

Topics to be covered:

- Introduction to Intelligent Computing.
- Current Trends in Intelligent Computing.
- Healthcare Data Acquisition.
- Ethical issues and considerations in health research.
- Data Pre-processing and Data Analysis Techniques in Healthcare.
- Emerging Machine Learning and Deep Learning Techniques models in Healthcare.
- Optimization Techniques in Healthcare
- Recent Image Processing Tools and Techniques.
- Recent Signal Processing Tools and Techniques.
- Blockchain Technology for Secure Healthcare
- Discussion on Various Case Studies based on application of Intelligent Computing in Healthcare Data.



Objectives of the Course

Intelligent computing is the next generation of medical devices and biomedical research in health care. These techniques can aid for detection, prediction and identification of diseases and disorder in human. The advancement in intelligent computing has led to the development of tools and techniques useful for health care applications. This workshop/STTP will be focused on recent progress in artificial intelligence and machine learning tools with their application in machine learning area. Novel technological advances in the field and associated ethical considerations will also be discussed.

The objectives of this workshop will be providing an interdisciplinary forum for PG students, researchers, staff and faculty as well as delegates from industry engaged in the full spectrum of research, development, application, and to discuss the current state of the art and recent developments of advanced materials with a focus on real life applications.

Online Registration Link for this FDP:

<https://atalacademy.aicte-india.org/signup>



One Week AICTE (ATAL) Sponsored

**Faculty Development Programme
(FDP)**

**“INTELLIGENT COMPUTING
IN HEALTH CARE”**

20-24 September 2021



**Organized by
Department of Information
Technology and
Department of Biomedical
Engineering**

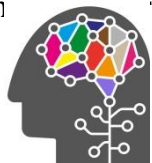
**National Institute of
Technology
Raipur- 492010 (Chhattisgarh)**

About the AICTE :

All India Council for Technical Education (AICTE) was set up as a national-level Apex Advisory Body to conduct a survey on the facilities available for technical education. The aim was to promote development in the country in a coordinated and integrated manner. Council do the same through school accreditation, funding in priority areas, monitoring and evaluation, maintaining parity of certification & awards, ensuring coordinated & integrated development and management of technical education in the country

About the Institute:

National Institute of Technology, Raipur situated in the capital of Chhattisgarh, has proven to be 'avant-grade' in the field of science and technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September, 1956. the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah - Varanasi railway route.



About Department:

The Department of Information Technology and Department of Biomedical Engineering came into existence in year 2000. BME and IT department is the study, research and work place of approximately 600 students from the 28 states across India. The departments provides an outstanding research environment and offers academic program leading to the award of B.Tech., M.Tech. and Ph.D. degree.

Speakers:

Eminent Faculty Members from IITs, NITs, IIITs will deliver the lectures and conduct hands-on sessions.

Address for Correspondence

Dr. Mridu Sahu
Department of Information Technology
NIT Raipur (CG)-492 010
Email: mrissahu.it@nitrr.ac.in
Contact No.: +91-9826501139

Dr. Bikesh Singh
Department of Biomedical Engineering
NIT Raipur (CG) - 492 010
Email: bsingh.bme@nitrr.ac.in
Contact No.: +91-9826469522

Chief Patron

Dr. A. M. Rawani, Director, NIT Raipur
Patron

Dr. (Mrs.) Shubhrata Gupta, Dean (R&C), NIT Raipur

Chairperson

Dr. S. P. Sahu, HoD, Department of Information Technology

Course Coordinators

Dr. Mridu Sahu
Assistant Professor, NIT Raipur

Dr. Bikesh Singh
Assistant Professor, NIT Raipur

Organizing Committee

Ms. Samrudhi Mohdiwale
Mr. Vikas Dilliwar
Mr. Upendra Chaurasiya
Ms. Sneha Agrawal
Ms. Priyanka Khanna

No Registration Fee

Important Dates:

Last Date of Registration: 15th Sep,
2021 Intimation Date: 28th Sep, 2021
FDP Date: 20th – 24th Sep 2021

Venue:

Online Mode
Department of Information Technology,
National Institute of Technology, G.E.
Road, Raipur - 492010, (C.G.), India



Tentative Schedule for ATAL FDP on “Intelligent Computing in Healthcare” under Thrust Area “Artificial Intelligence”



Organized by
Department of Information Technology and Department of Biomedical Engineering
National Institute of Technology Raipur
During September 20th -24th, 2021

Day	Date	10.30 AM to 12:30 PM	12:30 PM to 12.45 PM	12.45 PM to 2:15 PM	2.15 PM to 3:00 PM	3:00 PM to 5:00 PM
1	20/09/2021	Inauguration and Session 1 Introduction to intelligent computing and its application in healthcare (Dr. N D Londhe, NIT Raipur)	Break	Session 2 Ethical Considerations and Intelligent Computing Pipeline for Healthcare (Dr. Bikesh Kumar Singh, NIT Raipur)	LunchBreak	Session 3 Non-Linear Filters for Medical Images: Research Case Study of Early Detection of Breast Cancer (Dr. Vikrant Bhateja, SRMGPC Lucknow (U.P.))
2	21/09/2021	Session 4 Intelligent Computing for Brain Health -Applications in Psychiatry (Dr. Sai Krishna Tikka, AIIMS Bibinagar, Hyderabad)		Session 5 EEG Acquisition and Preprocessing (Dr. Tapan K. Gandhi, IIT Delhi)		Session 6 Blockchain in Healthcare (Dr. Rakesh Tripathi, NIT Raipur)
3	22/09/2021	Session 7 Visualization Effects, VR, Game Technology Applications in Healthcare (Dr. Abhishek Kumar, Adobe Certified Educator)		Session 8 Introduction to Optimization (Dr. S. Ghosh, NIT Raipur)		Session 9 Intelligent Computing for Disease and Disorder Detection (Dr. Mridu Sahu/ Dr. R. Periyasamy, NIT Trichy)
4	23/09/2021	Session 10 Deep Learning in Healthcare (Dr. Deepak Garg, Bennett University)		Session 11 Intelligent Computing for Brain Health -Applications in Detection of Epilepsy (Dr. Ram Bilas Pachori IIT Indore)		Session 12 Deep-Computer-Aided Diagnosis (Dr. Nilanjan Dey, JIS University, Kolkata)
5	24/09/2021	Session 13 Biomedical Imaging (Dr. Bikesh Singh, NIT Raipur)		Session 14 Meditation and its Health Impacts: Scientific Evaluation (Dr. Deepeshwar Singh S-Vyasa, Bangalore)		Examination and Valedictory session



National Institute of Technology Raipur & ATAL Sponsored Faculty Development Program



20th -24th Sept 2021

On

“Intelligent Computing in Healthcare” under Thrust Area “Artificial Intelligence”

Registration Link: <https://atalacademy.aicte-india.org/signup>

Our Tentative Speakers



Dr. Tapan K. Gandhi
IIT Delhi



Dr. Ram Bilas Pachori
IIT Indore



Dr. Nilanjan Dey
JIS University, Kolkata



Dr. Abhishek Kumar
Adobe Certified Educator,
Jain University Bangalore



Dr. Deepak Garg
Bennett University



Dr. Mridu Sahu
NIT Raipur



Dr. Bikesh Singh
NIT Raipur



Dr. Vikrant Bhateja
SRMGPC Lucknow



Dr. Deepeshwar Singh
S-Vyasa Bangalore



Dr. N D Londhe
NIT Raipur



Dr. S. Ghosh
NIT Raipur



Dr. Rakesh Tripathi
NIT Raipur



Dr. Sai Krishna Tikka
AIIMS Bibinagar Hyderabad



Dr. R. Periyasamy
NIT Trichy

How To Register in Workshop



Tentative Schedule for ATAL FDP on **"Intelligent Computing in Healthcare"** under Thrust Area **"Artificial Intelligence"**

Organized by

Department of Information Technology and Department of Biomedical Engineering

National Institute of Technology Raipur

During September 20th -24th, 2021



1. Click on the Link

<https://atalacademy.aicte-india.org/signup>

Follow the steps to signup/signin to register and apply

[Home](#)[Contact Us](#)[FAQs](#)[Login](#)

Register

Please read scheme document 2020-2021 carefully before applying

Already have an account? Sign in!

Select Role

Title Name

Date of Birth Select Gender

Email

+91 Mobile Number *

Password

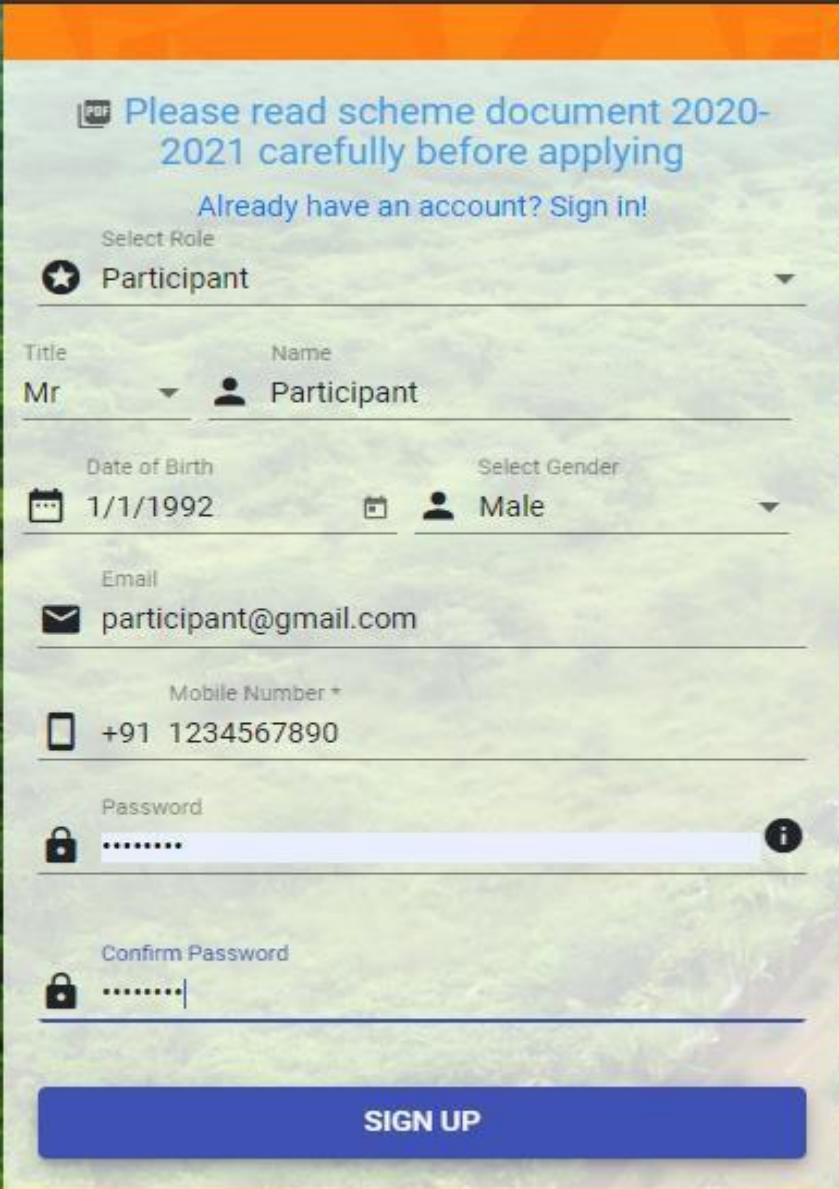
Confirm Password

SIGN UP



PARTICIPANT REGISTRATION

Participants need to register with basic details and choose **Role** as **Participant**.



The registration form is displayed on a mobile device screen with a background image of a green landscape. The form has an orange header and footer. The header contains a PDF icon and the text "Please read scheme document 2020-2021 carefully before applying". Below this is a link "Already have an account? Sign in!". The form fields are as follows:

- Select Role:** A dropdown menu with a star icon and the text "Participant".
- Title:** A dropdown menu with the text "Mr".
- Name:** A text input field with the text "Participant".
- Date of Birth:** A date picker with the text "1/1/1992".
- Select Gender:** A dropdown menu with a person icon and the text "Male".
- Email:** A text input field with the text "participant@gmail.com".
- Mobile Number *:** A text input field with the text "+91 1234567890".
- Password:** A password input field with a lock icon and a blue eye icon.
- Confirm Password:** A password input field with a lock icon.

A blue "SIGN UP" button is located at the bottom of the form.

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After successful registration, participant will get one **verification email and OTP**, on provided email and phone respectively.

PARTICIPANT LOGIN

Once participant verifies the email, he will be able to login to the portal, as shown below.

[Home](#) [Contact Us](#) [FAQs](#) [Login](#)


Login

 Please read scheme document 2020-2021 carefully before applying

Email
 participant@gmail.com

Password
 *****

[SIGN IN](#)

[Forgot Password?](#) [Sign up now!](#)

PARTICIPANT PORTAL

After login Participants will see the “**General Details**” form. This form only contains basic details about the participant and details provided at the time of registration will be automatically displayed here, as shown below.





Participant

participant@gmail.com

- General Details
- Profile
- Workshops
- Attendance
- Feedback
- Test Marks



Participant Details

Participant Details

Name :	Mr. Participant
Gender :	Male
Phone :	1234567890
Email :	participant@gmail.com
Date of birth:	1992-01-01

 Father's Name *

 Whatsapp Number

 Alternate Email

 Select State

 Select District

 Address *

 Pincode *

 Employee ID *

 Designation *

 Specialization *

 Experience of Teaching (Years) *

 Experience of Teaching (Months) *

Save As Draft

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PARTICIPANT GENERAL DETAILS FORM

Participants need to fill the “General Details” form as shown below. Once submitted after filling details, they can see submitted details and edit if required. Filling this form is **mandatory** before applying for workshop.

Participant Details

Name :	Mr. Participant
Gender :	Male
Phone :	1234567890
Email :	participant@gmail.com
Date of birth:	1992-01-01

Father's Name *
 TEST FATHER'S NAME

Whatsapp Number
 1234567890

Alternate Email
 test_participant@gmail.com

Select State
 ANDAMAN AND NICOBAR ISLANDS ▼

Select District
 Nicobars ▼

Address *
 604 South Arnold Avenue Warwick, RI 02886

Pincode *
 546065

Employee ID *
 123123132

Designation *
 Professor ▼

Specialization *
 Test Specialization

Experience of Teaching (Years) *
 2

Experience of Teaching (Months) *
 1

Save As Draft

General Details Form

PARTICIPANT PROFILE

Details filled at the time of registration will be auto populated here. Participants can edit their gender and Date of Birth only.



Logout 



Participant

participant@gmail.com

 General Details

 Profile

 Workshops

 Attendance

 Feedback

 Test Marks



Participant Profile

Participant Details

Name:	Mr. Participant
Gender:	Male
Date of birth:	1992-01-01
Phone:	1234567890
Email:	participant@gmail.com

Edit

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APPLY FOR WORKSHOP

Participants can see all the workshops created by the coordinator, by clicking on the “Workshops” tab.

Participant can apply for the workshop, by clicking on the plus (+) button. Once he applied successfully, one popup will be displayed, mentioning “Applied Successfully”.

For applying to the workshop, participant should meet following conditions:

- Participants cannot apply for multiple workshops having the same dates.
- One participant cannot apply to one workshop multiple times.
- General details should be submitted.

Participants are advised to follow following steps to register in the workshop “Intelligent Computing in Healthcare”

The screenshot displays the ATAL Academy participant portal at atalacademy.aicte-india.org/participant/workshop. The interface includes a top navigation bar with the ATAL logo, a user profile section on the left, and a main content area for workshops.

Participant Profile: The user is identified as "Participant" with the email mridu.kaushlesh@gmail.com. The left sidebar contains navigation links: General Details, Profile, Workshops, Applied Workshops, Attendance, Feedback, Test Marks, and Certificate.

Workshops Section: A "Filter Workshops" section allows users to select a state (CHHATTISGARH), month (September), thrust area (All), and mode (Online). Below the filters, three workshop cards are visible:

- Slurry Flow in Mineral Processing - Principles and Practices:** Level of FDP: Elementary, Mode: Online, Application No: 1614081442. Starts: Sep 6, 2021, Ends: Sep 10, 2021. Institute: GURU GHASIDAS VISHWAVIDYALAYA.
- SMART CITIES:** Level of FDP: Elementary, Mode: Online, Application No: 1614759529. Starts: Sep 6, 2021, Ends: Sep 10, 2021. Institute: Government Engineering College Bilaspur.
- Research Trends in Separation & Purification Techniques:** Level of FDP: Elementary, Mode: Online, Application No: 1614859195. Starts: Sep 13, 2021, Ends: Sep 17, 2021. Institute: National Institute of Technology Raipur.

Below these, two more workshop cards are shown, both from the National Institute of Technology Raipur:

- Intelligent Computing in Healthcare:** Level of FDP: Elementary, Mode: Online, Application No: 1614589182. Starts: Sep 20, 2021, Ends: Sep 24, 2021. Thrust Area: Thrust Areas, Sub-thrust Area: Artificial Intelligence. A red arrow points to this card.
- Novel Materials: Advances and Application:** Level of FDP: Elementary, Mode: Online, Application No: 1614672749. Starts: Sep 24, 2021, Ends: Sep 28, 2021. Thrust Area: Novel Materials, Sub-thrust Area: (blank).

Each card includes a red circular button with a white plus sign (+) for application and a link to "Click here to download Workshop Brochure".

After successfully applying for workshop, it will go for approval to coordinators, once they approve the participants then only participants can attend that workshop.



Logout 



Participant
participant@gmail.com

 General Details

 Profile

 Workshops

 Attendance

 Feedback

 Test Marks



Workshops



STARTS

May 20, 2020

ENDS

May 24, 2020

Artificial Intelligence

Thrust Areas

+



STARTS

May 25, 2020

ENDS

May 29, 2020

Artificial Intelligence

Thrust Areas

+

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APPLIED WORKSHOPS

In this tab, participants can see all the workshops they have applied for with their status as Approved or Applied.



Logout 



Participant
manoj@gmail.com

 General Details

 Profile

 Workshops

 Applied Workshops

 Attendance

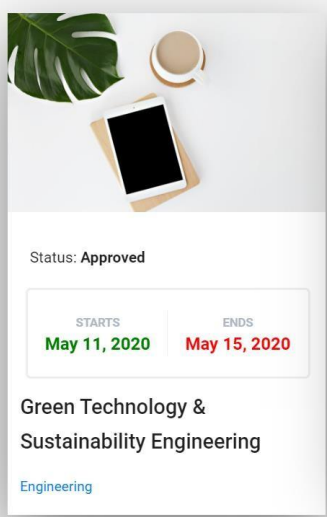
 Feedback

 Test Marks

 Certificate



Applied Workshops

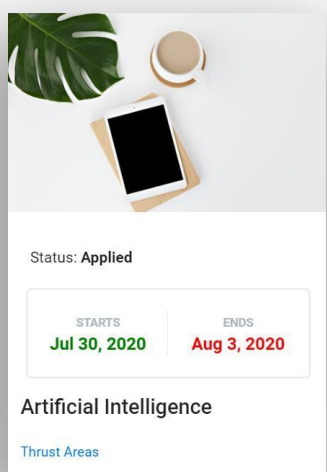


Status: **Approved**

STARTS	ENDS
May 11, 2020	May 15, 2020

Green Technology & Sustainability Engineering

[Engineering](#)



Status: **Applied**

STARTS	ENDS
Jul 30, 2020	Aug 3, 2020

Artificial Intelligence

[Thrust Areas](#)

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PARTICIPANT ATTENDANCE FOR WORKSHOP

In this tab participants can see their attendance marked by co-ordinators for applied workshops by clicking on icon in red circle shown below.



Logout 



Participant
part@gmail.com

 General Details

 Profile

 Workshops

 Attendance

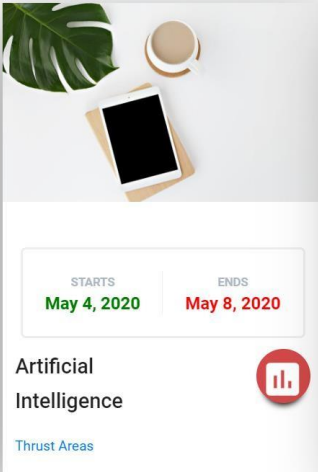
 Feedback

 Test Marks

 Certificate



Attendance



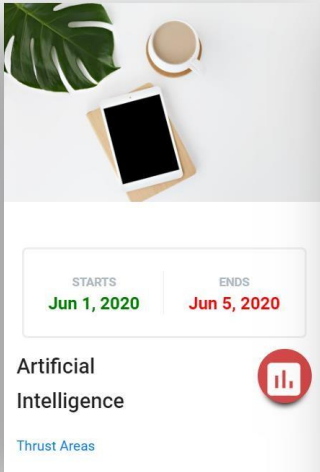
STARTS
May 4, 2020

ENDS
May 8, 2020

Artificial Intelligence

Thrust Areas





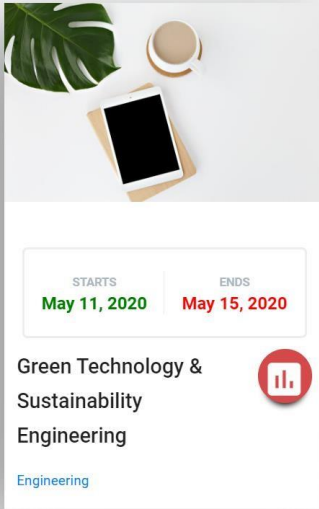
STARTS
Jun 1, 2020

ENDS
Jun 5, 2020

Artificial Intelligence

Thrust Areas





STARTS
May 11, 2020

ENDS
May 15, 2020

Green Technology & Sustainability Engineering

Engineering



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Attendance when clicked on icon of first workshop.



Logout 



Participant
part@gmail.com



Attendance

 General Details

 Profile

 Workshops

 Attendance

 Feedback

 Test Marks

 Certificate

Attendance Details

Date	Status
May 7, 2020	Present
May 4, 2020	Present
May 5, 2020	Present
May 6, 2020	Present
May 8, 2020	Absent

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FEEDBACK ON WORKSHOPS COMPLETED

In Feedback, participants can see workshops which they have completed and they can provide anonymous feedback on workshops by clicking on icon in red circle. Only admin can see feedback was submitted by which participant but co-ordinators cannot see.



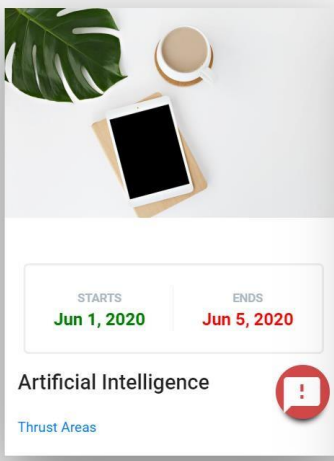
Logout 



Participant
part@gmail.com



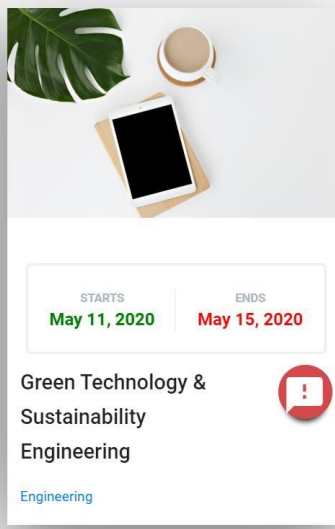
Feedback



STARTS
Jun 1, 2020

ENDS
Jun 5, 2020

Artificial Intelligence
[Thrust Areas](#)



STARTS
May 11, 2020

ENDS
May 15, 2020

Green Technology & Sustainability Engineering
[Engineering](#)

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After clicking on icon, a feedback form will appear which participants have to fill and submit.





Participant
part@gmail.com

General Details

Profile

Workshops

Attendance

Feedback

Test Marks

Certificate



Feedback

Feedback form: 5

Details about the workshop attended by the participant

Area in which workshop attended (please select title) *

Thrust Areas

Workshop held at (Institute/Organisation Name)

K.J Somaiya College Of Science and Commerce

From

6/4/2020

To

6/8/2020

Name

Manoj

Mobile Number

7738030654

Email

manoj0mishra02@gmail.com

Please select the appropriate input about the workshop

Course Code

1234

Overall instructions *

Average

Explanation of concepts *

Below average

Questions and discussions / interaction *

Good

Usefulness of program *

Average

Content of the programme (topic covered) *

Average

Practical and hands on Training provided *

Good

Delivery methods *

Excellent

Trainers approach *

Very good

Overall satisfaction *

Very good

Training center facilities like Classrooms, Laboratory, canteen and accommodation etc *

Very good

Do you have any suggestion(s) as to how we could improve similar programmes/activities in future?

Suggestion

No Suggestion

Any other feedback/suggestion/complaint for Training Programme ? Please provide your descriptive comments?

Feedback

Feedback Provided

Submit Feedback

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After submitting, participants cannot give feedback again for that workshop.

PARTICIPANT WORKSHOP MARKS

Here participants can see marks given to them in eligible workshops by co-ordinators.

The screenshot shows the 'Participant Workshop Marks' page. The header is orange with the ATAL and AICTE logos on the left and a 'Logout' button on the right. The left sidebar contains a user profile for 'Participant' (part@gmail.com) and a menu with options: General Details, Profile, Workshops, Attendance, Feedback, and Test Marks. The main content area has a search bar and a table with the following data:

ID	Marks Obtained	Total Marks
1	70	80
3	None	None

At the bottom of the table, it says 'Items per page: 5' and '1 - 2 of 2'. The footer is orange with 'Copyright © AICTE 2020' and 'All rights reserved.'

CERTIFICATE

In this tab, participants can see all the workshops that are eligible (Attendance should be more than 80% and marks should be more than 60%) for certificate. By clicking on icon in red, Participants can download their certificates.

Participants can download certificate only after certificate approval by admin and overall attendance should have submitted by co-ordinator for that workshop. Mandate for should also be submitted by co-ordinator for certificate generation.

The screenshot shows the 'Workshops' page. The header is orange with the ATAL and AICTE logos on the left and a 'Logout' button on the right. The left sidebar contains a user profile for 'Participant' (manoj@gmail.com) and a menu with options: General Details, Profile, Workshops, Applied Workshops, Attendance, Feedback, Test Marks, and Certificate. The main content area has a 'Workshops' title with a monitor icon. Below it is a card for a workshop titled 'Green Technology & Sustainability Engineering' with a red download icon. The card also shows the start and end dates: 'STARTS May 11, 2020' and 'ENDS May 15, 2020'. The footer is orange with 'Copyright © AICTE 2020' and 'All rights reserved.'

THANK YOU !