



# WELCOME

## 29<sup>th</sup> IQAC Regular Meeting

**Tuesday, 4<sup>th</sup> April 2023**

## Latest Achievements

- NIRF in 2022 -141 (1<sup>st</sup> among Private Engg colleges in AP)
  - All seven Engineering UG programs were accredited by NBA, IT dept accredited for 6 years.
  - Ranked 14 among Govt. and Private Colleges by “Data Quest” for the year 2022.
  - Rated AAAA in ‘Career 360’
  - College is recognized in the band “ EXCELLENT” under the category “ Colleges/Institutes (Private / Self-Financed) (Technical)” in Atal Ranking of Institutions on Innovation achievement (ARIIA) 2021.
- Depts. of CE, ECE, EEE and IT recognized as Research Centres by JNTUK, Kakinada.
  - Scopus Indexed papers in 2022 crossed 500 (In 2022 –510 , In 2021–309)
  - CSE – Established AR, VR & MR technology Lab (Rs 25 Lakhs) in collaboration with IRUSU technologies – first in the region; Cyber Security lab
  - Civil Engg Dept.- CoE in 3D printing in collaboration with KCP Cements Ltd (Rs 28 Lakhs)
  - ECE -1<sup>st</sup> Prize Rs.1,00,000/- Smart India Hackthon, IIT Roorkee, conducted by AICTE, on 29<sup>th</sup> Aug 2022
- For the AY 2022-23 (till date) 784 (Single offer) / 1126 (Offers) students got placement; **highest packages are 45 LPA in ADOBE, 44 LPA in AMAZON WOW.** Above Rs 5 Lakhs: 442; Above 10 Lakhs:56



# Agenda

## A) Action taken report on the proposals of 28<sup>th</sup> IQAC meeting

- 1) Identification & subsequent strengthening of one **major thrust area of *Research in Emerging fields in every department*** by providing necessary infrastructural facilities & identifying competent faculty & having collaborations to fulfill the “*Make in India*” and “*Atmanirbhar Bharat*”
- 2) Revamp of “*Continuous (Internal) assessment pattern*”

## B) Issues open for discussion

- 1) Streamlining – **EPICS**. The Projects should confine to societal problems with innovative solutions and reach targeted users
- 2) Executing Industry / Institute (IITs/NITs) **collaborative joint venture projects** in all the departments.
- 3) Refresher **Training** program on **OBE** (*Focusing on Higher order knowledge levels, defining appropriate COs & setting higher PO attainment targets*).
- 4) Any other item with the permission of Chairperson.

1) Identification & subsequent strengthening of one **major thrust area of Research in Emerging fields** in every department by providing necessary infrastructural facilities & identifying competent faculty, to fulfill the “Make in India” and “Atmanirbhar Bharat”

**Intension:**

*To make every department strong in a particular area of research by promoting extensive research work in that area, which is beyond the regular research activities in the department.*

**Implementing Strategy:**

- Identifying thrust area of Research in emerging field, having wide scope, useful to the Society & Industry.
- Identifying competent faculty / recruiting them if necessary
- Providing infrastructural facilities in phased manner in the area of research
- Collaborating with institutions , Research organizations & Industries working in the same field.

**Expected outcomes:**

- *Research work focusing on Outcomes – Quality Publications, Patents, innovative products, grabbing sponsored Research projects & research awards.*
- *Finally, aspiring recognition of the department from outside world.*



1) Identification & subsequent strengthening of one **major thrust area of Research in Emerging fields** in every department by providing necessary infrastructural facilities & identifying competent faculty, to fulfill the “Make in India” and “Atmanirbhar Bharat”

### Research areas identified by the departments

Dept	Area of Research	Dept	Area of Research
CSE	➤ Computer Networks and Information Security	MCA	➤ Big data and Data science in Healthcare Sector
	➤ Image Processing and Computer Vision	MBA	➤ Data driven decision making Digital Transformation
	➤ IoT, Cloud and Ubiquitous Computing		
IT	➤ Big Data and Data Analytics	Maths	➤ Convective heat and mass transfer analysis of flows in porous medium ➤ Software reliability, Fuzzy logic applications
	➤ Remote Sensing and GIS		
ECE	➤ Antennas for Futuristic Wireless Communications	CHEM	➤ Ionic Liquids – synthesis and study of properties ➤ Crystal engineering – applications in pharmaceutical industries
EIE	➤ Design of Biosensors		
ME	➤ Fabrication and Analysis of natural fiber reinforced composites		
CE	➤ 3D Concrete Printing		
	➤ Snow Ice melt estimation through geodetic & AAR methods.		

1) Identification & subsequent strengthening of one **major thrust area of Research in Emerging fields** in every department by providing necessary infrastructural facilities & identifying competent faculty, to fulfill the “Make in India” and “Atmanirbhar Bharat”

## **Projects approval Mechanism**

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1. Phase I: Examination of Project proposal by R&D committee along with respective HoD & R&D coordinator
2. Phase II: Presentation before external experts and their scrutiny. Suggestions for modifications, if any.
3. Final approval for sanctioning of budget (1<sup>st</sup> year)
4. Quarterly assessment for progress and outcomes.
5. 2<sup>nd</sup> & 3<sup>rd</sup> year approval on submission of progress / outcomes & expenditure.

## 2. Revamp of “Continuous (Internal) assessment pattern”

### Proposed pattern:

Internal Assessment - 30M  
 Class tests (2) - 10  
 Sessional Examinations (2) - 15  
 Presentation / Seminars – 5

Class tests  
 2Q\*5 M=10 M  
 Duration – 45min  
 Knowledge levels  
 not less than K2 – K5  
  
 2/3<sup>rd</sup> of best exam &  
 1/3<sup>rd</sup> of least exam

Sessional Examinations  
 -Total - 4Q and  
 -Choice – 1Q  
 3Q\*5M=15M  
 Duration – 75/90min  
 -Knowledge levels  
 K2 - K5  
 -Choice Question must be  
 with same Knowledge level  
 2/3<sup>rd</sup> of best exam & 1/3<sup>rd</sup> of  
 least exam.

Presentation / Seminars  
  
 Based on  
 rubrics & topic  
 beyond syllabus

### Existing pattern:

Internal Assessment - 30M  
 Assignment Tests (2) - 10  
 Sessional Examinations (2) - 12  
 Home assignment – 5  
 Attendance – 3

Assignment Tests  
 2Q\*5 M=10 M  
 Duration – 45min  
 No guidelines for  
 Knowledge levels

Sessional Examinations  
 Part A – 4 M  
 (Compulsory)  
 Part B – 8 M  
 Total 3Q – One  
 Choice  
 2Q\*4M=8 M  
 Duration – 60min  
 No guidelines for  
 Knowledge levels

Home Assignment-5M  
 Faculty choice –  
 Report submission

Knowledge levels: K1-Remember, K2-Understand, K3-Apply, K4- Analyse, K5- Evaluate & K6 - Create .



## 2. Revamp of “Continuous (Internal) assessment pattern”

### Sample Question Paper - Sessional Exam

VELAGAPUDI RAMAKRISHNA				
SIDDHARTHA ENGINEERING COLLEGE (AUTONOMOUS), VIJAYAWADA				
DEPARTMENT :.....				
Programme: B.Tech.	Year: I	Semester: I	Sessional-I	
A.Y.: 2022-2023	Course Title:		Date:.....	
Duration: 90 min.	Course code:.....		Max. Marks: 15	
<b>Answer the following questions</b>				
<b>Part-A compulsory and any Two from Part-B</b>			<b>5 x 3 = 15 marks</b>	
<b>Part - A</b>				
Q.No	Question	Marks	COs	BTL
1	From Unit-I	5 Marks		K2-K5
	From Unit-II			
<b>Part - B</b>				
2	From Unit-II	5 Marks		K2-K5
3	From Unit-II	5 Marks		K2-K5
4	From Unit-II	5 Marks		K2-K5

Knowledge Levels: K2-Understand; K3-Apply; K4-Analyze; K5-Evalute



## B. Issues open for discussion

### 1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users

#### EPICS:

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- Combine Engineering education and Service to the community.
- Generating a satisfactory solution to a need of community (People / Schools / Local governments, etc), but not for profit organizations.

The solutions include even improvement of an existing situation or present problem / elimination of a problem / an innovative technology-based approach to very old problem.

- EPICS teams can attract funding too to make their ideas a reality.
- **Important** : The final outcome should Reach the targeted user.

## **B. Issues open for discussion**

**1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users**

### **Projects in Community Services - Areas:**

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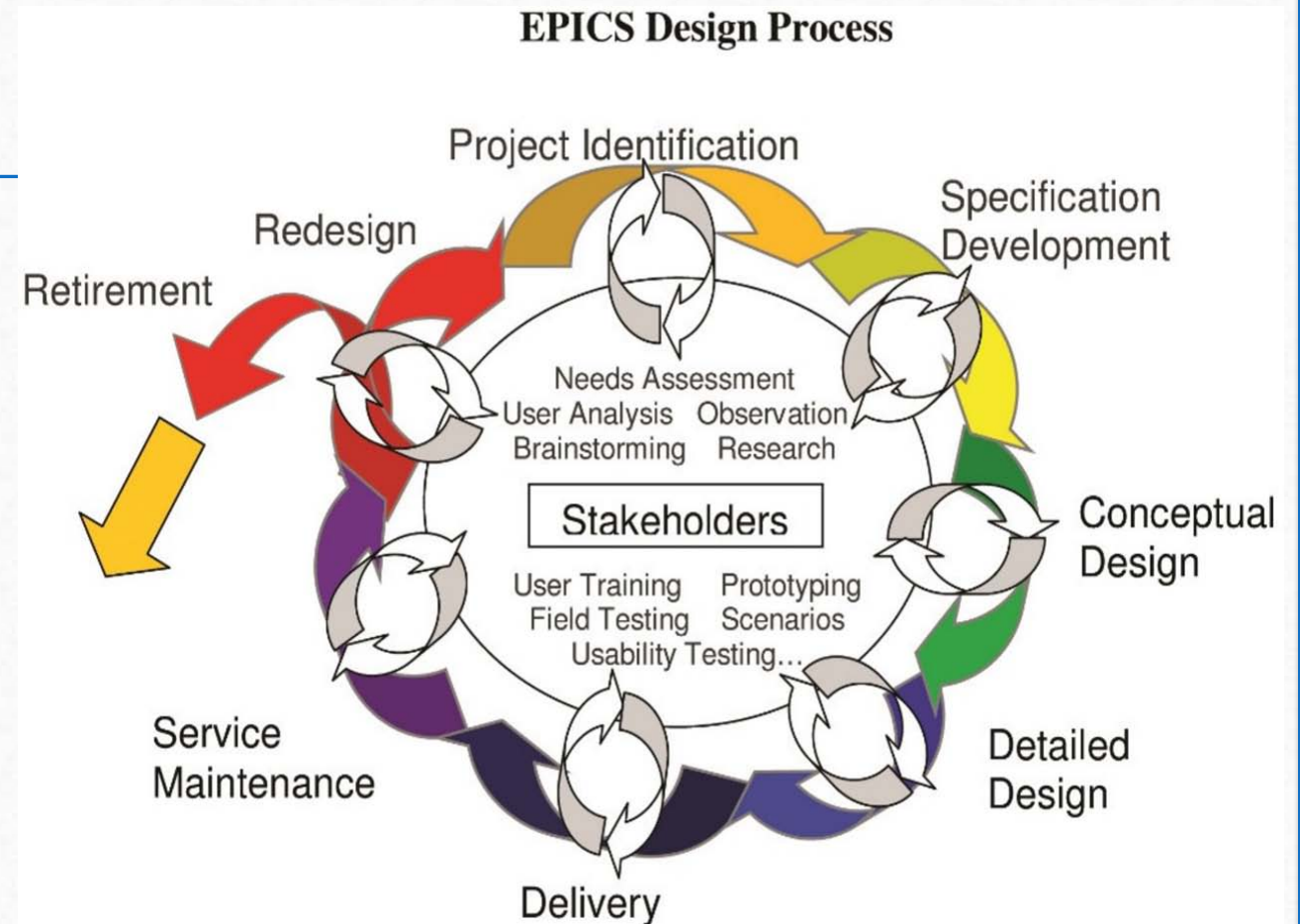
- Farming & Agriculture
- Health & well-being
- Community safety & crime Prevention
- Community cleanliness & improvement
- Help environment & fight climate change
- Helping people with special needs/ disabilities
- Helping Seniors
- Food collection & distribution
- Animals & Pet related ideas.



# 1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users

## EPICS Design Process

- Identifying a need
- Establish design criteria and constraints
- Evaluate alternative designs
- Build a prototype of best design
- Test and evaluate the prototype using the design criteria
- Analyze test results, make design changes, and retest, if necessary
- Communicate the design



**1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users**

## **Suggestions for improvement**

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- 1. Directing the students & guides to strictly follow EPICS design Process**
- 2. Conducting brainstorming sessions on EPICS to students & faculty**
- 3. Appointing separate EPICS Committee at department level for meticulous examination on the progress of the project at every assessment.**
- 4. Promoting the students to reach their innovations to the targeted community.**
- 5. Promoting the students to exhibit their Innovations on prominent platforms.**
- 6. Selection of the best EPICS project at department level.....and appreciation to students & faculty**
- 7. Selection of the best EPICS project out of the best projects of departments at Institute level and appreciation to students & faculty.**



# 1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users

## Institution's EPICS Projects - Samples:

Dept	EPICS Projects - samples	
CSE	➤ Diabetic analyser Unit – Design patent -Granted	
	➤ Smart Driver Monitoring System – Patent Published	
	➤ Real time Weather Forecast model for Disaster Management using Machine Learning Algorithms.	
	➤ Smart door lock using simultaneous face liveness & face detection	
	➤ PAW Patrol – IoT based smart wearable device for woman (Paedophile / Alzheimer woman)	
IT	➤ Smart remote health monitoring system.	
	➤ IoT based vehicle accident detection and rescue system	
	➤ Smart blind stick using ESP-32s with voice alert	
	➤ Automatic Alcohol sensing and Vehicle Accident detection using GPS and GSM	

## B. Issues open for discussion

- 1) **Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users**

### Institution's EPICS Projects - Samples:

Dept	EPICS Projects - samples	
EIE	Smart vision Goggles for Visually Impaired persons	
ECE	Smart Electronics glove for disabled people	
ECE	Design and Development of a writing machine for specially abled students to help them in their examinations	
EIE	An Integrated Wireless Aquaculture Monitoring and Feed Management System	
CE	Digitization in Civil Engineering	
ME	Automatic Seat Belt Mechanism For Automobiles	



**1) Streamlining – EPICS. The Projects should confine to societal problems with innovative solutions and reach targeted users**

### **EPICS - Need of the hour:**

- **The final outcome should reach the targeted users (file evidences).**
- **Telecast the selected best project in intended regional media channels - Every dept. at least one per year**
- **Telecast the selected best project among the depts. in National Channel / Channels, at least one at Institute level per year.**
- **Technical Publications through papers / Patents**
- **Exhibition / Presentation of EPICS - Projects on Prominent platforms – IITs / NITs / Govt Organisations / etc.**
- **It also helps for Perception (NIRF) of the Institution.**

## B. Issues open for discussion

### 2) Industry / Institute (IITs/NITs) collaborative joint venture projects in all departments.

#### Benefits

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- *Another source of research grant from outside organizations, in the event of difficulty in getting sponsored research grants*
- *Obviously, they are additional source of research grants, besides sponsored projects*
- *Relations through collaborative projects with Institutions of repute (IITs/NITs), certainly help our Departments & Institute to grow better in all dimensions.*
- *Hence the Heads of departments, those who are not having, are requested to focus seriously on Collaborative projects.*

## **2) Industry / Institute (IITs/NITs) collaborative joint venture projects in all departments.**

### **Ways of getting Collaborative joint venture projects**

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- **Building relations with nearby NITs / IITs through.....**
  - *Inviting experts from IITs/ NITs for training programs (summer schools, etc.),*
  - *Exchange programs for UG, PG students and faculty,*
  - *organizing the conferences, workshops and FDPs in collaboration with IITs/NITs,*
  - *Centers of Excellence in collaboration with IITs/ NITs,*
  - *Functioning MoUs, etc.*
- **Taking the above events as an opportunity to fulfill our requirement.**



## B. Issues open for discussion

### 2) Industry / Institute (IITs/NITs) collaborative joint venture projects in all departments.

Dept.	Project	Collaboration with	Grant	Duration	Status
CSE	Updating of very Large Scale Urban GIS maps with latest very high resolution satellite data using deep learning techniques	ISRO	17,84,920	2 years	Ongoing
	Qualitative and quantitative classification of mixed bamboo forests using geospatial technology	ISRO	25,30,000	3 Years	Ongoing

## B. Issues open for discussion

### 2) Industry / Institute (IITs/NITs) collaborative joint venture projects in all departments.

Dept.	Project Title	Collaboration with	Grant	Duration	Status
IT	Developing Efficient Local Scale Impact Evaluation tools using Geospatial System to Assess National Development Mission Outcomes and SDG Goals	National Remote Sensing Centre (NRSC-ISRO)	27,93,520	03 Years	Ongoing
	Development and evaluation of algorithms for automated tree delineation and tree parameters (height and crown diameter) estimation for forestry applications	NRSC	16,90,000	02 Years	Completed
	Asset Mapping at Panchayat Level using Bhuvan-Panchayat Mobile Application	NRSC	9,24,000	8 Months	Completed

## B. Issues open for discussion

### 2) Industry / Institute (IITs/NITs) collaborative joint venture projects in all departments.

Dept.	Project	Collaboration with	Grant	Duration	Status
ECE	FPGA based Voter Algorithm using VHDL for fail safe Systems	Efftronics systems pvt Ltd	2.95 Lakhs	6 months	Completed
	FPGA. ARM/Bluetooth, Zigbee, NFC /AI/ML protocols	Efftronics systems pvt Ltd	8 Lakhs	3 months	Completed
	Fabrication and performance analysis of Ventilation Assistant	Avantel Ltd	10.5 Lakhs	1 Year	Ongoing



## **B. Issues open for discussion**

### **3) Refresher Training program on OBE**

*Proposed with an intention of updating skills and knowledge to a changed standard and further refinement in OBE practice in the Institution*

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The IT department took the charge to organize the program

Topic: Implementation of Outcome Based Education

- *Focusing on Higher order knowledge levels,*
- *Defining appropriate COs in new programs &*
- *Setting higher PO attainment targets in existing programs).*

Resource Persons: NITTTR, Chennai

Tentative Schedule of the program: May/June 2023

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**Any other item with the permission of  
Chairman**

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THANK YOU