

## NOTICE

Workshop will be held from 07/07/2022 to 18/07/2022.

As you know, this 12-day Programme is specially planned to prepare you as a teacher to fit in your multifaceted role of the manager, the researcher and as an agent of social welfare and social change.

You are expected to participate in all the activities of this Workshop I. The Workshop director and facilitators, specially oriented for this purpose, will conduct the Workshop.

The quality and extent of participation and progress made by you will be monitored and evaluated by the workshop facilitators. You are, therefore, expected to come to participate in this workshop with prior preparation. (See Handbook for Practical Activities B.Ed. 1st Year, EPCs, Internship and Workshop, Pp-9-30, Pp-60-68)

This first workshop is specially meant to orient you to all aspects of practice teaching.

As has been mentioned in the Handbook for Practical Activities B.Ed. 1st Year, EPCs, Internship and Workshop, this first workshop corresponds to the first year of theory courses and most of the school-based activities to be carried out in your school.

*It is, as you know, imperative that all student teachers attend the workshop to successfully complete the B.Ed. Programme.*

### WHAT TO BRING TO THE WORKSHOP :

1. The reports along with the Mentor's authentication and comments of the EPC-I (BESL-121) & EPC-II (BESL-122) (for 1st year). (See Handbook for Practical Activities B.Ed. 1st Year, EPCs, Internship and Workshop, pp 9-12 & Pp-58 & 59, Pp-60).
2. Internship - I (See Handbook for Practical Activities B.Ed. 1st Year, EPCs, Internship and Workshop, Pp 13-30 & Pp-61-68).
2. Study materials of BES-121, BES-122, BES-123, BES-124 & BES-125.
3. Study materials for the two methods you have chosen from BES-141, BES-142, BES-143, BES-144 & BES-145.

Patna

*Anil Kumar*  
07/07/2022

*Annu*  
07.07.2022  
Programme-in-charge  
ASH, Coordinator  
IGNOU - B.Ed.  
LSC - A.N. College, Patna -  
(0529)

# INDIRA GANDHI NATIONAL OPEN UNIVERSITY

VENUE- Dept. of Education, A.N. College, Patna (0529)

B.Ed. 1<sup>st</sup> year, Practical Schedule- 2022

## Workshop-1

Date:- 07/07/22 to 18/07/22

| Duration-> | 9:30am – 11:00am   | 11:00am- 12:30pm                                  | 01:00pm – 2:30pm  | 2:30pm – 4:00pm  | Total Number of Session |
|------------|--|---|---|--|-------------------------|
| Session->  | Session-I  | Session-II  | Session-III   | Session-IV   |                         |
| Day        | Welcome and Introduction an ourview of B.Ed Programme & Workshop                               |   | Paradigm Shifts In Teacher Education  | Quality Concerns In Secondary Education  | 04                      |
| 1          |  |   |   |  |                         |
| 2          | Childhood in Different contexts; learning for  | Sharing Reflections Narrated in Reflective Diary  | Unit planning   | Presentation of unit plans in concerned pedagogy subjects BES 141, BES 142, BES 143, BES 144 & BES 145 | 08                      |
| 3.         | 5-E Model of Lesson planning, Discussion and Demonstration                                     | Integration of ICT Resources in Teaching-learning | Preparation of Audio/ Video programme for Teaching-Learning   | Preparation of Learning Resources  | 04                      |
| 4.         | Preparation of Lessons plans BES 141, BES 142, BES 143, BES 144 & BES 145                      |   | Developing Empathy  | Preparation of Audio/ Video programme for Teaching- Learning   | 12                      |
| 5.         | Assessment of Reflective Diary and Reports of the activities undertaken during internship-1    |   | Presentation of Lesson plan in Simulated situation (one lesson in each subject)<br>BES 141, BES 142, BES 143, BES 144 & BES 145 |  | 12                      |
| 6.         | Assessment of Reflective journals and Reports of the activities undertaken during internship-1 |   | Presentation of Lesson plan in Simulated situation (one lesson in each subject)<br>BES 141, BES 142, BES 143, BES 144 & BES 145 |  | 12                      |
| 7.         | Constitution of Disciplinary knowledge and its perspectives                                    | Organizing subject in school curriculum           | Presentation of Lesson plan in Simulated situation (one lesson in each subject)<br>BES 141, BES 142, BES 143, BES 144 & BES 145 |  | 12                      |
| 8.         | Teacher as an Action Researcher  |   | Assessment tools and Techniques   | Child Right: Role of a Teacher   | 04                      |
| 9.         | What is Language across the curriculum?  | Using Literature to teach Mathematics             | Preparation and presentation of Subject specific Assessment tools<br>BES 141, BES 142, BES 143, BES 144 & BES 145               |  | 12                      |

*Practical Coordinator*  
07/07/2022

*Practical*  
04.07.22  
Asstt. Coordinator  
IGNOU- BEd, LSC- 0529

|     |   |  |  |    |
|-----|---|--|--|----|
| 10. | Using Different Texts for Developing critical thinking skills | Using a suitable resource from NROER (National Repository of Open Educational Resources) | Use of concept Map Software for classroom Assessment | 04 |
| 11. | Reading Across the curriculum                                 |  | Assessment of activities related to EPC-1            | 04 |
| 12. | Assessment of activities related to EPC-II                    |  | Valedictory  | 04 |

- There will be 92 Sessions during 12 days.
- In the workshop, each session will be of 90 minutes duration.
- 100% Attendance will be compulsory.

*Anil Kumar*  
04/07/2022

*Anu*  
04.07.22

Asstt. Coordinator  
ICINOU-B:Ed, LSC - A.N. College,  
Patna - (0529)



**IGNOU – B. Ed. January Cycle WORKSHOP- I**  
**July-2022**

|                        |             |                           |
|------------------------|-------------|---------------------------|
| * Timing of Sessions : | Session I   | : 9.30 a.m. – 11.00 a.m.  |
|                        | Session II  | : 11.00 a.m. – 12.30 p.m. |
|                        | Session III | : 1.00 p.m. – 2.30 p.m.   |
|                        | Session IV  | : 2.30 p.m. – 4.00 p.m.   |

**Day – I (Thursday), 07/07/2022**

|                             |  |
|-----------------------------|--|
| <b>Session – I &amp; II</b> | <p>Welcome and introduction An Overview of B.Ed. About the Workshop.</p> <p>This session is an introductory session about the workshop. Workshop In-charge will introduce the nature, importance and objectives of workshop. You will give self-introduction to know each other. PIC/Workshop in-charge will explain the various activities to be carried out by you during the two-year B.Ed. programme. As you are attending the workshop along with other learners, the workshop in-charge will provide the details about the B.Ed. Programme. He will discuss do's and don'ts during the workshop, general schedule of the workshop and activities to be carried out by each of you. Assessment strategy for various activities, reports of internship activities, etc. will also be explained in this session.</p>  |
| <b>Session – III</b>        | <p><b>Paradigm Shifts In Teacher Education</b></p> <p>This session aims to facilitate you to discuss the paradigm shifts in teacher education.</p> <p><b>Pre-Workshop Activity</b><br/><i>You should study the Courses BES-123 and BES-124 thoroughly along with major discussion points of NCF-2005 and NCFTE-2009.</i></p> <p><b>During Workshop Activity</b><br/>The resource person will initiate the discussion with a brief presentation on recent changes in teacher education in India in the light of NCF-2005 and NCFTE-2009.<br/>You are expected to form small groups and each group will discuss on any of the following issues:</p> <ul style="list-style-type: none"> <li>• Socio-cultural perspectives of learners</li> <li>• Diversities among the learners</li> <li>• Constructivist pedagogy</li> <li>• Learner centered teaching methods</li> <li>• Content-based pedagogical knowledge</li> <li>• Language across the curriculum</li> <li>• Continuous comprehensive assessment with special reflections on 'Assessment for Learning' and 'Assessment of Learning'.</li> </ul> <p>Each group will make a presentation after group discussion and submit the report for assessment to workshop facilitator/ resource person.</p> <p><b>Post-Workshop Activity</b><br/><i>You are expected to make an assessment of themes and discussion and mention it in your reflective diary.</i></p>    |
| <b>Session – IV</b>         | <p><b>Quality Concerns In Secondary Education</b></p> <p>This session aims to:</p> <ul style="list-style-type: none"> <li>• to discuss the quality concerns in secondary education in India, and</li> <li>• to discuss the initiatives taken for quality improvement in secondary education.</li> </ul> <p><b>Pre-Workshop Activity</b><br/><i>You are expected to read the unit 3 of Block-1, Unit-6, 7, &amp; 8 of Block-2 and Unit-13 of Block- 4 of the Course BES-122: Education and Policies.</i></p> <p><b>During Workshop Activity</b><br/>The resource person will initiate discussion with a presentation on various quality issues in secondary education in India. S/he will give a brief presentation on various recommendations related to secondary education given by various commissions and committees in India. You are expected to form small groups and each group will discuss on various quality concerns and initiatives which have been taken to improve quality of secondary education. Each group will present the views of the group before the peers.<br/>Each group will make a presentation after group discussion and submit the report for assessment to workshop facilitator/ resource person.</p> <p><b>Post-Workshop Activity</b><br/><i>You are expected to make an analysis of the discussion held during the session and and mention it in your reflective diary.</i></p> |

*Anand Kumar*  
07/07/2022

*Dr. Anand Kumar*  
07.07.22  
ESH, Coordinator  
IGNOU – B. Ed. – (BES29)

**Session – I**

**Childhood In Different Contexts: Implications For Teachers**

This session aims to:

- sensitize teachers about diverse socio-economic and cultural backgrounds of learners;
- discuss the varied growing up experiences of children and their impact on learning process

**Pre-workshop Activity**

*Read the Units 1, 2 & 3 of Block 1 of Course BES-121: Childhood and Growing Up.*

**During Workshop Activity**

The resource person will initiate discussion with student - teachers on the concept of childhood. S/he then will divide them into various groups and ask them to select a group leader. Each group is assign a task to share their growing up experiences, followed by detailed discussion on the growing up experiences of children in different contexts such as:

- growing up as an orphan
- growing up in a slum area
- different growing up experiences of children and their impact on teaching-learning process.

In the plenary session group-wise presentations will be made by the group leader on the outcomes of discussion which will be followed by open comments and observations from other groups.

**Post-workshop Activity**

*Each group will submit its report to workshop facilitator for assessment.*

**Session – II**

**Sharing Reflections Narrated In Reflective Diary**

This session will help you to:

- strengthen your school based practices on the basis of your reflections.

**Pre-Workshop Activity**

*Read the unit 15 of 'Block 4: Teacher as a reflective practitioner' in the course BES-123.*

**During Workshop Activity**

In the beginning of this Handbook, you have been asked to maintain a reflective diary. You will share your reflections regarding teaching learning practices with your peers.

**Post-Workshop Activity**

*You should continue to write a reflective diary throughout the workshop and submit it to workshop coordinator for assessment at the end.*

**Session – III**

**Unit Planning**

This session will help you to develop a unit plan using concept mapping strategy.

**Pre-workshop Activity**

*Go through Unit 10: Organizing Teaching Learning, Block 3 of the Course BES-123. Identify a topic/ theme of your choice for developing a concept map.*

**During workshop Activity**

The resource person will discuss how to use concept map for planning a unit. You will practice for preparing unit plans based on concept map under the guidance of the workshop facilitator.

**Post-workshop Activity**

*Prepare one concept maps based unit plan on any unit from your selected pedagogy subjects and submit it for assessment purpose after presentation in next session.*

**Session – IV**

*(BES-141 Science, BES-142 Social Science, BES-143 Mathematics, BES-144 English & BES-145 Hindi)*

**Presentation Of Unit –Plans In Concerned Pedagogy Subjects**

In this session you have to present the unit plan you have prepared session III, day 2, from in your teaching subject and get the feedback from your peers and resource person.

**Note:** 05 parallel sessions, based on the pedagogy of specific subjects, will be organized.

**Pre-workshop Activity**

*You should study Unit 10: Organizing Teaching Learning, Block 3 of the Course BES-123.*

**During workshop Activity**

In this session you are expected to present the concept map based unit which you have developed in previous session. Each one of you has to present your unit plan in your subject group and take the feedback from the resource person and peers.

**Post-workshop Activity**

*You are expected to develop unit plans as a part of your teaching-learning process your schools.*



|                      |   |
|----------------------|---|
| <b>Session – I</b>   | <p><b>5-E Model Of Lesson Planning</b><br/>The activity in this session will facilitate you to understand the process of developing 5-E model of lesson planning.</p> <p><b>Pre-workshop Activity</b><br/><i>Go through the Unit 10: Organizing Teaching Learning, Block 3 of the Course BES-123</i></p> <p><b>During workshop Activity</b><br/>The workshop facilitator /resource person will make a presentation on general steps of 5- E based lesson planning. S/he will also highlight merits of using 5-E approach. S/he will demonstrate a model 5-E based lesson plan development.</p> <p><b>Post-workshop Activity</b><br/><i>You have to identify the themes/topics of your choice for development of lesson plans in your pedagogy subjects from the units on which you have developed unit plans.</i></p>   |
| <b>Session – II</b>  | <p><b>Integration Of ICT Resources In Teaching learning</b><br/>The activity in this session will help you to become aware of the process of integrating ICTs in teaching learning process.</p> <p><b>Pre-workshop Activity</b><br/><i>Go through the Block 3, Unit 11: Teaching-Learning Resources of BES 123.</i></p> <p><b>During Workshop Activity</b><br/>The workshop facilitator /resource person will make a brief presentation on merits/demerits, selection, integration and use of various ICT resources in classroom. You should share your experiences of using ICT resources in real classroom situation with relevant examples.</p> <p><b>Post-workshop Activity</b><br/><i>You are expected to intelligently select and integrate ICTs, and use them in your classroom. You should also assess the effect of these ICTs on learning. It is expected from you that you will integrate various ICT resources while presenting your lessons in simulated situation.</i></p>  |
| <b>Session – III</b> | <p><b>Preparation Of audio/Video Components For Teaching-Learning</b><br/>The activity in this session will help you to design and develop an educational audio/ video content.</p> <p><b>Pre-workshop Activity</b><br/><i>Select a topic on which you can develop a short audio/video component during the workshop. Bring a mobile phone or a digital camera to record an audio/video content.</i></p> <p><b>During Workshop Activity</b><br/>The resource person will make a presentation on the development of audio/video components in teaching and learning. You will be oriented to the process of development of audio/video in different formats for uploading on YouTube, social media sites or blending with power point presentation. You have to develop a video or an audio programme of approximately 5 minute duration on the selected theme using your mobile phone/digital camera. It may include demonstration, narration of an event, experiment or any other educational activity. It will be recorded in a suitable format and displayed during the workshop.</p> <p>The audio/video thus developed, will be assessed by at least two peers on quality of audio and visuals, clarity of language, comprehensibility and also evaluated by the evaluator.</p> <p><b>Post-workshop Activity</b><br/><i>Submit a copy of audio/video to workshop facilitator/resource person after presentation on Day V, Session 2. You may use it in classroom situation later.</i></p> |
| <b>Session – IV</b>  | <p><b>PREPARATION OF LEARNING RESOURCES</b><br/>The activity in this session will help you to develop learning resources by using locally available materials.</p> <p><b>Pre-workshop Activity</b></p> <ul style="list-style-type: none"><li>• <i>Go through the Block -3, Unit 11: Teaching Learning Resources of the Course BES-123.</i></li><li>• <i>Think about the learning resource you want to prepare and collect locally available materials for the same.</i></li></ul> <p><b>During Workshop Activity</b><br/>You will individually prepare a learning resource by using locally available materials on any teaching topic which you are going to teach in simulated teaching.</p> <p><b>Post-workshop Activity</b><br/><i>Use locally available material as learning resource in your teaching.</i></p>   |

|                                   |  |
|-----------------------------------|--|
| <p><b>Session –I &amp; II</b></p> | <p><b>Session – I</b></p> <p><i>(BES-141 Science &amp; BES-142 Social Science)</i></p> <p><b>Session – I I</b></p> <p><i>(BES-143 Mathematics, BES-144 English &amp; BES-145 Hindi)</i></p> <p><b>PREPARATION OF LESSON PLANS</b></p> <p>Purpose of this session is to develop lesson plans based on 5- E Model in your respective teaching subjects.</p> <p><b>Note:</b> This session will take place in 05 parallel pedagogy subject specific sessions simultaneously. Once you prepare a lesson plan in your pedagogy subject 1, you change the room and do the same for your pedagogy subject 2.</p> <p><b>Pre-workshop Activity</b></p> <p><i>Go through the unit related to lesson planning in your teaching subject i.e. courses BES-141 to BES-145.</i></p> <p><b>During Workshop Activity</b></p> <p>In these sessions resource persons will demonstrate model lessons related to different teaching subjects. They also discuss various strategies for developing 5-E based lesson plans in different subjects.</p> <p><b>Post-Workshop Activity</b></p> <p><i>You have to prepare lesson plans in two different pedagogy subjects during other sessions of workshop.</i></p>  |
| <p><b>Session –III</b></p>        | <p><b>DEVELOPING EMPATHY</b></p> <p>This session aims to develop an understanding about empathy as well as to develop skill to deal with children empathetically.</p> <p><b>Pre-workshop Activity</b></p> <p><i>Read the Unit-10, Block 3 of Course BES-121: Childhood and Growing Up.</i></p> <p><b>During Workshop Activity</b></p> <p>The resource person discusses the meaning of the word ‘empathy’ and its significance for a teacher in teaching-learning context. S/he will make various groups and provide various situations such as:</p> <ul style="list-style-type: none"> <li>• a disabled child in a normal classroom</li> <li>• a child who is bullied by his peers</li> <li>• children from multicultural backgrounds</li> </ul> <p>You will be asked to put yourselves in any one of the situations above so that you can ‘empathize’ with the child and imagine what a child feels and goes through. Based on your perceptions of putting yourselves in the ‘shoes of others’, you will be asked to think of appropriate ways of dealing with such children. Each group will be asked to share their reflections.</p> <p><b>Post-Workshop Activity</b></p> <p><i>Apply the suggested ways when you deal with children.</i></p> |
| <p><b>Session – IV</b></p>        | <p><b>PRESENTATION OF AUDIO/VIDEO PROGRAMME</b></p> <p>The objective of this session is to present the audio/video component developed by you and give provide the feedback.</p> <p><b>Pre-workshop Activity</b></p> <p><i>You will develop a 5 minute audio/video related to your teaching subject based on inputs provided on Day 3 Session III.</i></p> <p><b>During Workshop Activity</b></p> <p>Present the audio/video developed by you in session III of day 3. Resource person and peers will give their observations on quality/academic use and nature of the programme.</p> <p><b>Post Workshop Activity</b></p> <p><i>You have to submit your audio/video in soft copy to resource person for assessment purposes.</i></p>   |



Day – 5 (Monday), 11/07/2022

Session – I  
& II

**ASSESSMENT OF REFLECTIVE DIARY AND REPORTS  
OF THE ACTIVITIES UNDERTAKEN DURING INTERNSHIP-1  
(First 25 Learners)**

Purpose of these sessions is to assess the practical activities carried out during Internship-1.

**Pre-workshop Activity**

*Complete all the activities suggested in Handbook and material related to internship-1 and bring all reports.*

*All of your reports and reflective journals should be approved by mentors and authenticated by Head/Principal of the Internship school.*

**During Workshop Activity**

You will make a presentation of the activities completed by you during Internship-1. Resource person will assess the quality of the activities with the help of tools provided to them and submit the grades to workshop in-charge/PIC.

Out of 50 learner, 25 will present their reports and rest 25 will give constructive feedback.

Session -  
III & IV

**Session – III**

*(BES-141 Science & BES-142 Social Science)*

**Session – IV**

*(BES-143 Mathematics, BES-144 English & BES-145 Hindi)*

**PRESENTATION OF LESSON PLAN IN SIMULATED SITUATION**

These sessions will be organized in 5 parallel sessions for all 5 pedagogy courses. Learners will present their lesson plans related to their pedagogy subjects.

**Pre-workshop activity**

*Prepare one lesson plan each for your two pedagogy subjects based on 5-E Model.*

**During Workshop activity**

In session III and IV, you will be divided into groups based on your pedagogy subjects. In these two sessions you have to teach at least one lesson for each of two pedagogy subjects' and collect feedback from peers and work shop facilitator/resource person.

**Post-Workshop activity**

*- You have to further practice and try to refine these lesson plans.*

*- You have to prepare lesson plans for coming simulated teaching practice sessions in each of the pedagogy subjects.*

Day – 6 (Tuesday), 12/07/2022

Session – I  
& II

**Session – I**

**Session- II**

**ASSESSMENT OF REFLECTIVE JOURNALS AND REPORTS OF THE ACTIVITIES  
UNDERTAKEN DURING INTERNSHIP-1**

**(Rest 25 Learners)**

Purpose of these sessions is to assess the practical activities carried out during Internship-1.

**Pre-workshop Activity**

*Complete all the activities suggested in Handbook and material related to internship-1 and bring all reports.*

*All your reports and reflective journals should be approved by mentors and authenticated by Head/Principal of the Internship school.*

**During Workshop Activity**

You will make a presentation of the activities completed by you during Internship-1. Resource person will assess the quality of the activities with the help of tools provided to them and submit the grades to workshop in-charge/PIC.

Out of 50 learner, 25 will present their reports and rest 25 will give constructive feedback.

Session –  
III & IV

**Session – III**

*(BES-141 Science & BES-142 Social Science)*

**Session – IV**

*(BES-143 Mathematics, BES-144 English & BES-145 Hindi)*

**PRESENTATION OF LESSON PLAN IN SIMULATED SITUATION**

These sessions will be organized in 5 parallel sessions for all 5 pedagogy courses. Learners will present their lessons in the session related to their pedagogy subjects.

Purpose of these sessions is to present one lesson each on the basis of formats provided in different subjects.

**Pre-workshop activity**



*You have to prepare one lesson plan each for your two pedagogy subjects based on 5-E model.*

**During Workshop activity**

In session III and IV, you will be divided into groups related to various pedagogy subjects. In these two sessions you have to teach at least one lesson each of two pedagogy subjects' and collect feedback from peers and work shop facilitator/resource person.

**Post-Workshop activity**

*- You have to further practice and try to refine these lesson plans.*

*- You have to prepare another one lesson plan in each of the pedagogy subjects.*

**Day – 7 (Wednesday), 13/07/2022**

**Session – I  
& II**

**Session – I**

**Session – II**

**TEACHER AS AN ACTION RESEARCHER**

The objective of these sessions is to help you to prepare a proposal for an action research.

**Pre-workshop Activity**

*Read the section on Action Research discussed in Unit 14 of Block 4 of the Course BES 123, and list problems for action research.*

**During Workshop Activity**

This is a group activity. Every group will identify a suitable problem and prepare an action research proposal. The group will discuss the proposal within group as well as with other groups and revise the proposal on the basis of feedback received.

**Post-workshop Activity**

*Suggestions will be incorporated into the action research plan and the revised plan will be presented and submitted for assessment after the presentation.*

*It is also expected that you will carry out an action research at your school and will submit its report in next workshop.*

**Session –  
III**

**ASSESSMENT TOOLS AND TECHNIQUES**

The objective of this session is to develop an understanding about various types of tools and techniques for scholastic and co-scholastic assessment.

**Pre-workshop Activity**

*Reflect on using various tools and techniques and go through CBSE Modules for CCE (class LXX) available at [http://cbseacademic.in/publication\\_sqps.html](http://cbseacademic.in/publication_sqps.html)*

**During Workshop Activity**

Resource Person will make a short presentation on various tools and techniques to be used for assessment at secondary level. Subject specific groups will be made and asked to discuss the appropriateness of various tools and techniques.

**Post-workshop Activity**

*Outcome of the discussion will be used in next sessions for developing assessment tools.*

**Session –  
IV**

**CHILD RIGHT: ROLE OF A TEACHER**

The objective of this session is to develop awareness about child rights and discuss various situations where child rights are violated.

**Pre-workshop Activity**

*Read the Unit-11, Block 3 of Course BES-121: Childhood and Growing Up.*

**During Workshop Activity**

The workshop facilitator/resource person will initiate discussion with you on the topic child rights through examples based on their experiences/clippings from newspapers. You will, then, be divided into small groups. Each group will discuss various issues concerning the rights of child, keeping in view of the following points:

- situations in and outside classrooms where child rights are denied;
- various ways by which children are exploited;

Each group leader will make a final presentation on the outcomes of discussion which will be followed by open comments and observations from other groups.

**Post-workshop Activity**

*Each group will submit its report to workshop facilitator for assessment.*



**Session – I**

**CONSTITUTION OF DISCIPLINARY KNOWLEDGE AND ITS PERSPECTIVES**

Objective of this session is to facilitate you to:

- discuss the evolution of a discipline in broad areas of knowledge.
- explain the characteristics of a discipline.
- explain the historical, socio-cultural, political and philosophical perspectives responsible for the evolution of disciplines.

**Pre-Workshop Activity**

*You are expected to read the Block-1, Unit-1 'Knowledge and Discipline' and Unit 2 'Perspectives of Disciplinary Knowledge' of the Course BES-125. You are also expected to read the Chapter-II 'Learning and Knowledge' of National Curriculum Framework, 2005.*

**During Workshop Activity**

Group discussion approach with reflection on the issues related to the theme will be adopted to conduct the session. The resource person will initiate discussion by clarifying the concept, characteristics of discipline, disciplinary knowledge, evolution of a discipline, and 'perspectives of the disciplines' with the help of suitable illustrations/examples. You are expected to generate ideas and reflections on the issues in a small group. Each group will be assigned a discipline/subject to deal with and present.

**Post-workshop Activity**

*You are expected to thoroughly understand the theme and practice it in classroom interactions and you are also expected to take part in general discussions with the colleagues in your schools for contextual reflection on various issues relating to the theme.*

**Session – II**

**ORGANIZING SUBJECTS IN SCHOOL CURRICULUM**

The objective of this session is to facilitate you to

- discuss the bases of organizing subjects in school curriculum,
- explain the appropriateness of the subjects in curriculum at different levels,
- describe the needs of the students and teachers in the formulation of school subjects and its transaction, and
- discuss the issues concerned with designing uniform vs. locally designed syllabus.

**Pre-workshop Activity**

*You are expected to read, Block-2, Unit-5 :Organizing Subjects in School Curriculum, of the BES-125. Besides, you should have fair understanding of the Course 'Understanding Disciplines and Subjects'. You are also expected to read the National Curriculum Framework, 2005, specially the issues relating to curriculum. You will come with a secondary level textbook on the subject of your choice.*

**During Workshop Activity**

This will be a group activity (ideally five groups). Group discussion approach with reflection on the issues related to the theme will be adopted to conduct the session. The resource person will initiate discussion by clarifying the concept of the components of designing a school curriculum and selection of subjects/content to incorporate in the curriculum. The resource person is also expected to enrich discussions on issues related to linking disciplinary knowledge with the content in the school curriculum, arrangement of subjects in school timetable, organization of chapters in a subject and the flow of content in a chapter, inclusion of variety of learners' experiences in the content, use of variety of evaluation strategies in the content, and the issues relating to uniform and locally designed curriculum. Learners

may be assigned a text book of secondary classes on subject of their choice and they may deal at least one Unit/Chapter of the book. The learners may be initiated to generate ideas and reflections on the issues/parameters mentioned above in their groups, express their experiences and thoughts and present it before the class. The performance of the learners may be evaluated by using group activity evaluation tool.

**Post-workshop Activity**

*You are expected to thoroughly understand the theme and practice it in your classroom interaction and you are also expected to take part in general discussions with the colleagues in your schools for contextual reflection on various other issues relating to the theme. Prepare a report on it. Moreover, it is also expected that you will be able to select the subjects with justification for designing school curriculum at different levels whenever you get such opportunity.*

**Session – III & IV**

**Session – III**

(BES-141 Science & BES-142 Social Science)

**Session – IV**

(BES-143 Mathematics, BES-144 English & BES-145 Hindi)

**PRESENTATION OF LESSON PLAN IN SIMULATED SITUATION**



These sessions will be organized as 5 parallel sessions for all 5 pedagogy courses. Learners will present their lessons in the session related to their pedagogy subjects. Purpose of these sessions is to present one lesson each on the basis of formats provided in different subjects.

**Pre-workshop activity**

*You have to prepare one lesson plan each for your two pedagogy subjects based on 5-E model.*

**During Workshop activity**

In session III and IV, you will be divided into groups related to various pedagogy subjects. In these two sessions you have to teach at least one lesson each of two pedagogy subjects' and collect feedback from peers and work shop facilitator/resource person.

**Post-Workshop activity**

- *You have to further practice and try to refine these lesson plans.*

**Day – 9 (Friday), 15/07/2022**

**Session – I**

**WHAT IS LANGUAGE ACROSS THE CURRICULUM**

This activity is derived from the all the units of Block-1, of the Course BES 124 and is aimed at reinforcing an understanding of the central role of language, not only in specific subjects (mother tongue, foreign language, second language) but also in each subject in every activity and across the whole school curriculum.

The objectives of this activity are to:

- sensitize you to appreciate the role of language in learning of all subject matters
- enable you establish a language connect between different curricular areas and enhance awareness of the relatedness of subject and language aspects;
- enable you develop academic language skills and competencies through use of specific strategies in subject specific classrooms;
- to motivate you to use group techniques in their classroom

**During Workshop Activity**

You will work in mixed subject groups. Each group is asked to write a passage on

- What is the function of language?
- Why should the teacher focus on supporting language development?

Based on the example given in the Box, the group discusses how the following learning skills apply in all subjects and give examples from different subjects

- Locating information
- Gathering facts
- Organizing information
- Acquiring information
- Communicating orally
- Interpreting pictures
- Evaluating and applying

### Example:

- Locating information – *find the number of districts in the map* provided; find the word, *in the first paragraph*, which means..., which *vitamins* do you find *in the green vegetables*?
- Gathering facts – *list the occurrences* that led to the 1857 uprising or the first war of Independence, mention the steps you need to take to repair a broken valve.
- Organising information – draw a table in which you present the advantages and disadvantages of **over-draft**.
- Acquiring information – using strategies through reading: skim the text below and give an idea of what the text suggests.
- Acquiring information- setting purpose for listening: listen to the recording of the Independence Day speech of Pt. Nehru and present your observations on his vision of India.
- Communicating orally – speaking with accuracy and pose, and in writing with clarity and exactness, using the writing process. Based on your recent lesson on obesity, prepare a written presentation, from which an oral presentation will be made, on the diet one must follow to avoid obesity build-up.
- Interpreting pictures – see the attached cartoon on democracy and present your interpretation of the text to the class.
- Evaluating and applying – applying problem-solving and information critical thinking skills. Do you think the newspaper article on the new education policy is subjects the problems in school education?

The Resource Person / facilitator scaffolds the discussion on LAC after each group makes their presentation.

## Session – II

### USING LITERATURE TO TEACH MATHEMATICS

This activity is based on the two Blocks of the Course BES 124: Language across the curriculum, and is intended to demonstrate that Mathematics develops out of human experiences, as depicted in literature.

This activity is also designed to motivate the student-teachers to teach various forms of literature (stories, poems, etc.) with a focus on reading, writing, and communicating mathematically.

The objectives of this activity are to:

- motivate you to use literature, which often depicts real-life situations, for engaging students in authentic problem solving and exploring mathematical concepts;
- to develop skills amongst you enabling you to use strategies of asking questions, making connections, visualizing, inferring, predicting, determining importance, and synthesizing while interacting with literature and mathematics texts;
- to motivate you to use mathematical discourse in the classroom by encouraging students to reflect on mathematical concepts.

#### During Workshop Activity

You will work in groups. Each group collects a story / article / poem with Mathematical content. Group prepares questions with a focus on a Mathematical concept or a skill like

numeracy;  
geometric labels;  
information about measurement;  
maps and diagrams;  
fractions.

Each group makes a presentation and discusses the use and advantages of selecting appropriate strategies which can be used in the classroom.

The Resource Person / facilitator scaffolds the discussion on LAC after each group makes their presentation.



### Example 01

In the *Jungle Book* by Rudyard Kipling, there is a council made primarily of wolves called the Wolf Council. There are 3 members that are not wolves (Baloo, Bagheera, and Mowgli) and there are members of the jungle but not the Wolf Council (Shere Khan, Kaa, Riki, Tiki, Tavi and Toomai the elephant). There are 60 members of the Wolf Council, not including the three mentioned above, and two hundred members total in this particular area of the jungle. How many members are in each group?

Question: What type of Venn Diagram would you use for the above scenario? Also solve the problem given in the scenario and explain reasons for your answer in 3-4 sentences.

### Example 02

According to a folktale from South India, a peasant fell in love with a princess and asked for her hand in marriage. The king refused to oblige the peasant, the princess came to know about this and fell sick. She however got well with the help of the peasant. The king told him to ask for anything except the hand of his daughter as a reward. The peasant then asked for a grain of rice which, he said, should be doubled everyday for 100 days. The king was happy with the request but shocked when explained that he would have to give..... grains. He instead chose to give his daughter in marriage.

Question: What is the answer? Write down the steps you have followed in arriving at the answer. The teacher scaffolds the concept of exponents, its definition and properties with the help of this story.

### Session – III & IV

#### Session – III

(BES-141 Science & BES-142 Social Science)

#### Session – IV

(BES-143 Mathematics, BES-144 English & BES-145 Hindi)

### PREPARATION AND PRESENTATION OF SUBJECT SPECIFIC ASSESSMENT TOOLS

These sessions will help you to develop different assessment tools in your pedagogy subjects.

#### Pre-workshop Activity

Go through the CBSE Modules for CCE (class IX-X) and discussion held during session II.

#### During Workshop Activity

You will be asked to identify the content from your respective teaching subjects and develop an assessment tool for scholastic assessment along with the assessment parameters.

You have to develop a tool and present it in your respective subject groups.

#### Post-workshop Activity

You will submit the tool for assessment purpose to workshop facilitator/resource person.

Day – 10 (Saturday), 16/07/2022

### Session – I

#### USING DIFFERENT TEXTS FOR DEVELOPING CRITICAL THINKING SKILLS

This activity is aimed at developing awareness among you that reading followed by thinking about the read text can help in text comprehension. Lou & Chan (2014) define critical thinking as the ability to think clearly and rationally about what to do or what to believe. It includes the ability to engage in reflective and independent thinking. After going through the example (as given in the Box 1), you get a fair idea about how critical thinking can be developed using reading comprehension questions across the curriculum.

**Objectives:** This activity focuses on helping you to:

- understand the concept of critical thinking,
- identify reading material that will develop critical thinking skills; and
- plan questions to monitor their students' critical thinking skills.

#### Pre-workshop Activity

Go through Unit 2 of Block 1 of the course BES-121: Reading and Reflecting on the Text.

#### During Workshop Activity

The activity will be conducted in mixed groups (participants from different disciplines). Before conducting the activity, the workshop facilitator will identify a text from any subject area and plan questions that will help in monitoring your comprehension of the topic. Each one of you will read the text material and answer the questions given at the end. You can practice this strategy 'Developing Critical thinking skills among learners' using different types of reading materials.

**Box 1:** The following text is taken from The Hindu dated 3 September 2015 titled Beyond the pass fail binary. This text is written by Rohit Dhankar.

#### BEYOND THE PASS-FAIL BINARY

A contradiction between an outmoded authoritarian system and a more enlightened idea of education is reflected in the clamour for the removal of the no-detention policy.



The national press is abuzz with reports on whether to re-introduce the old pass-fail system or continue with the current automatic promotion (referred to as "no-detention policy [NDP]") to the next class, brought in as part of the implementation of the Right To Education Act (RTE, 2009). The central government is treading cautiously "[i]rrespective of the unanimous outcry for revocation" of the NDP and has asked for written responses from all State governments, according to news reports. Educationists, however, say, "Just by failing children, you do not make them good learners". The teachers often complain about 'no detention' and 'no punishment', seeing the two punitive measures as the most effective tools of control over children — and control, as we all know, is seen as a necessary condition for making children learn.

Both claims, it seems, have some truth in them but miss the real issue by a wide margin. Exams have a tendency to become the only motivation for learning. All educated Indians are thoroughly conditioned to believe that "no exams, no learning". This belief is easily transferred to children in a system that has almost no idea of the joy of learning in itself.

While educationists are right that failing children does not make them good learners, they are wrong to think that education can be completed just by automatic promotion to the next class. The idea that children drop out because of failure is actually wrong: they do because of non-learning and failure is just the last straw on the proverbial camel's back.

In such a situation the only thing the no-detention policy can ensure is the pretence of completing elementary education without any real learning. However, if we want to understand the educational worth of no-detention, we have to take into account three important ideas promoted by the RTE simultaneously. They are: admission in age appropriate class (AAAC), continuous and comprehensive evaluation (CCE), and no-detention policy (NDP). All three ideas come from what could be broadly called the progressive education movement in the West that entered India under the name of "child-centred education". It talks of classroom process being guided by the child's interests and learning through activities. Modestly, it can start from where the child is and help her actively engage in making meaning through constructing concepts and forming relationships between them. The goal is to arrive at the knowledge generally accepted today.

These ideas demand that children work together and progress in rational enquiry in a free atmosphere. It is assumed that interaction and collaboration with children of similar age will help them in this progressive meaning making. Therefore, the need for the AAAC. Similarly, children progress with varied speeds and not necessarily through the same conceptual routes; therefore, one periodic examination on fixed questions for all becomes inappropriate and leaves much of the child's progress in scholastic as well as moral and emotional development un-assessed. Hence, the need for the CCE. Since children progress as per their own speed, which is necessary for conceptual clarity, there is no point in pass fail in classes. This will only artificially bunch children together. Therefore, the need for the NDP.

The three ideas are closely connected through assumptions regarding knowledge, human learning and the child's nature. They are complementary to each other and can only work in any education system if taken together seriously.

#### **Curves vs. ladders**

If we accept the assumptions underlying AAAC, CCE and NDP, then the organisation of the curriculum and the school structure will need fundamental changes. The curriculum and syllabi will have to assume a "learning continuum" rather than a "learning ladder". A continuum imagines a curve of learning, an individual path taken by each child, which does not necessarily have any time-bound milestones. The knowledge, skills and values in the curriculum and syllabus may be organised sequentially, but no year-wise rigid packaging can be admitted.

In the learning ladder paradigm, on the other hand, the curriculum and syllabus are neatly organised in yearly packages, which we call grades or classes, to be learnt in one year. Exams may come during the year, but results are aggregated at the end and the decision on whether sufficient learning has happened is expressed in the form of a pass or fail. In case of failure, the whole chunk has to be learnt again; in case of a pass, no further opportunity to strengthen learning in the already covered areas is needed.

Organising curriculum in the form of learning continuum will immediately contradict the grade-wise structure of the school. Since learning is supposed to be continuous, no rigid, year-wise division is made. Putting children into different grades and the pass-fail kind of examination system becomes



redundant and an impediment to teaching-learning. The only form of assessment that can serve the purpose then is the CCE.

Our education system is profoundly authoritarian. The idea of progressive creation of knowledge by the child directly contradicts the idea of knowledge as finished product, enshrined in the textbook. The grade-wise organisation of curriculum goes very well with this idea of knowledge. The class-wise structure of the school is an administrator's delight as it can be used for simple delineation of tasks for teachers and students. And the pass fail examination system is a natural, logical outcome of these ideas of knowledge, learning, curriculum and school.

The contradiction between an outmoded authoritarian system and a more enlightened idea of education is being played out in the form of introduction and then the clamour for removal of CCE and NDP. CCE and NDP simply cannot be meaningfully implemented unless we challenge and dismantle the authoritarian education system.

All the three ideas of CCE, NDP and AAC are theoretically sound, practically proven, and much better for quality education. That is what makes the current antagonism to NDP misguided — the fault lies in the authoritarian structure of the school, not in the NDP. Expecting education administrators to understand the CCE and NDP properly would be a pipe dream. But what of the educationists who advise on policies like RTE? Do they lack the courage to suggest the dismantling of the authoritarian structure of schools? At present we are discussing a new education policy for the nation. A more enlightened vision of education and schools should have been at the centre of this discussion. One is dismayed to note that those guiding the policy debates seem to have no awareness of this dire need of our education system. And therefore, we will continue barking up the wrong tree.

#### Think and Discuss

1. What are the three important ideas promoted by RTE, borrowed from the Progressive Education movement in the West?
2. The curriculum and syllabi will have to assume a "learning continuum" rather than a "learning ladder". Explain.
3. How would our classrooms need to be reorganised so as to ensure students are a part of the learning continuum?

#### Post-Workshop Activity

You are expected to identify such texts from various sources (news papers, magazines, journals, books, etc.) and use it for development of critical thinking skills among your students.

## Session – II

### USING A SUITABLE RESOURCE FROM NROER (National Repository of Open Educational Resources)

This activity is aimed at developing an understanding of the use of NROER resources by school teachers in their day-to-day teaching. This platform provides different digital resources such as educational videos, audio, images, documents, and interactive modules.

**Objectives:** This session aims to help you to:

- identify different themes and tools mapped to the National curriculum in their subject areas;
- locate different resources such as images, audios and videos available for different topics covered in the classroom; and
- use selected digital resource (s) in their lesson plan.

#### Pre-workshop Activity

Go through Unit 2 of Block 1 of the course BES-122: Application of ICT.

#### During Workshop Activity

Workshop facilitator will make a presentation on different features and resources available on NROER for school teachers. Workshop facilitator will make subject specific student teachers groups. Each group will identify a topic from their discipline and will prepare a lesson plan using resource (s) from NROER; and each group will present its plan.

#### Post Workshop Activity

Submit the lesson plan prepared by each group (mentioning resources used from NROER). Practice this strategy of finding OERs related to different topics on NROER website.

### USE OF CONCEPT MAP SOFTWARE FOR CLASSROOM ASSESSMENT

This activity is aimed at developing an understanding of the use of Concept Map software for assessment.

**Objectives:** The objective of this session is to facilitate you to:

- select a concept taught in the class;
- select an appropriate software or web-based tool (e.g. c map, free mind, etc.) for preparing a concept map ; and
- grade concept maps by using and providing a set of criteria within a rubric.

#### Pre-workshop Activity

Read the Unit 2 of Block 1 of the course BESL-122: Applications of ICT.

#### During Workshop Activity

Workshop facilitator will prepare a presentation on installation and use of software and web based tools in making concept maps and its grading. Each subject specific group will construct a Concept Map using software or web based tool. Then grade it with the help of a set of criteria within a rubric (an example is given on page 28 in Unit 2 of BESL-122). Each group will submit the scoring criteria for grading Concept Map. This will be followed by presentation by each group.

#### Post Workshop Activity

Group presentation report and concept map will be assessed by the resource person on the basis of:

- construction of the Concept Maps (use of hierarchy and propositions);
- grading of the Concept Map;
- understanding of the concept represented through the Concept Map.

Day – 11 (Sunday), 17/07/2022

### Session – I & II

#### READING ACROSS THE CURRICULUM

This activity is aimed at developing understanding of how a piece of writing helps us in developing vocabulary and building cross-curricular concepts. By reading a science-based article, for instance, we (as given in Box 2) can understand a concept of science which also connects several disciplines. For instance, let us take the example of the text given in the box – we have often read about Drones being used for surveillance. In the text given in the box, we will read how drones are being used in education. In this article – published in an educational magazine – Educause – (accessed from - <https://library.educause.edu/resources/2015/1/7-things-you-should-know-about-drones> - on 01 Dec 2016), we see how a concept of science that connects several disciplines and ultimately helps us develop a perspective of the world around us. Reading such articles can help us in motivating our students to show interest in the diverse fields of science. The worksheet questions can be prepared from the chosen text.

**Objectives:** The objectives of this activity/session are to facilitate you to:

- understand the concept of 'Reading across the Curriculum';
- appreciate an interdisciplinary perspective for a concept; and
- develop a worksheet to help learners read across the curriculum.

#### Pre-workshop Activity

Read Unit 1, block 1 of the Course BESL 121: Reading and Reflecting on the Text.

#### During Workshop Activity

The activity will be conducted in mixed groups (participants from different disciplines). Before conducting the activity, the workshop facilitator will choose a few articles from different sources such as newspaper, textbooks etc that are related to some topics in the secondary classrooms. One such example for reference purpose is given in Box 1.

Each group will be given one such article and after reading this article the group will identify two or three disciplines where the concept is being used. Each group will develop one worksheet for 'Reading across the Curriculum'. This will be followed by presentation by groups.

#### Post Workshop Activity

Group presentation, report including worksheet will be assessed on the basis of:

- relevance of the topic with the disciplines;
- relevance of the worksheet developed to help students read across the curriculum;
- understanding of the concept of the 'Reading Across the Curriculum; and
- ensuring learner's involvement.



## Box 2: Things you should know about Drones

### 7 things you should know about Drones

#### Scenario

Spencer, a mechanical engineering major, is taking a seminar on robotic design. Last quarter, Spencer built an un-manned aerial vehicle, which he will test in a collaborative project this quarter. The instructor puts up a Facebook page where people from across campus propose projects for which a drone would be helpful. Spencer responds to a posting from Maddie, a graduate student in environmental engineering, who would like master's thesis will evaluate the impact of a development the institution has proposed for the site, and using a drone for that survey will be far faster, safer, and less disruptive to the habitat than doing it on foot and by boat.

Spencer installs a video camera on the drone, along with several sensors to measure temperature and air quality. The next day, Spencer flies his quadcopter over the designated area while Maddie watches the video in real time. The drone sends images of power lines, neighboring traffic flows, and the lake that borders the site. The heat sensor detects several warm areas that suggest mammal or bird habitats, and the air quality sensors show a spike in carbon monoxide near the highway.

Spencer and Maddie return to the site three days later to fly the drone over a three-acre patch, solid with under- growth. Data from the previous flight suggest 11 potential wildlife habitats there, a half-mile from the highway. Spencer equips the drone for close-up still photography, and the images they collect confirm the presence of nesting wood ducks, the very birds the wetlands were designated to protect. Use of the drone was essential to this because the waist-high undergrowth would make walking the area nearly impossible, and the wood ducks would have disappeared at the first hint of human intrusion. Spencer gains valuable experience with his drone from the collaboration with Maddie, and she obtains the information she needs to not only complete her thesis but also hopefully persuade the university not to develop the area.

#### 1. What is it?

Drones, also known as unmanned aerial vehicles, are perhaps most widely recognized for their use in military and police activities. But these compact, remote-controlled devices are finding a growing number of uses in education and scholarly research, where they support remote viewing, landscape searches, site monitoring, and data gathering. A search botanist might use a drone to survey rare plant life on cliff outcroppings, or an instructor in city planning might use the tool to capture environmental data about the proposed inner-city site for a student-designed housing project.

#### 2. How does it work?

Although some drones can be programmed to fly without the interaction of a human pilot, the majority are remote-controlled devices. Most often, these take the form of a small multicopter, ranging in size from some that would fit in the palm of a hand to others that weigh a couple of hundred pounds. They take off vertically and use their multiple rotors to move, balance, and hover. Drones run on re-chargeable batteries, and ground control often consists of a radio controlled unit with switches and buttons or a smart- phone or tablet that presents a display with virtual controls. Drones might carry one or more cameras or sensors to record data that are subsequently sent to software on ground- based equipment such as a laptop or tablet.

#### 3. Who's doing it?

Researchers and instructors at numerous colleges and universities have been employing drones in experimental programmes over the past few years. Students at Bergen Community College in New Jersey built drones to capture images for 3D maps of the campus. The University of what causes them to produce tornadoes. At the UC Davis Department of Biological and Agricultural Engineering, drones are employed experimentally for crop dusting. Kansas State University Salina has an Unmanned Aircraft Systems program where students can earn a bachelor's degree studying the flight, maintenance, and engineering of drones. In Canada, drones are approved for use in such efforts as the journalism program at Langara College in Vancouver.

There, aspiring reporters study the legal and ethical aspects of using drones for news coverage and are taught how to pilot drones for that purpose. In the United States, however, regulations are hazy. At the Drone Journalism Lab at the University of Nebraska-Lincoln, students were using unmanned aerial vehicles as a newsgathering tool, but their local drones were grounded by a cease-and-desist order from the FAA.

#### 4. Why is it significant?

Because drones are frequently tied into a network, can be controlled by mobile devices, and could continuously upload images and sensor data to devices or online repositories, they can be seen as part of



the growing Internet of Things. Drones provide a sandbox for studying the ways education can incorporate the rapidly exploding field of robotics into teaching and learning. Because they have become relatively inexpensive, they are cost-effective for fieldwork, opening areas of study not previously available. Much of the effectiveness of drones has been made possible through more powerful and lighter cameras with stabilization units capable of taking high-resolution images from a flying platform. Better resolution allows users to create 3D maps or distinguish small changes in landscapes, on buildings, or in crowds. Miniaturization, too, has played a key role in that numerous kinds of sensors can accompany drones, measuring every- thing from changes in polar ice sheets to the chemical environment of a volcano. As a curious benefit of miniaturization, tools and components, such as mobile hotspots, GPS trackers, tiny cameras, or RFID tags, are lightweight enough to be delivered via drone to field work efforts.

#### **5. What are the downsides?**

Drone crashes can injure people, damage property, or cause other trouble due to inexpert handling or unforeseen problems. Because drones can easily go where humans cannot, they raise numerous ethical concerns regarding privacy and security. They also raise questions in research, notably whether a flying device will affect the animal and human life forms being observed. These and other issues have placed drones in unsettled legal terrain with an uncertain and changing regulatory climate. Until new rules go into effect, regulation in the United States specifies how drones can be flown but is ambiguous about who can fly the mand for what purposes. Drones are legal for recreational purposes but can- not be flown higher than 400 feet, cannot be deployed too close to an airport, and cannot be used for commercial purposes without individual FAA approval. But what constitutes "commercial" activities is unclear, and it has at times been interpreted to mean any activity that is not recreational or part of a government program.

#### **6. Where is it going?**

Drones are certain to see increased use going forward because they provide a relatively inexpensive and effective plat- form to carry out a wide range of activities. On campus, Wi-Fi hotspots on drones could be sent to hover or perch at specified campus locations to provide or boost connectivity. With in- creased frequency, drones will be used for wilderness observation, traffic control, and farm land monitoring. Autonomous drones, which follow coded instructions for their routes and activity rather than depending on remote control, will find greater use in data gathering and observational activities; particularly where the same set of locations must be observed over time. As more of these devices fill the airspace over our heads, new FAA rules and regulations will emerge. Current new stories suggest that some operators might be required to have licenses. If the convoluted regulations that apply to drones are clarified and updated, many new opportunities could emerge for the use of drones in higher education, both for researchers and for faculty and students, who could use them in many kinds of learning activities.

#### **7. What are the implications for teaching and learning?**

The use of drones in research, classrooms, labs, and group projects is still new but gaining in popularity. These devices can support activities from the filming of student movies to the evaluation of crop conditions for agricultural studies. They support student mapping on campus and monitoring in a variety of academic fields. Drones offer new angles for digital storytelling and provide photographs of hard-to- reach areas for class, lab, and research activities in biology, botany, zoology, archeology, and wildlife behavior studies. These highly sophisticated machines are often built by students who pro- gram them to carry cameras and relay the images, or engage in remote sensing and sampling from areas not easily accessed. Where drones enable remote viewing, they offer us easy access to overhead views and new perspectives, literally changing the highly sophisticated machines are often built by students who program them to carry cameras and relay the images, or engage in remote sensing and sampling from areas not easily accessed. Where drones enable remote viewing, they offer us easy access to overhead views and new perspectives, literally changing the way we see the world around us.

#### **Worksheet Questions:**

1. Define - Drone
2. Identify the disciplines.
3. Can you think of any student in your class / school who would be interested in reading such an article? Give reasons for your answer.
4. In your opinion should Class 11 & 12 students study Robotics in school as a subject or should they be taught this subject when they are in college?



|                                     |   |
|-------------------------------------|---|
| <b>Session – III<br/>&amp; IV</b>   | <p><b>Session-III : -</b></p> <p><b>Session-IV : -</b></p> <p><b>ASSESSMENT OF ACTIVITIES RELATED TO EPC-I</b></p> <p>The objective of these sessions is to help you to assess the practical activities related to EPC-1, i.e. Reading and reflecting on the text.</p> <p><b>Pre- workshop Activity</b><br/> <i>Complete all the activities suggested in handbook related to EPC-1 BESL 121. Reading and reflecting on the text and bring all reports.</i></p> <p><b>During Workshop Activity</b><br/>         You will make a presentation of the activities related to EPC 1, carried out by you. Resource person will authenticate and assess the quality of the activities with the help of tools provided to them and submit the grades to the workshop in-charge/PIC.</p> |
| <b>Day – 12 (Monday) 18/07/2022</b> |   |
| <b>Session – I<br/>&amp; II</b>     | <p><b>ASSESSMENT OF ACTIVITIES RELATED TO EPC-II</b></p> <p>The objective of these sessions is to help you to assess the practical activities related to EPC-2, i.e. Application of ICT.</p> <p><b>Pre-workshop Activity</b><br/> <i>Complete all the activities suggested in handbook related to EPC-2 BESL 122: Application of ICT and bring all reports.</i></p> <p><b>During Workshop Activity</b><br/>         You will make a presentation of the activities related to EPC 2, carried out by you. Resource person will authenticate and assess the quality of the activities with the help of tools provided to them and submit the grades to the workshop in-charge/PIC.</p>  |
| <b>Session –<br/>III &amp; IV</b>   | <p><b>VALEDICTORY</b></p> <p>In this session, participants will share their feedback about various aspects of the workshop. Workshop in-charge or PIC will inform them about next events like second year workshop, internship, examination form, assignments, etc.</p>   |