedom to execute the project in accordance with their interest and abilities, because of which they get their psychological needs satisfied to a considerable extent.■ This method is not only subject centred, but due importance is also being provided to the students also. Students are permitted to choose projects on their own, as a result of which they make use of their abilities to the maximum possible extent.■ Through this method, students are provided with various opportunities by which they can satisfy their interests and desires.■ The habit of critical thinking gets developed among the students through this method.■ Not only this but an urge to make use of scientific methods to solve various problems also developed among the students through this method.■ With this method, students get ample chances in which they can develop coordination among their body and mind.■ Through this method, teachers can lead a well-balanced development of the students.■ Through this method, science teaching can be done with considerable success, as science is a practical subject and this method is also scientific and practical in nature.■ The selected project correlates with the real problems of life which students confront in their everyday life. Thus, they find it quite interesting to sort out such problems.■ Not only this, through the information gained, they become able to solve their own life problems independently and effectively.■ This method helps in promoting social interaction and co-operation among the students, as they have to work in a group and have to interact with various persons for gathering information.■ As the student works with the full agreement of the social needs, he gets moulded in accordance with the social needs of the society in which he lives or exists.■ Thus, through this method, a sense of social cooperation and responsibility gets developed among the students, by which they can become responsible citizens in the future.■ As students gain knowledge directly through their own efforts, they acquire permanent information, which is retained by them for a long period of time.</li> </ul>
	<p>Economics instructors tend to privilege theory or practice while neglecting the other. Some teachers drift off into theory-intensive approaches to Economics, exploring the dominant theorists and philosophies and overlooking the economic climates that facilitated such theory.Lack of learner autonomy"Lack of access to the world of Economics concepts and ideas"Lack of Practical Pedagogical MethodEmphasis on Teaching than Learning"Lack of proper infrastructure"Inadequate teaching aids like commerce lab, CTV-Video films"Untrained and ill-equipped teachers"The dearth of Economics Teacher"Lack of appointment of Economics teacher in school"</p>
6c	<p>Reorient oneself with update knowledge and the latest developmentAcquaint and acquire the latest strategies techniques, the methodology of teaching Economics.Develop proper scientific attitude, temper, and interest and learn ways of solving economic problems.Acquire the necessary knowledge, abilities, and skills necessary for the organization of co-curricular activitiesAcquire necessary competency in motivating the students for learningAcquire necessary skills for providing better guidance to students (Emotional, Personal, Vocational)Develop the ability to contribute and participate in the construction and revision work of Economics curriculum, revision of textbook, instructional material and scheme of evaluation</p>

1b	<p>Dependent on soft pure knowledge</p> <p>Concerned with development of professional knowledge</p> <p>Aims to yield procedures and protocols.</p> <p>Eg: Education, Law.</p>
1c	<p>At primary level- EVS (environmental studies) subject is introduced.</p> <p>At Upper primary level- Social studies will draw its content from History, Geography, Political science and Economics.</p> <p>At secondary stage focus will be contemporary India with deeper understanding of social and economic challenges.</p>
2b	<p>Knowledge of economics conditions and problems faced by India</p> <p>Knowledge of principles and theories of economics</p> <p>Development of Economic consciousness</p> <p>Knowledge of economic structure of government and society</p> <p>Training in practical use of money</p> <p>Development of broad and international outlook</p> <p>Development of scientific outlook</p>
2c	<p>Arrange a talk of renowned entrepreneur</p> <p>Discuss biography of famous entrepreneurs</p> <p>Read success stories of various entrepreneurs</p> <p>Arranging debate, essay writing competition on skills required for entrepreneurs.</p> <p>Showing documentaries of inspirational entrepreneurs</p> <p>Dedicating bulletin board to the famous entrepreneurs of our country</p> <p>Conducting interviews of some local entrepreneurs</p>
3a	<p>Child- centered</p> <p>Well illustrated</p> <p>Full of useful experiences &amp; illustrations</p> <p>Logical &amp; systematic treatment of topics</p> <p>Simple and clear language</p> <p>Suggesting good methods of learning</p> <p>Constant modification &amp; revision</p> <p>Free from bias</p> <p>Accurate</p> <p>Satisfactory get up</p>
3b	<p>Enhances students interest and broadens perspectives towards global happenings</p> <p>Newspapers and magazines give updated knowledge</p> <p>Brings real life situations and is an authentic source of information</p>

4a	<p>Presenting particular examples, leading students to general rule/ law/ principle  Students analysis different examples, see commonalities between them and come to generalization  Eg: Mr. Chheda sells his products in various countries of the world, such other examples to teach international trade.</p>
4b	<p>knowledge acquired more stable&amp; permanent.  leads to economy in knowledge &amp; enables the students to acquire knowledge in a short period of time.  helps to lighten the burden of curriculum.</p>
5a	<p>Develops power of speaking in students.  Develops reasoning power and thinking power of students.  Students make great preparation for discussion as they have to compete with other students in discussion.  Creates great motivation in students to learn the subject.  Develops imagination and power of giving arguments among the students.  Develops team spirit.  Represents a type of pooled knowledge, ideas and feelings of several persons.</p>
5b	<p>Recognition of the problem.  Defining the problem.  Collecting relevant data.  Organising the data.  Formulating tentative solution.  Arriving at the correct solution.  Verifying the results.</p>
6c	<p>Participation in seminars, workshops and conferences  Reading literature  Membership of subject organisations  Classroom visitations  Conducting research and guiding research work  Subscribing literature, etc.</p>
6a	<p>Content mastery  Punctual  Good communication skills  Unbiased  Regular</p>
4c	<p>The principle of flexible learning environments acknowledges By offering choice through such environment, student determine . The role of teacher in a flexible learning environment is to be a learning facilitator.</p>

5b	1. This approach is most effective in developing skill in employing the scientific and systematic process of solving a problem. 2. The student's active involvement resulting in meaningful experiences. 3. Problem-solving develops higher level thinking skills. 4. A keen sense of responsibility, originality and resourcefulness are developed.
6c	<ul style="list-style-type: none"> <li>• Reorient oneself with update knowledge and latest development.</li> <li>• Acquaint and acquire latest strategies techniques, methodology of teaching economics.</li> <li>• Develop proper scientific attitude ,temper and interest and learn ways of solving economic problems.</li> <li>• Acquire necessary knowledge ,abilities and skills necessary for organization of co-curricular activities.</li> </ul>

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QUESTION	DIFFICULTY LEVEL	MARKS	Image File
State the meaning of Academic Disciplines.	Average	3	
Why is Natural Sciences considered as an Academic discipline?	Difficult	3	
State the characteristics of soft and applied disciplines as given by Biglan- Becher typology	Average	3	
Write about the four groups of disciplines as given by Biglan-Becher typology.	Easy	3	

State the characteristics of soft and pure disciplines as given by Biglan- Becher typology.	Average	3	
State the characteristics of Hard and pure disciplines as given by Biglan- Becher typology.	Average	3	
What is the place of Science at Secondary School Level, according to NCF -2005?	Easy	3	
What is the meaning of Science?	Easy	3	

State the Basic Process Skills in Science (Any 3)	Easy	3	
What are the Integrated Science Process Skills. ( Any 3)	Difficult	3	
What are the three most important objectives of teaching Science at Secondary school level?	Average	3	
State the Objectives of teaching Science at Upper level. (NCF2005)	Difficult	3	

State the Objectives of teaching science at Upper Primary level?	Average	3	
Illustrate the utilitarian value of Science teaching.	Average	3	
Illustrate the Vocational value of Science teaching.	Average	3	
State any three values of teaching science in socio-cultural context.	Easy	3	

Write any three maxims of teaching Science.	Easy	3	
State any three needs of correlation in teaching of Science subject.	Average	3	
How to Infuse Global Perspectives in the science curriculum?	Difficult	3	
Illustrate internal correlation of science.	Average	3	

Write the merits of Concentric Approach of curriculum organization.	Average	3	
State importance of Infusing Global Perspective in Science Curriculum.	Difficult	3	
State any three demerits of Concentric Approach of curriculum organisation.	Average	3	
Write the merits of Topical Approach of curriculum organization.	Average	3	

Write the limitations of the Lecture-cum-Demonstration Method.	Easy	3	
List the steps of Problem solving method of teaching Science.	Difficult	3	
What are the advantages of Project method?	Average	3	
Explain any three characteristics of a good Lecture-Cum-Demonstration.	Average	3	

What are the merits of Inductive-deductive approach of teaching Science?	Average	3	
What are the steps of PEOR in Concept Mapping.	Average	3	
State any three advantages of PEOR method.	Average	3	
Write Characteristics of good Science textbook.	Easy	3	

State the significance of Science Club.	Average	3	
Enlist any three significance of Science field visit.	Average	3	
Elaborate any three significance of using Improvised apparatus in Science teaching.	Average	3	
How can e-resources like Simulations be helpful to students?	Average	3	

Elucidate the importance of a 'Diagnostic Test'.	Average	3	
State any three avenues for professional growth of a Science teacher.	Average	3	
State the need for professional growth for the science teacher.	Average	3	
State the limitations of Laboratory Method.	Average	3	

Elucidate the merits of Laboratory method in teaching of Science.	Average	3	
How would you maintain Science laboratory as a teacher of Science?	Difficult	3	
What are the stages in the Diagnosis of learning outcomes?	Difficult	3	

<b>Topic</b>
1a
1a
1b
1b

1b

1b

1c

2a

2a

2a

2b

2b

2b

2c

2c

2c

3a

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3c

3c

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4a

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5c

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6 c
6a
6a
6b

6b

6b

6c

## ModelAnswer

Branch of knowledge taught and researched as part of higher education, Branch of learning or Scholarly instructions, category of experience, methodologies pursuit of knowledge, self contained domain of human experience with own community of experts

1. Body of accumulated specialist knowledge 2. Has theories and Concepts 3. Use specific terminologies 4. Has a particular object of research 5. Has developed specific research methods, 6. Has institutional manifestation in form of subjects

Emphasize processes and protocols, functional and utilitarian in nature, concerned with the enhancement of professional practice

Hard and Pure, Hard and Applied, Soft and Pure, Soft and Applied

**1. Stress on understanding and interpretation of phenomena. 2. Knowledge in these disciplines is reiterative which means there may be repetition of knowledge when examined in different situations. 3. These disciplines are concerned with particular happenings rather than general occurrences. Unlike hard sciences, here data is qualitative. 4. The researcher and knowledge share a personal relationship. 5. There can be different views regarding what verification of data. Subjectivity can be high when interpretations are made. There is no definiteness as to what significant questions are to be answered.**

1. Stress on discoveries and explanations 2. It involves general areas of human understanding and are clustered around limited number of problems 3. The nature of knowledge in these disciplines is cumulative and concerned with universal phenomena 4. The result of such knowledge is discovery of something new or expansion of already existing knowledge 5. As new knowledge keeps adding, the older form of knowledge is enhanced. 6. The relationship between the knowledge seeker and knowledge is unbiased and very objective.

Students should be engaged in learning science as a composite discipline, in working with hands and tools to design more advanced technological modules, involve in activities and analyses on issues concerning the environment and health, including reproductive and sexual health, Systematic experimentation as a tool to discover/verify theoretical principles, work on locally significant projects involving science and technology

The word science has its roots in the latin word 'Scientia', meaning knowledge. Science is a systematized body of knowledge. Huxley defines Science as organised common sense. Henry Poincare defines Science as a heap of truth. Gagne defines Science as what Scientists do. Fitz Patrick "Science is a cumulative and endless series of empirical observations, which result in the formation of concepts and theories, with both concepts and theories, with both concepts and theories subject to further empirical observations." In its broadest sense Science refers to the systematic acquisition of knowledge or a prescribed practice that is capable of prediction in a controlled environment.

Observing, Measuring, Comparing, Inferring , Predicting , Classifying, Communicating

Identifying Variables, Experimentation, controlling Variables, Inferences, Generating hypotheses

Stress should be on comprehension and not on mere formal definitions. Include elements of design and technology, and other co-curricular and extra curricular activities. Inculcate the habit of drawing inferences and interpretations. Experimentation involving quantitative measurement. Focus on taking up projects (in consultation with teachers) that bear on local issues and involve the problem-solving approach using science and technology.

True to the child  
True to life and  
True to science

1. To provide a gradual transition from environmental studies of the primary stage to elements of science and technology, 2. To enable the learner to arrive at concepts through activities and experiments.

Majority of activities should be inexpensive so that it can be implemented in all schools,

3. To engage students (in groups) in meaningful investigation of the problems they perceive to be important,

4. To develop ability to collect data from easily available sources, gather information from newspapers, knowledgeable people, organize the information and display it in the classroom, 5. To help students develop self-learning skills with an emphasis on process skills.

Increase the productivity of the crops by hybridization, radioactive isotopes, harness the vast storehouse of the natural resources like wind, solar energy, and water, has to better medicines and has gained control over many diseases, increased the standard of living and has helped to make things easier in our life with the help of modern electronic gadgets like washing machines, computer, better transport facilities to save time and energy, communication etc.

Science forms the basis of many studies which are purely vocational in nature. For example, a student of Science can choose medical, engineering, agriculture or any other profession which he is interested in. Science also provides leisure. The study of Science at school forms the basis of many useful and other productive activities in the later life of the students. It has indirectly improved society by removing many socially vulnerable issues like unemployment, suppression, illiteracy, etc.

Description of any three values of science namely: Intellectual, Utilitarian, Cultural, Moral, Vocational, Aesthetic, Training in Scientific Method, etc. (1+1+1)

Known to unknown  
Whole to part  
Simple to complex  
Empirical to rational  
Concrete to abstract

It makes learning permanent and concrete and knowledge to the learner. It makes the lesson easy and clear for the student. It enhances the mental abilities like problem solving, logical reasoning, imagination, and analytical power of student, because these can easily correlate acquired knowledge with the other subjects. It strengthens the skill, complexity of practical subject and makes mastery over the practical subject. To achieve the all round development of a child. Enhances the application of concepts in day to day life.

Incorporating a range of key concepts as appropriate  
Incorporating a range of perspectives from different countries/communities:  
Including action for change  
Developing sustainable practices

Any three examples of corelation of science such as : Physics to physcs, Chemistry to Chemistry, Biology to biology or Physics to Chemistry, Physics to Biology, Chemistry to Biology with relevant specif examples from the content. (1+1+1)

Based on the maxims 'simple to complex' and 'whole to part', It is psychological and logical approach to organising content, Interest of the students is aroused, Greater opportunity for revision of topic, Continuity can be maintained, If the same teacher is teaching the same class for the successive years, teacher can avoid too much of repetition, It takes into consideration mental growth of the pupil, It is effective for slow learners and learners who require frequent repetition.

1. Incorporating the key concepts 2.GP help teachers to incorporate a range of perspectives from

- 1.If the same class is taught by different teachers in the subsequent years, there maybe too much of repetition leading to a loss of freshness and power of appeal.
- 2.Repetition is sometimes cumbersome. Some facts are repeated again and again.
3. Very capable of teachers are required to create problems for students everytime to maintain their interest in the subject over a number of years.
4. When different teachers teach in the subsequent years, if there is great variation in their manner of teaching, then it may lead to confusion.

2 Integrated knowledge 2. Child Centred 3. Spontaneous learning. 4. Functional knowledge 5. Avoids duplication 6. Simple and Easy 7. Correlation 8. Better understanding

a) It provides no scope for "Learning by Doing" for the Students as students are only observing the Teacher performing. b) Since Teacher performs the experiment at his/ her own pace many students may not be able to comprehend the concept being clarified. c) Since this method is not child centred it makes no provision for individual differences, all types of students including slow learners and genius have to proceed with the same speed. d) It fails to develop laboratory skills in the students. e) It fails to impart training in scientific attitude. In this method students, many a times, fail to observe many finer details of the apparatus used because they observe it from a distance.

1) Identify and define the Problem, 2) Collect relevant data 3) Organising the data 4) Formulating the tentative solution/generating hypotheses 5) Arriving at the correct solution 6) Verifying the results

Psychological Needs of students satisfied, Students choose project, Satisfy interests and desires, Develops habit of critical thinking, Balanced development- body & mind, Related to real life problems, Development of sense of social cooperation and responsibility, Better retention, Reduces load of homework

Well planned, well rehearsed, properly organized with introduction, student participation, neat and tidy, properly sequenced, etc

Scientific approach, logical as well as psychological approach, multisensory, fosters analytical thinking, independent thinking, etc .

Predict  
Explain  
Observe  
React

It enhances students critical thinking. It helps to develop the attitude of discovery among the students. It helps to develop the attitude of discovery among the students.

Should follow syllabus.  
Should follow aims and objectives.  
Written by competent authors.  
Proper selection of content material.  
Style and Language.  
Organization of content material.  
Printing  
Special features.

Provides opportunities for the self-realization and self-expression.  
Helps in generating genuine interest in the study of science.  
Provides means and ways for the proper utilization of leisure time.  
Provides opportunities for satisfaction of the instinctive urges.  
Helps in linking the school studies more firmly with the outside world.  
It helps in inspiration and energizing the students.

- 1.Motivate students through increased interest and curiosity.
- 2.Increases student-student and student- teacher social interaction
- 3.Develops social awareness.
- 4.Real-world experience.
- 5.Increase in quality of education.
- 6.Improvement of the social skills.
- 7.Give students experiential learning experiences.
- 8.Involvement in a real world experience makes learning more meaningful and memorable.
- 9.Field trips can add variety to the regular instructional program
- 10 Field trips help the students appreciate the relevance and importance of what they learn in

Economical, Psychological value, Educational value, Inculcation of scientific attitude, Entertainment value, Development of Social value, Search of scientific talent, Development of creative instincts, Expression of ideas, Conservation of waste.

Simulations can help students translate among multiple representations.  
Simulations can help students build mental models of physical, chemical or biological systems.  
Simulations can give students engaging, hands-on, active learning experiences.  
Simulations can help students understand equations as physical relationships among measurements.  
Simulations can serve as a vehicle for collaboration.  
Simulations can allow students to investigate phenomena that would not be possible to experience in a classroom or laboratory.

Identify the weak links in the teaching-learning process Finding out the strength and weakness of

Studying latest science journals, books and publications  
Carrying out research work in the field of science  
Writing research articles and books for publication  
Participating in innovative programmes organised and sponsored by NCERT etc.

- Visiting academic and professional centres
- Training in specialised branches of science

To stay abreast of the advances in the world of science. To keep pace with the developments in the field of teaching and learning, to learn the use of ICT in teaching of science, to learn about the recent developments in the field of child and adolescent psychology pertaining to learning and teaching, to make teaching learning more relevant and in line with national and international policies.

Limited applicability, Shortage of resources, Burden on students, Costly method, Difficult to attend to individual needs, Dearth of trained and qualified teachers,

- Rich learning experiences
- Catering to individual differences and interest
- to explore various things on their own
- Learning by doing
- Directly get indulged in the experimental functions
- attain a sense of achievement

Furniture maintenance, storage of apparatus, chemicals, specimens, cleanliness of the premises, safety measures, stock maintenance, purchase

i) Who are the pupils having a problem? (ii) Where are the errors located? (iii) Why did the errors occur? (iv) What are the remedies are suggested? (v) How can the errors be prevented? The first four are grouped as corrective diagnosis and the fifth one is known as preventive diagnosis.

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<b>QUESTION TEXT</b>	<b>3Y LEVEL</b>	<b>MARKS</b>
Why do teachers need to have knowledge about academic disciplines and subjects?	2	3
State the meaning of Academic Disciplines.	2	3

Explain any 3 characteristics of academic disciplines.	2	3
Explain Mathematics as Academic Disciplines.	2	3

<p>Why does Mathematics come under the group of hard and pure disciplines as given by Biglan- Becher typology?</p>	<p>3</p>	<p>3</p>
<p>Enumerate the characteristics of Hard-Pure Disciplines</p>	<p>2</p>	<p>3</p>

<p>State the characteristics of soft and applied disciplines as given by Biglan-Becher typology?</p>	<p>2</p>	<p>3</p>
<p>What is the place of Mathematics at Upper primary level?</p>	<p>2</p>	<p>3</p>

Discuss the place of Mathematics in curriculum	2	3
Elucidate the nature of Mathematics.	1	3

Illustrate the scope of Mathematics	2	3
Explain the nature of Mathethematics.	2	3

What are the vision for Mathematics Education according to NCF?	3	3
Aims and Objectives of teaching Mathematics at the Seconadry level ( NCF)	2	3

<p>According to NCF 2009 , discuss the aims of teaching Mathematics at Higher Secondary level</p>	<p>2</p>	<p>3</p>
<p>Explain the utilitarian value of teaching Mathematics</p>	<p>2</p>	<p>3</p>

<p>Explain the disciplinary value of teaching Mathematics.</p>	<p>2</p>	<p>3</p>
<p>Write any three values of Mathematics in teaching.</p>	<p>2</p>	<p>3</p>

<p>“Maxims are approaches, inducing interest in the teaching-learning process.” Justify w.r.t any three Maxims of teaching Mathematics.</p>	2	3
<p>Explain the maxim 'From known to unknown' with a suitable example.</p>	3	3

Elaborate, Concrete to Abstract maxim in Mathematics.	1	3
State any three merits of Concentric Approach of curriculum organisation	3	3

What are the merits of Topical Approach in Mathematics?	2	3
What is Pedagogical Analysis?	2	3

<p>State three points highlighting that Analytic and Synthetic method complement each other.</p>	3	3
<p>Differentiate between Analytic and Synthetic Method of teaching Mathematics</p>	2	3

State the advantages of Inductive method	2	3
Write any three merrits of Inductive process.	A	3

State the advantages of Inductive deductive method	2	3
State any three advantages of Lecture cum Demonstration	2	3

<p>“Problem Solving Method of teaching enhances the confidence level of students.” Justify w.r.t merits of Problem Solving Method.</p>	3	3
<p>Elaborate any three characteristics of assignment in Mathematics</p>	2	3

What are the merits of Problem solving method?	A	3
Explain importance of Home Assignments in Mathematics.	A	3

List down the steps of problem Solving method in Mathematics	3	3
Explain the significance of a Mathematics club	1	3

<p>What are the characteristics of Mathematics textbook with respect to excercises and illustrations?</p>	<p>3</p>	<p>3</p>
<p>What are the characteristics of a good Textbook of Mathematics?</p>	<p>2</p>	<p>3</p>

Charcteristics of a good Mathematics textbook		3
State the significance of Virtual manipulatives in teaching of Mathematics?	2	3

What are the merits of using digital resources in Mathematics	3	3
Advantages of Geogebra for teaching Mathematics		3

What are the advantages of using Virtual Manipulative?		3
Elaborate objectives of Mathematics Laboratory.		3

<p>Elucidate any three Competencies of a Mathematics Teacher</p>	<p>2</p>	<p>3</p>
<p>“A mathematics teacher should be a lifelong learner”. Justify w.r.t to the need for continuous professional development.</p>	<p>2</p>	<p>3</p>

Write specific qualities of Mathematics Teacher	2	3
Explain the professional qualities and competencies of Mathematics teacher	2	3

<p>State any three Avenues for Continuous Professional Development of a Mathematics teacher</p>	<p>2</p>	<p>3</p>
<p>Elucidate the contribution of Ramanujan.</p>	<p>2</p>	<p>3</p>

Discuss the contribution of Aryabhata in the field of Mathematics	2	3
Why is professional development needed for a Mathematics teacher ?	2	3

<b>Image File Path</b>	<b>Topic</b>
	1 A
	1 A

	1 A
	1 A

	1 B
	1 B

	1 B
	1 C

	1 C
	2 A

	2 A
	2 A

	2 A
	2 B

	2 B
	2 C

	2C
	2C

	3 A
	3 A

	3 A
	3 B

	3 B
	3C

	4 A
	4 A

	4 A
	4 A

	4 A
	4 B

	4 B
	4 C

	4 C
	4 B

	4B
	5 A

	5 B
	5 B

	5 B
	5 C

	5 C
	5 C

	5 C
	5 A

	6 A
	6 A

	6 A
	6 A

	6 B
	6 C

	6C
	6B

**Total Qs**

## ModelAnswer

- 1 .Definite focus while teaching a subject
2. Appreciate other subjects within one's discipline
3. More meaningful learning experiences can be arranged
4. Clarity of concepts
5. Teachers may need to give vocational and academic advice to students
6. Creates interdisciplinary bent of mind
7. Help in research work
8. Community of practice benefit, better contribution to academic bodies and journals
- 9.Helps to face real world challenges

Branch of knowledge taught and researched as part of higher education, Branch of learning or Scholarly instructions, Definition by Arthur Dirk- category of experience, methodologies pursuit of knowledge, Definition by Moti Nissani- self contained domain of human experience with own community of experts

1. Body of specialized knowledge
2. Has theories and concepts
3. Specific terminology
4. Specific object of research
5. Definite methodology of research
6. Institutional manifestation in form of subjects taught , professional organizations

1. Mathematics as a human endeavour 2. Mathematics as a discipline 3. Mathematics as an interdisciplinary language and tool

general areas of human understanding & clustered around limited number of problems, nature is cumulative and concerned with universal phenomena, result is discovery of something new or expansion of already existing knowledge, older form of knowledge is enhanced, relation between knowledge seeker and knowledge is unbiased and very objective, definite criteria to verify knowledge, Academic communities are well organized, their work is quite competitive and publication rates are high

1. Relationship between knowledge and knowledge seeker is unbiased and objective
2. Knowledge is verified by fixed criteria
3. High degree of consensus between two knowledge seekers
4. Academic communities in hard-pure disciplines are well organized, their work is quite competitive and publication rates are high
5. Quantitative data
6. Concerned with universal phenomena
7. Nature of knowledge is cumulative
8. Knowledge growth can be compared to crystal growth (building on what already exists)

Emphasize processes and protocols, functional and utilitarian in nature, concerned with the enhancement of professional practice

Students start the application of powerful abstract concepts, Students are introduced to algebraic notation and its use in solving problems and in generalisation, to the systematic study of space and shapes, and for consolidating their knowledge of measurement, data handling, representation and interpretation form a significant part of the ability of dealing with information in general, which is an essential 'life skill', The learning at this stage also offers an opportunity to enrich students' spatial reasoning and visualisation skills.

1) Inter-Disciplinary Approach : Many experts assert that Mathematics is the mother of Sciences. It is true to great extent. One can notice the subject of Mathematics can deal with other sciences and areas of study as well. For instance Geometry, Architecture, Management etc. Hence, having deep knowledge of mathematics is a biggest advantages.

2) Kothari Commission Recommendations: Both Kothari and National policy on education had stressed the crucial need of Mathematics in school education. It is mentioned in the pattern adopted as 10+2+3 wherein the subject of mathematics was prescribed as compulsory. It was noted that General Mathematics was mandatory up to class 10 while advanced mathematics was kept as an optional subject.

~~1) It is a science of number and space~~ ~~any other subject. Mathematics has the highest utilization~~

2. It has its own language in terms of signs, symbols, terms, operations etc.

3. It uses/requires intuition, logic, reasoning, analysis, construction, generality and individuality.

4. It helps in drawing conclusions and interpreting various ideas and themes.

5. It is suited for dealing with the abstract concept of any kind.

6. It helps to solve problems of daily life.

7. It has an aesthetic value and helps to admire the beauty of nature.

8. It gives accurate and reliable knowledge.

9. Mathematics knowledge is exact, systematic, logical, and clear so that once it is captured it can never be forgotten.

10. Mathematical rules, laws and formulae, are universal and that can be verified at any place and time.

11. It develops the ability of induction, deduction and generalization.

~~12. Mathematics helps in developing scientific attitude among children~~

- (1) Mathematics for Life:
- (2) Mathematics as a part of Cultural Heritage:
- (3) Mathematics for the Workplace:
- (4) Mathematics for the Scientific and Technical Community:
- (5) Mathematics in the Development of Education System:
- (6) Mathematics in Development of Economics:
- (7) Mathematics in Development of Infrastructure:
- (8) Mathematics in Development of Science and Technology:
- (9) Mathematics in Development of Medical Science and Agricultural field:

1. Mathematics in the real sense is a science of space and quantity that helps us in solving problems of life needing numeration and calculation

Mathematics is a subject of responsible nature as it takes away the maximum of measuring and calculating work on its shoulders.

2. Mathematics has its own language of signs, symbols, terms formulae and operations.

3. Mathematics is a sequential subject by its very nature

4. Mathematics is Responsible in Nature

5. Co-relating Nature.-Mathematics has also a correlating nature not only with all the educational subjects but also it relates with daily life activities.

6. Artistic Nature.-Mathematics is a pivot for all arts.

7. Mathematics is the science of logical reasoning where results are developed through a process of reasoning.

Mathematics is an exact science. Mathematical knowledge is always clear, logical and systematic.

1. Children learn to enjoy mathematics rather than fear it 2. Mathematics is more than formulas and mechanical procedures 3. Children pose and solve meaningful problems 4. Children understand the basic structure of mathematics 5. Teachers engage every child in class with the conviction that everyone can learn mathematics 5. Teachers engage every child in class with the conviction that everyone can learn mathematics 6. Children see mathematics as something to talk, communicate, discuss and work together on

Students begin to perceive the structure of mathematics as a discipline.

They become familiar with the characteristics of mathematical communication: carefully defined terms and concepts, the use of symbols to represent them, precisely stated propositions, and proofs justifying propositions. These aspects are developed particularly in the area of geometry. Students develop their facility with algebra, which is important not only in the application of mathematics, but also within mathematics in providing justifications and proofs.

At this stage, students integrate the many concepts and skills that they have learnt into a problem-solving ability.

Mathematical modelling, data analysis and interpretation taught at this stage can consolidate a high level of mathematical literacy.

Individual and group exploration of connections and patterns, visualisation and generalisation, and making and proving conjectures are important at this stage, and can be encouraged through the use of appropriate tools that include concrete models as in Mathematics laboratories and computers.

Develop a good understanding of numbers and the number system Develop a good ability to solve problem ; Improve Speed ; Ability to develop logical and critical thinking

Knowledge of Mathematics is needed in every walk of life.

The fundamentals of mathematics like addition, subtraction, multiplication, division are useful in all the mathematical operations.

The businessman uses the knowledge of %, average, stock and share.

It is useful for engineers, doctors, industrialists, administrators etc.

While purchasing property, admitting a child to a particular class, joining a profession.

It helps to create a system in life without which there would be total chaos everywhere like-fix timings, wages, rates, rations, fares, commission, discounts, lengths, breadths, areas, volumes etc.

According to Locke Mathematics is a way to settle in the mind a habit of reasoning. Simplicity, Accuracy, Certainty of results, Originality, Similarity to reasoning of life, Verification of results, concentration of mind, systematic approach.

1. Practical or utilitarian value 2. Disciplinary value 3. Intellectual value 4. Psychological value 5. Cultural value 6. Aesthetic value 7. Moral value 8. Social value 9. Vocational value 10. International value

1. **KNOWN TO UNKNOWN:** Examples: While teaching Pythagoras theorem, a math teacher needs to initiate her explanation by discussing the properties of right-angled triangles which are known to the learner as previous knowledge.

2. **SIMPLE TO COMPLEX:** Examples: First the basic computation skills should be practised then the application of these in word problems should be practised. Like, addition, subtraction, multiplication and division should be practised then the use of the BODMAS rule to solve the problems.

3. **PARTICULAR TO GENERAL:** Particular facts and examples should be presented to the children before giving them general rules or principles. Examples: Rules and formulas in maths should be tested first for particular examples in repetition and then can be generalized.

4. **CONCRETE TO ABSTRACT:** The child understands more easily when taught through their senses and never forget that material. On the other hand, if abstract things or ideas are presented, they forget them soon. Examples: Abacus beads are very effective to perform concrete to abstract forms of computation.

5. **WHOLE TO PART:** In teaching, the teacher should first give a synthetic view of the lesson and then analyze it into

start from what we know to move to unknown.

The most natural way of teaching

Use knowledge and previous experiences of his pupils as a foundation and base for unknown

This bring about resemblances with and differences from the things which they are going to learn.

What is familiar to the children might be imperfectly known

Eg – Profit and Loss to Percent Profit and Percent Loss.

The mental development of the pupil begins with the concrete objects, and afterwards, he gains micro-words for them. Therefore, to begin the education of pupils, the concrete object and fact should be made known first. For example: Addition/ subtraction/ multiplication/ division of objects like apples, books, pencils, etc. Addition/ subtraction/ multiplication/ division of variables  $x$ ,  $y$ ,  $z$

1. Based on the maxims 'simple to complex' and 'whole to part'.
2. It is psychological and logical approach to organising content.
3. Interest of the students is aroused.
4. Greater opportunity for revision of topic.
5. It becomes convenient for the utilisation of previous knowledge for introduction of new topics thus continuity can be maintained.
6. If the same teacher is teaching the same class for the successive years, she can avoid too much of repetition.
7. It takes into consideration mental growth of the pupil.
8. It is effective for slow learners and learners who require frequent repetition.

1. This approach provides an action plan for deal with vast materials in logical and rational way.
2. This approach can be adopted according to age, ability and aptitude of the children
3. It imparts a sense of purpose to the pupils because of the total perception attempted
4. This approach enables the teacher to control the subject-matter and adapt it to the varying needs of the children
- 5) Students keeps Complete Concentration on particular topic.
- 6) Teachers give best effort to impart information, knowledge & illustration of topic.
- 7) Students attention is not diverted.
- 8) Students ability, creativity, capacity is directed only to particular topic.
- 9) Students get concrete & thorough knowledge. It illustrates advantage of co-relation.

Pedagogical analysis stands for a type of analysis based on pedagogy. The dictionary defines 'pedagogy' as a science of teaching for the ways and means provided to or utilised by a teacher for managing his/her task of teaching as smoothly and effectively as possible by involving his/her least efforts for drawing maximum possible better teaching outcomes. Pedagogical analysis, based on four essential pillars along with their inherent mutual relationship and interdependence, are being considered essential in the effective teaching-learning process.

• Analysis leads to synthesis and synthesis makes the purpose of analysis clear and complete. That is analysis breaks a mathematical statement to discover new facts, whereas synthesis combines mathematical statements to arrive at conclusion.

- Analysis proceeds from whole to parts and synthesis proceeds from parts to whole
- To understand mathematical concepts use analytical approach and to retain knowledge and get work done fast, use synthetic approach
- Analysis forms beginning and synthesis is for follow up. That is analytic method being formational, should be used to form mathematical concepts whereas synthesis method should be used to drill the concepts in learner's minds.
- Student should be made to discover facts by using analytic method and synthetic method should be used for students to practice the facts.
- Analysis is a lengthy method whereas Synthesis is a short method. So time spent in utilizing Analysis method can be

#### ~~ANALYTIC METHOD~~

Here one proceeds from unknown to known

Here one starts from what is to be proved and then comes back to what is given.

Analysis means breaking up into components

Lengthy, laborious and time consuming

Encourages meaningful learning

Easy to discover

Valid reasons to justify every step in the sequence

Application of inductive reasoning

Active participation of the learner

A psychological method

#### ~~SYNTHETIC METHOD~~

Psychological method

Learning by doing

Child oriented

Discourages memorization

Habit of self study

Stimulating and motivating method

Self-activity

Scientific method

1. In this method as mathematical principle is based on a number of examples, it leaves no doubt in the minds of students
2. It encourages discovery reasoning and thinking power
3. The maxim 'learning by doing' forms the basis of this method
4. It discourages memorization
5. It encourages self-study on the part of the students
6. It is stimulating and motivating method
7. Homework becomes less in this method
8. It starts from observation and direct experiences and ends with developing a rule in the abstract form

## Scientific Method

- Content becomes crystal clear to students , as they develop on their own formula/ laws / Principle
- Based on Actual Observation and Experimentation.
- Thinking is Logical
- Suitable for beginners
- Increases Pupil – Teacher Relationship
- Home Work is reduced.

- a) It is a psychological method as it is learner centered as students take active interest in the teaching learning process . Hence students understand the abstract situations by concrete observations.
- b) This method arouses in the students an interest, an enthusiasm for the study of Maths. c) Suitable for all types of students.
- c) Using only Lecture method can be uninteresting and monotonous for the students.
- d) It improves the observational and reasoning skills of the students along with scientific attitude.
- e) Lecture cum demonstration method is based on the most basic premise of science i.e Observation and conclusion, since Mathematics is Science in action, this method is apt for teaching of certain content in Mathematics.

1. Improve pupils' willingness to try problems and improve their perseverance when solving
2. Improve pupils' self-concepts with respect to the abilities to solve problems.
3. Make pupils aware of the problem-solving strategies
4. Make pupils aware of the value of approaching problems in a systematic manner
5. Make pupils aware that many problems can be solved in more than one way.
6. Improve pupils' abilities to select appropriate solution strategies.
7. Improve pupils' abilities to implement solution strategies accurately.
8. Improve pupils' abilities to get more correct answers to problems.

Should have correlation with previous knowledge and experience of the pupil, purposeful, clarity and definiteness, related to life ,consider individual differences, stimulating , not be too lengthy, cost effective, according to the psychological level of students and proper references and resources should be made available

1. It trains to solve problems of life 2. It stimulates thinking, reasoning and imagination of the students 3. It develops habit of independent work and initiative in the students 4. The student learns by doing from his own exercise 5. There is a close pupil-teacher contact 6. It develops patience, cooperation, self-confidence, etc.

1. It develops sense of responsibility 2. It develops good habits of regularity and punctuality 3. It develops habit of self-study 4. It utilises leisure time of children 5. It supplements classroom teaching 6. It may serve as a link for parent-teacher cooperation

## Steps

Recognizing the Problem

Defining, Interpreting and Delimiting the Problem

Collecting Relevant Data

Organizing and Evaluating the Data

Formulating the Tentative Solution

Arriving at the Correct Solution

Verifying the Results

1. Mathematics Club is useful in arousing and maintaining interest in Mathematics.
2. Gifted students get an opportunity to satisfy their needs and interests by actively participating in the activities of mathematics clubs.
3. It is helpful in making proper utilization of leisure time.
4. The students get an opportunity of mathematical hobbies, recreational mathematics, mathematical projects, mathematical games, mathematical discussions and debates, and mathematical innovations.
5. It provides an opportunity to read mathematical literature.
6. It provides an opportunity of leadership, cooperation, joint responsibility, active participation and organizing programmes.

The illustrations should be accurate, clear and appropriate, contain some difficult problems, contain exercises given at the end of every topic, develop thinking and reasoning power of the pupils, provide for practice, revision and satisfy the demands of examination.

1. Size of the book.
2. Printing
3. Font of the book
4. Paper used
5. Book binding
6. Reasonable price
7. Attractive
8. Simple and pin pointed title
9. Appealing cover design
10. Colour combination
11. Author specification
12. Volume/year of publication

External qualities – get-up, paper, printing

Price should be moderate

Well-illustrated

Simple and clear language

Free from mistakes

Motivate the students to solve problems

problems related to everyday life

Avoids spoon-feeding

Up-to-date subject matter

Sequence and consistency in organizing the subject matter

Symbols and terms used should be correct

actively construct their own mathematical understanding

- solving abstract concepts
- sense-making abilities for all students
- special benefit to students who are high-risk, Specially abled students
- understand the symbolic language of math
- to bring math concepts to life

1. Visual representation systems and linked multi-representational systems encourage students to interact with mathematical concepts and advance their mathematical understanding.
2. Interactive constructions have the potential to facilitate the teaching of certain calculus concepts.
3. Students like to work with online materials
4. GeoGebra offers benefits to pupils such as developing a good vocabulary, being able to experiment with ideas more rapidly than drawing by hand, produce accurate drawings, and gain instant feedback.
5. Immediate feedback—you know when it's right or wrong
6. Easier to plan and keep together
7. A lot quicker to grasp the concept
8. Offer a larger variety of experiences
9. Allow more complex operations to be learned
10. ~~Catch the attention of the "top learner more meaning"~~  
 visualizes related concepts and how they affect each other  
 allows everyone equal access to an outstanding learning tool  
 anyone can use applets  
 created with GeoGebra without restriction  
 anyone can use this tool to create applets  
 conceptual understanding is enhanced  
 Available as a Web based tool  
 Stand Alone application  
 Free  
 Easy to use.  
 Easy to configure

1. older students also enjoy it (rather than pattern blocks!)
2. no clean up
3. no limited number of resources
4. save work
5. links to other resources
6. access anywhere there is a computer
7. Formatting (potential to alter, add color, etc.)
8. A way to link students to the virtual world, virtual manipulatives will improve in the future.

1. To provide readily accessible rich manipulative materials to emphasis on learning by doing. 2. To develop an attitude of enquiry 3. Remove the weakness of present day mathematics education. 4. to develop much needed confidence in students. 5. To generate interest in the subjects 6. to make the students divergent thinking 7. To make the children to look for patterns and ask questions.

### Thinking mathematically

- Posing and solving mathematical problems
- Modeling mathematically
- Representing mathematical entities
- Handling mathematical symbols and formulas
- Help students understand the connection and application of mathematics

1. Poor uptake of school students continuing mathematics through and up to 19 years and beyond
2. To reduce the failure of the students in mathematics
3. Essential to giving the opportunity to experience and well-qualified mathematics teachers to revitalise their skills and to renew their enthusiasm for their subject
4. Essential for Broadening and deepening of the mathematical knowledge of teachers about the subject
5. To learn new and innovative techniques and methods of teaching
6. To be acquainted with the latest strategy of evaluation
7. To develop scientific temper
8. To acquire knowledge and skill in organizing co-curricular activities like clubs, fairs, field trips etc.
9. Need for teachers to learn from advances in research on pupil learning and on teaching practice in mathematics.

1. Mathematics teacher must have mastery over the subjects in order to become an effective teacher. 2. He must be familiar with the aims and objectives of teaching mathematics at all the levels of education. 3. In order to enrich his knowledge, he must study mathematical journals and other books of professional development. 4. Teacher must do professional research work and must write professional articles. 5. Teacher must have knowledge of history of mathematics and life history of great mathematicians and their contributions. 6. He must possess the essential mathematical skills, problem solving, drawing, computation, sketching etc. 7. He must be able to prepare, administer and score the different achievement tests. 8. He must be resourceful. He should be very quick and prompt in mental operations. He should frame new questions on the spur of the moment.

1. Interest in mathematics
2. Positive attitude towards Mathematics
3. Knowledge of subject matter
4. Knowledge of individual differences,
5. Knowledge of different teaching methods
6. Power to know the difficulties of students.

Studying latest science journals, books and publications

- Carrying out research work in the field of science
- Writing research articles and books for publication
- Participating in innovative programmes organised and sponsored by NCERT etc.
- Visiting academic and professional centres
- Training in specialised branches of science

1. Ramanujan worked on elliptic functions, continued fractions and infinite

2. He worked on divergent series. He sent 120 theorems to imply divisibility properties of the partition function.

3. He gave a meaning to the Eulerian second integral for all values of  $n$  (negative, positive and fractional). He proved that the integral of  $x^{n-1} e^{-x} = \Gamma(n)$  is true for all values of  $n$ .

4. Goldbach's conjecture: The statement is every even integer greater than two is the sum of two primes, that is,  $6=3+3$ : Ramanujan and his associates had shown that every large integer could be written as the sum of at most four (Example:  $43=2+5+17+19$ ).

5. Partition of whole numbers: Subsequently Ramanujan developed a formula for the partition of any number, which can be made to yield the required result by a series of successive approximations. Example  $3=3+0=1+2=1+1+1$ ;

6. Numbers: Ramanujan studied the highly composite numbers also which are recognized as the opposite of prime numbers. He studies their structure, distribution and special forms.

7. Fermat Theorem: He also did considerable work on the unresolved Fermat theorem, which states that a prime number

1. Numerical values
2. Notation system
3. Place-value
4. Interest
5. Integer solutions
6. Indeterminate equations
7. Identities
8. Algebraic quantities
9. Arithmetic series
10. Discover the P Value
11. Pythagorean Theorem
12. Circle Theorem

To play ones role as a teacher effectively.

To gain competence and confidence

To be in touch with the latest trends, issues and practices in education

To profit from the experience and expertise of other professionals.

To be continuously growing and learning

To be a generator of knowledge

To journey towards self realization

To contribute ones gifts, talents and expertise

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