

**B.ED. SECOND SEMESTER**

**Paper: Essentials of Educational Technology and Management**

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**SECTION – A: Answers to the Question No. 1:**

- i. Branching Programme
- ii. a, b, d- CRT  
c- NRT
- iii. 

	BOOK	CHART
H/W	Physical Book (with bound pages)	the physical chart that contains the material to be shown
S/W	Contents of the book	contents of the chart
- iv. Any of the following or suitable:
  - More complicated structure... sometimes confusing and tiring
  - More suitable if electronic in mode... scrambled text is tiring and long
  - Cannot be useful for every subject
  - Exposure of large information at a time... against psychological principle of learning
  - Less suitable for low level students
  - Need more time to complete
- v. (i) Glaser, Bruner, Skinner, Ausubel, Lumsdain, Sidney L. Pressey, J.F. Herbart  
(ii) Norman A. Crowder
- vi. Any of self/ Pupil/ peer/ head/ community/ external/ performance/ Behaviour Analysis/ Objective-Output Analysis/ Opinion Analysis/ Relative Standards/ absolute Standards/ Comprehensive Evaluation
- vii. Any of the following or suitable:
  - When target group is large in size
  - When the target group is physically separated in distant places
  - When the instructor wants to provide a audio-visual effect for effective learning
- viii. Any of the following or suitable-  
It helps in diagnosis of students' problems through various skills like probing, questioning  
It helps in better designing the teaching -learning materials through various ways of lesson planning, programmed instruction  
It helps in better designing the teaching -learning situation through the use of hardwares and softwares  
It gives the scope of improving teacher behaviour through micro-teaching, interaction analysis
- ix. Any of the skills like Questioning, Introduction, Stimulus variation, explanation, reinforcement, BB writing etc., content analysis Lesson Planning or as suitable
- x. Material Resource: Building, furniture, books etc.  
Human Resource: office staff, Teachers, Lab instructor etc.
- xi. In planning a lesson in a logical order  
In explaining a concept with a model/AV aids etc.  
In explaining a concept with examples  
In programmed instruction  
In questioning a student to know the learning outcome

- xii. It does not consider and encourage the writing skill of the students/It does not provide scope for divergent thinking to the students/blind guessing possible/cheating possible/generally miss the higher mental abilities

**SECTION –B: THE ANSWERS OF THE SECTION–B ARE EXPECTED TO DRAW THE FOLLOWING POINTS:**

**Answer 2:**

Technology comes from 'techno'(art, skill, craft, or the way, manner, or means of doing something) + 'logos' (study/knowledge/discourse)- meaning-

The making, modification, usage and knowledge of

-tools, machines, skills, techniques, crafts, systems and methods of organization,

-for solving a problem, giving a better solution to an existing problem to achieve a goal

Technology is the rational process of creating means to order and transform material, energy, and information to realize certain valued ends. Technology is also the set of means (tools, devices, systems, methods, procedures) created by the technological process.

Hence, **Technology of education** refers to all the *use and development* of all the tools and techniques, machines and skills to solve the problems of education to make it more effective.

-Embraces the scientific and engineering principles(and hence the machines and equipments) as well as the psychological Principles (involved in designing teaching-learning materials and situation and solving the problems of teaching-learning).

**Technology in Education**, refers only to the use of all the hardwares/machines, developed as a result of Scientific and technological revolution, that are used in the teaching-learning situations. The examples are the sophisticated tools like TV, OHP, Computer, Internet etc. Hence; it is included in the technology of education.

**Second part: Difference between teaching technology & instruction technology**

	Teaching technology	Instruction technology
Exponents	Herbart, Flander, Davies, Morrison, Hunt, Bruner, Glaser, Amidon	Bruner, Lumsdaine, asubel, Glaser, Skinner, Crowder
Concern	Focus on teaching process - Intends All round development of the learners Content and communication - both are important Group as well as individuals - both important Supports teachers-learners interaction	Focus on Instructional process- Intends only cognitive development of learners Nature of content and its arrangement is important Individual differences are taken into prime consideration Supports self-learning
Relation		
Meaning	Way to make teaching more effective in a systematic and scientific way	the theory and practice of design, development, utilization, management,

		and evaluation of processes and resources for learning and process of instruction in terms of predefined objectives
Domain	Cognitive, psychomotor, affective	Cognitive
Steps	Planning, organising, teaching, controlling	Content analysis, logical order followed

### Third part: Yes, education technology has been used in making a comic of an old prose. Because-

Educational Technology involves ideas, techniques as well as tools or machines that make the concerned process of education effective or provide

The said process has used an idea –

- To break the long prose into small parts ... content analysis technique
- To present the long prose in small steps ... readily understandable by the readers... follows psychological principle of small steps,
- To represent the long prose into a simpler dialogue form as in a comic...use of instructional technology ... enhancing the effectiveness... breaks the monotony of running verbal symbols... gives solution to the problems that long prose lack enough stimulus variation... hence, students' attention is less distracted
- To associate pictorial representation of the content to make the abstract concept 'visible' ... i.e. concrete... effective especially for the lower level students
- To associate colorful pictorial representation of the content to make it interesting and attractive... gives solution to the problem that learners find prose-reading to be boring

It has used a tool/machine–

- To contain the ideas in the tangible pages bound in the form of a book or in a CD

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### ANSWER 3.

Problems may be elaborated in the following line:

- Lack of adequate number of teachers
- Shortage of qualified teachers
- Increasing population of students
- Adherence to inclusive education policies; commitment for addressing the needs of the learners with various backgrounds... at distant places
- Wastage and stagnation; Adult education...
- Diverse curricular needs of slow, average and gifted learners ... need of self pacing
- Mastery learning
- Ensure immediate reinforcement

Principles of Programmed learning should include:

- Principles of small steps
- Principles of active responding
- Principles of immediate reinforcement
- Principles of self-pacing
- Principles of student testing

**Comparison of Linear & Branching Programming:**

Issue	Linear Programming	Branching Programming
Assumption	<ul style="list-style-type: none"> <li>• Follows the five principles of PI</li> <li>• Students learn better if content is presented in infinitesimally small steps</li> <li>• Errors hinders learning</li> <li>• Success motivates the learning; so content should be presented through the smallest and simplest units so that they have no scope of mistake</li> </ul>	<ul style="list-style-type: none"> <li>• Follows the five principles of PI</li> <li>• Students learn better if content related to a single concept is presented at once.</li> <li>• Errors facilitates learning</li> <li>• The more mistakes the students do, the more the scope of diagnosing the misunderstandings, greater will be the scope of remedies; better learning</li> </ul>
Organisation of content	<ul style="list-style-type: none"> <li>• A single idea of a concept – contained in a frame</li> <li>• Frame size –small</li> <li>• Small units in consecutive frames</li> </ul>	<ul style="list-style-type: none"> <li>• One whole concept in a frame</li> <li>• Frame size –larger– depending on the size of the content containing the concept</li> <li>• Main frame– remedial frames–next main frame→ main frames are not in sequence</li> </ul>
Evaluation	<ul style="list-style-type: none"> <li>• Evaluation is to reinforce correct response</li> <li>• Generally completion type... cue is given</li> <li>• Simple form of evaluation – error % is less</li> <li>• Do not provide remedy</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation purpose is diagnostic</li> <li>• Generally of multiple choice items... no cues given</li> <li>• Evaluation level is higher – error % higher</li> <li>• Provides remedy</li> </ul>

**ANSWER 4.****Meaning of Communication should include:**

- Some definitions, or,
- Communication– sharing ideas/information– in a mood of mutuality– to achieve common experience– should continue till such commonality is achieved.
- May be intra–personal/ interpersonal/group/verbal/non–verbal
- Forms the basis of knowledge sharing and development

**Significance of communication in a teaching–learning situation should be elaborated in the following way:**

Communication in a teaching–learning situation

- generally takes place between the teachers and the learners,
- is generally have an educational purpose to provide some learning experience
- is generally two way
- involves language
- is interpersonal & small group; also intra–personal

No communication, no teaching–learning; as the whole process of teaching–learning in the classroom is a cumulative process of communication.

Communication must be effective to make the learning effective. It is significant in a teaching–learning situation as–

- Communication in TL situation being two–way, gives the scope of sharing of information, ideas and knowledge between one platform to the other... Between teachers→learners→teachers
- Communication gives the scope of representation of the message into communicable form... (clear, easily understandable, direct, purposeful)... as per the level and background of the receiver... (i.e. learners)... the aspiration to achieve a successful communication, motivates the teachers to look into the needs of the students and their social background.

- Educational communication → related to concept formation. Communication propels the teachers to use various modes of language, verbal and non-verbal, for stimulus variation and effective teaching. Enriched verbal and non-verbal language → leads to the capacity of representation of ideas in a variety of ways... hence, to effective concept formation and knowledge development.
- As it purports to provide educational experience... the sender, initiating the communication, takes effort in choosing and switching to suitable media... appropriate to the content/ situation/receiver... providing multiple/enriched sensory experience... for learning to be effective
- Communication gives the scope of diagnosing the problems of the learners in understanding the taught lesson by designing appropriate feedback channel → hence, scope of evaluation of both teaching and learning
- When trying to communicate, the teacher gets the opportunity to identify the barriers that interferes the intended sharing of information and hence, they get the scope of designing the teaching-learning situation in the most effective way that minimizes such barriers.
- Through effective small group communication, the alternative/multiple views of people are shared

**Components of a communication cycle should elaborate a description of -**

- a) Sender: initiates communication, has a purpose, selects message, encodes; Examples
- b) Receiver: receives communication, may have a purpose, decodes message, understands the content; Examples
- c) Message: the object of communication, encoded in the form of some language, verbal or non-verbal; Examples
- d) Channel: message is encoded in some language and then transmitted through some physical media to the receiving end... so whatever carries the message from the sender to receiver is channel; Examples
- e) Feedback: it is the message encoded and sent by the receiver that carries information regarding whether the message has been communicated with the same meaning, same form and intention or not. Examples

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**ANSWER 5. Should reflect the following points:**

Management -

- orderly way of thinking; organised body, structure, framework undertaken to ensure unity of effort, efficiency, goodwill, and proper use of resources
- making systematic arrangement to achieve the purpose of the entire programme
- describe the goals and ,methods in operational terms
- not theoretical- but an active process

Educational practices-multiple components involved → philosophy, ideas & guiding principles/ men/ materials/ methods → each having their own role and control → may lead to conflicts in interest and working- result in poor performance → alignment and co-ordination is necessary for being successful as a whole → arises need to work as a system- need for management- to plan, work and evaluate in the same line of aims and guiding principles → for the maximum benefit of the stakeholders

Education in management- comprehensive effort to direct, guide, develop, integrate associated human striving focused towards the educational goals - micro and macro-stage planning to achieve the goals- organising - budgeting- decision making- motivating- coordinating, communicating - evaluating- accountability to help an educational organisation for best performance and synergistic development

**Second part should elaborate the following points:**

Factors to be considered in managing human as well as material resources:

**Human resources:**

Students  
Teachers  
Head  
Administration staff  
Parents  
Others

**Material resources:**

School building/classrooms/ laboratories  
Finance  
Furniture  
Library books  
Equipments / instructional supplies  
Others (playgrounds, hostels)

Also, the policies, social contexts, the economic status and limitations, avenues and time should be considered.

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**ANSWER 6. The answer should reflect the elaboration of the following points:**

- a) Standard 1: Mission Statement and Goals
- b) Standard 2: Planning and Evaluation
- c) Standard 3: Organization and Governance
- d) Standard 4: Integrity
- e) Standard 5: Faculty
- f) Standard 6: Students
- g) Standard 7: Institutional Resources
- h) Standard 8: Academic Programmes and Curricula
- i) Standard 9: Public Disclosure and Transparency
- j) Standard 10: Assessment & Quality Assurance
- k) Standard 11: Student Support Service

**Second part should elaborate the following points:**

- A brief idea of accountability
- Evaluation enhances the **ability** of organisation, personnel and the beneficiaries **to achieve desired goals**.
- The desired goals need to be defined for institutional evaluation.
- For this, the roles of every component need to be defined. When the roles are not specified, there is no way to check whether the desired the performance has been done or not.
- Evaluation forces the people involved to perform their role properly and take accountability of their action as their performance contributes to the overall success of the institution.
- **Secondly**, in democratic set-up – Public money is generally involved behind the functioning of any institution.
- A large number of social actors play a role in public education
- Involves multidimensional resources: funding agencies, social agencies etc.
- We need to provide feedback to every stakeholder — parents and students, school providers, teachers and principals, as well as taxpayers – 'How well the output is.' Hence, institute becomes accountable ... ready to answer for every performance and decisions taken.

- Institutional evaluation → a vehicle to facilitate and assess success for ***the teachers*** (e.g., personal growth and performance improvement), ***the school*** (e.g., goal accomplishment, accountability), ***the client*** (to acquire quality education). ***Thus, evaluation only can bring in a force in the direction of clear specification of roles, power and limitations, providing sufficient logic behind it and performing in the specified direction within specified limit of time and resource. In this way, it ensures accountability and hence, is a vital part of the total improvement-restructuring efforts in school education.***