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Curating a responsible digital world

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In this issue

July 2022 News Letter

"Kerala Digital University made itself self-sustaining" says Vice Chancellor Prof Saji Gopinath

Digital University Kerala: Integrating digital integration projects into MTech, MSc, PhD curriculum, it has raised sizeable funds.

https://news.careers360.com/kerala-digital-university-university-vice-chancellor-mtech-msc-phd-admissions-graphene-centre-tata-steel

NEW DELHI: The newly-formed Digital University of Kerala has made some rapid advancements over the past year. Since admitting its first batch of students in 2021, it has set up two centres of excellence (CoE) with three more in the works. The university has also made a major leap in becoming financially self-sustaining, raising funds through digital transformation projects and consultancy.

Vice-chancellor Saji Gopinath spoke to Careers360 about the transformation of Indian Institute of Information Technology and Management Kerala (IIITM-K) into Digital University Kerala which, in just one year, did "six to seven times" the activities IIITM-K did. Edited excerpts below.
OK
Q. What major developments did the Digital University see in the past one year?

A. The major advancement was in the area of research. We could actually set up two large centres of excellence (CoE), both national centres. One is on the internet of things (IOT) and the other, on graphene [a nanomaterial]. This year, in the graphene centre, we are providing scholarships for MTech students interested to work in a related area. The key model we have adopted is that we bring lots of projects in both research and development from industry and provide students the opportunity to work and earn through them. They can recoup at least around 50 percent of the fees they paid and, along with their classroom training, they also get hands-on training in the campus itself.

We had good PhD admissions. The university is almost self-sustaining, from its own internal projects and other grants. We provide scholarships of Rs 20,000 per month in the first year and Rs 25,000 per month in the second year for all PhD students. We don't charge anything from PhD students. If they are not interested, they have other projects. For MTech, we have the earn-while-learn programme in which they can participate in the live projects of the university. Around 25 percent of MTech students have full scholarships now.

Q. You had said that the aim is to depend on student fees for just 40 to 50 percent of the university's funds. Are you on the right path?

A. If I look at my last year's budget, only 30 percent is coming from fees and government grants, 70 percent we generated through our other projects. Moving further, we will actually look more into that area. We want to make the courses affordable. Although they would still have to pay the fee, we are looking at making it almost free for students with subsidies from projects.

I think this is a unique model because we don't have too many institutions in this country that are self-sustaining, they either get government grants or they charge high fees. We thought that instead of these two options, there could be a model where the faculty could get involved in live projects, of course some of them are funded projects, but we still also support student education, it is also bringing revenue to the university.

Q. You mentioned two centres. Is there any collaboration with industry?

A. Both centres have pre-partners. The implementation is done by us and a Government of India department called Centre for Materials for Electronics Technology (C-MET). The funding comes from three sources, Government of India, Government of Kerala, which primarily provides infrastructure, and industry.

In the case of the graphene centre, TATA Steel is the major industrial partner. They provided a million dollars as their contribution but there are a few smaller players also in the mix. As far as the IOT centre is considered, we have a group of smaller companies as technology partners. More than funding, they also provide other support such as technology expertise, providing people with specific industry verticals. We are looking at developing a few more centres. We are targeting at least three or four centres this year. Each of the centres will be looking at an investment of Rs 50 crore to Rs 100 crore.

Q. Any other centres or courses in the works?

A. We are in the advanced stages of creating a CoE in the area of autonomous vehicles. We are also working on a centre for private security governance and forensics and looking at another centre on digital health but it is too early to talk about that.

As for courses, based on the feedback we received, we have increased newer programmes in MSc and MTech this year. Primarily, in MSc we have started programmes in computational sciences, bio-artificial intelligence (AI), system science and engineering. Additionally, we started MSc data analytics also. We also started a course on geospatial analytics.

Q. What has been the response in admissions?

A. As far as MSc is concerned, the response is really good. The focus of the university is to ensure that people in different domains can use this to move into a digital domain, whether it is people from science, arts or humanities. If they have interest, they can opt for courses which will take them into the expertise in digital state. That is basically where we have a good response.

MTech programmes are only picking up; we have two, in computer science and electronics.

Q. Any other areas of immediate focus?

A. One area, in addition to the research centres, is on re-training. We have actually restarted our training portfolio. We have started a new training programme where we look at people with technical background within the government. For example, across the country, even for clerical posts, a lot of people with engineering and technical backgrounds join because there is still an interest in government jobs. We have started a programme where we identify such people and train them to become a digital expert within their department. These people will then drive the top-tier government projects. Usually such programmes are done by agencies as, within the government, that expertise is not there.

Q. Are you finished with any of the retraining programmes?

A. Yes, the first programme we did was for the Kerala Police Department. The police have selected a set of 30 people for their AI cadre. They will work only on AI projects for the government. These are all people with engineering backgrounds. We gave them hard-core AI training, not at the peripheral level but at the programming level, so that they can actually develop AI solutions for the police. This was a 45 days programme which started in May. We are actually trying to do it for other governments also. We are developing similar programmes for many other departments.

Q. IIITM Kerala was upgraded into Digital University of Kerala. What changed?

A. IIITM-K was focussing on very niche courses in IT and not playing a large role like the Kerala Digital University. IIITM focussed on entrepreneurship courses. We have a programme called Maker Village and around 80 companies are there. That is actually being handled by IIITM [which is now a part of Digital University of Kerala].

The university widens its role. It started looking at wider areas such as ecological informatics, which was not there earlier, and MSc in ecology started. More important than that, there is a huge increase in the research focus and developmental focus. That is a far bigger canvas. We work in various sectors including agriculture, animal husbandry – all these are digital transformation projects.

So, the university will play a direct role in the economic development to some extent. We are trying to create such an ecosystem. The idea of the graphene centre is to drive an ecosystem of material science companies in and around that; theIOT centre should also do the same. The activities, compared to when this was IIITM-K, went up by about six to seven times in the last one year.

The focus of the university is to ensure that people in different domains can use this to move into a digital domain, whether it is people from science, arts or humanities. If they have interest, they can opt for courses which will take them into the expertise in digital state.

Digital India Week 2022

Digital University Kerala is one among the cohort of 30 institutions to be supported by Chips to Startup (C2S) programme. The announcement was made by PMO India Shri Narendra Modi during the inauguration of Digital India Week 2022 GoI MeitY Digital India, MVKochi.

https://twitter.com/i/status/1544020391617826817

DUK - Digital India Week 2022

DIGITAL UNIVERSITY KERALA'S CENTRES OF EXCELLENCE IN ELECTRONICS INNOVATION ON DISPLAY AT DIGITAL INDIA WEEK 2022

DUK is proud to announce that AI Chip Design Centre under School of Electronics has been shortlisted to be part of the **Chip to Startup (C2S)** programme, an ambitious initiative aimed at transforming India into the next semiconductor hub

Award for Innovations

Digital University of Kerala is proud to announce that Immunochain, a big data and blockchain powered vaccine traceability solution developed by Kerala Block Chain iiitmk has won the Chief Minister's Award for Innovations in Public Policy.

Chief Minister's Award for Innovations in Public Policy 2018, 2019, 2020

Digital University Kerala wins Special Award for the Timeliness of the Response and the Spirit of Innovation for the project,

IMMUNOCHAIN

Immunochain is a big data and blockchain technologies powered mobile/web_enabled vaccine traceability solution developed by Kerala Blockchain Academy with the funding of Grand Challenges India announced by the Government of India's Department of Biotechnology and Bill & Melinda Gates Foundation

IGNITE 2022: Innovation and Entrepreneurship Competittion

Hon. Minister for Industries and Law Shri P. Rajeev inaugurated the Grand Finale of IGNITE 22 Innovation and Entrepreneurship competition for students on July 30, 2022 at 4:00 PM

Smart India Hackathon 2022 National Level Winners

Team Aspirers from Digital University bagged the first prize in the SIH2022 National Level Hackathon in the software category conducted at GIET University, Odisha. Three teams from Digital University were shortlisted for the prestigious event which took place in Jaipur, Telangana and Gunupur.

Gunupur, Odisha — Winning Team

Hyderabad, Telangana — Finalists — Jaipur, Rajasthan

Smart India Hackathon 2022

DUK Innovation Club

National Webinar on Cyber Security and Cyber Crimes

The Knowledge Centre in collaboration with the Kerala Security Audit and Assurance Center (KSAAC), Digital University Kerala, conducted a Two Days National Webinar on Cyber Security and Cyber Crimes from the 4th to the 5th of July 2022. The classes will be held from 7 pm to 9 pm on Zoom platform. The following topics were covered.

1. Importance of Cyber Security

2. Digital Signature

3. Password Security

4. Cyber Security Threats

5. Social Engineering

6. Social Media Security

7. Secure Browsing

8. Cyber Crime and Punishment

9. Career in Cyber Security

Resource Persons:
Prof. Md Meraj Uddin,
School of Digital Humanities and Liberal Arts, DUK
Dr. Roopak S , Penetration Tester, KSAAC, DUK
Mr. Anu Sivarajan,Penetration Tester, KSAAC, DUK
Mr. Yasik M, Project Assistant, KSAAC, DUK

Faculty Publications

Journal article on 'Antenna on silicon with MEMS and 3D IC techniques'

Dr. Jose and his collaborators developed an on-silicon antenna using MEMS and 3D-IC techniques. This technology paves the way for integrating an antenna with any IC.

Article details:

Satish Bonam*; Jose Joseph*; C Hemanth Kumar, Asisa Kumar Panigrahi, Siva Rama Krishna Vanjari, Shiv Govind Singh, "Fabrication of On-Silicon Aperture Coupled Patch Antenna Through Micromachining and Cu-Cu Thermocompression Bonding" IEEE Transactions on Semiconductor Manufacturing, DOI: 10.1109/TSM.2022.3201300 (*equal authorship)
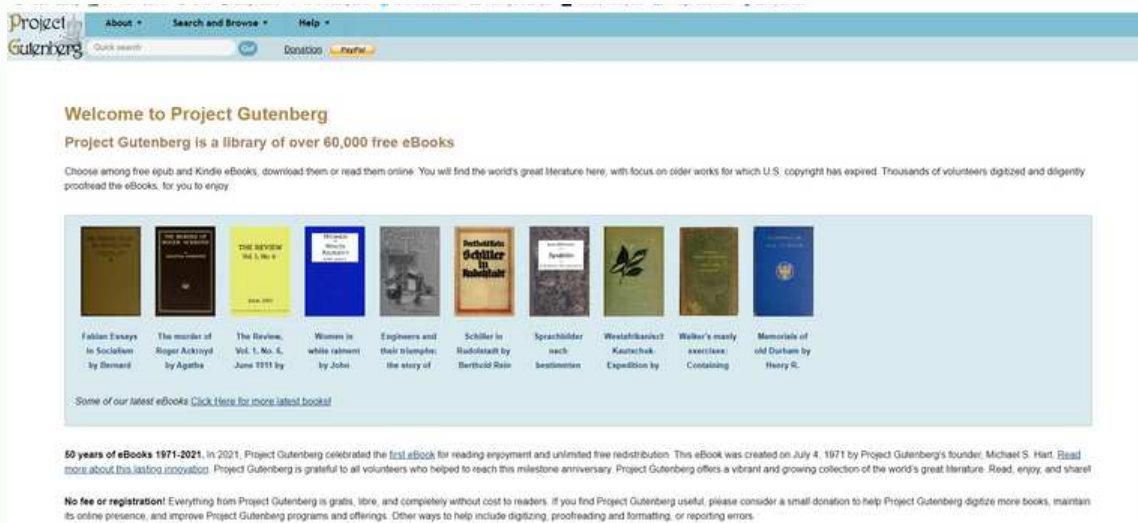
https://ieeexplore.ieee.org/document/9866564

Knowledge Centre News

Website of the month

Project Gutenberg

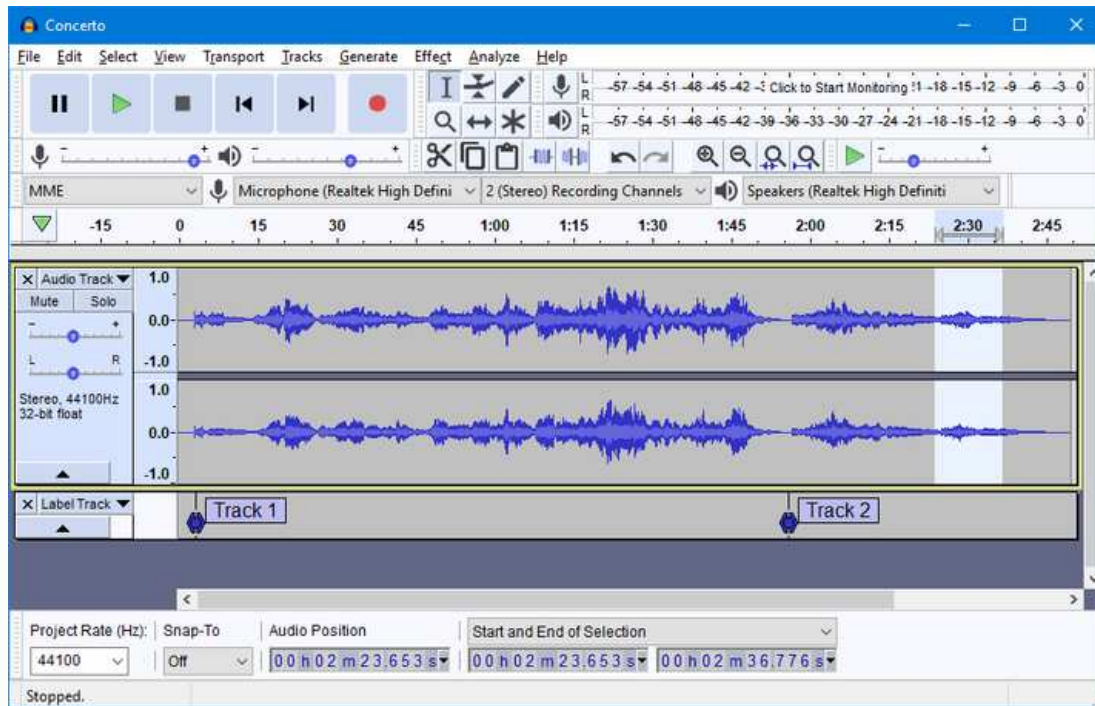### https://www.gutenberg.org/

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Software of the month

Audacity

https://www.audacityteam.org/

Audacity is an easy-to-use, multi-track audio editor and recorder for Windows, macOS, GNU/Linux, and other operating systems. Audacity is free, open-source software. Audacity can record live audio through a microphone or mixer or digitize recordings from other media. You can import, edit, and combine sound files. Export your recordings in many different file formats, including multiple files at once. It helps easy editing with Cut, Copy, Paste and Delete options. It also has unlimited sequential Undo (and Redo) in the session to go back to any number of steps.

≫ Essentials of management: An international, innovation and leadership perspective

The thoroughly revised and updated 11th edition of Essentials of Management: An International, Innovation and Leadership Perspective takes an international and innovative view of management. This edition comprehensively covers foundational and emerging managerial insights and practices. It also emphasizes the managerial perspectives found in Silicon Valley. This edition also emphasizes the enhancement of the professional profile and network of its readers with creative exercises and online projects.
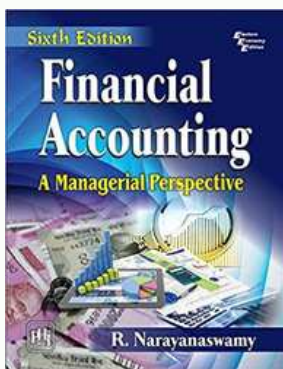
Salient Features:

· Inclusion of exclusive interviews with leading executives to help students gain more professional insights

· Focus on professional development and network growth of students to enhance career opportunities

· Case examples that detail managerial actions in global firms such as Apple, Google, Microsoft, Cisco, Samsung and many others.

Amazon

Koontz, Harold (2022). *Essentials of management: An international, innovation and leadership perspective* . *C*hennai, McGraw Hill Education (India) Private Limited.

≫ Financial Accounting: A managerial perspective

The thoroughly revised and updated 11th edition of Essentials of Management: An International, Innovation and Leadership Perspective takes an international and innovative view of management. This edition comprehensively covers foundational and emerging managerial insights and practices. It also emphasizes the managerial perspectives found in Silicon Valley. This edition also emphasizes the enhancement of the professional profile and network of its readers with creative exercises and online projects.

This highly acclaimed text, now in its Sixth Edition, is designed as a first-level course in MBA and professional programmes. It explains how to prepare, analyze and interpret financial statements.
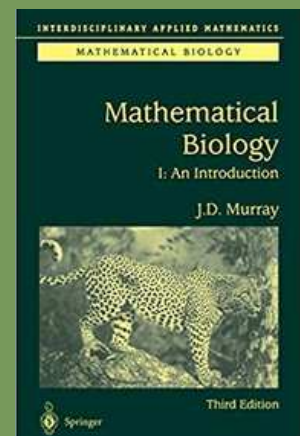
Amazon

Narayanaswamy, R (2021). *Financial Accounting: A managerial perspective.* New Delhi, PHI Learning Private Limited.

≫ Mathematical Biology 1: An introduction

It has been over a decade since the release of the now classic original edition of Murray's Mathematical Biology. Since then mathematical biology has grown at an astonishing rate and is well established as a distinct discipline. Mathematical modeling is now being applied in every major discipline in the biomedical sciences. Though the field has become increasingly large and specialized, this book remains important as a text that introduces some of the exciting problems that arise in biology and gives some indication of the wide spectrum of questions that modeling can address.
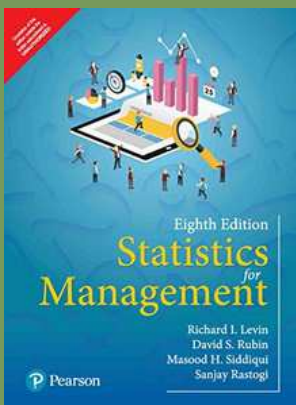
Due to the tremendous development in the field this book is being published in two volumes. This first volume is an introduction to the field, the mathematics mainly involves ordinary differential equations that are suitable for undergraduate and graduate courses at different levels.

Source Publisher:

J.D. Murray (2022). *Mathematical Biology 1: An introduction.* London, Springer Verlag.

≫ Statistics for Management

With Statistics for Management, Levin and Rubin have provided a non-intimidating business statistics book that users can easily read and understand. Like its predecessors, the seventh edition includes the absolute minimum of mathematical/statistical notation necessary to teach the material. Concepts are fully explained in simple, easy-to-understand language as they are presented, making the book an excellent source from which to learn and teach. After each discussion, readers are guided through real-world examples to show how book principles work in professional practice. Includes easy-to-understand explanations of difficult statistical topics, such as sampling distributions, relationship between confidence level and confidence interval, interpreting r-square. A complete package of teaching/learning aids is provided in every chapter, including chapter review exercises, chapter concepts tests, "Statistics at Work" conceptual cases, "Computer Database Exercises", "From the Textbook to the Real-World Examples."

Source Publisher:

Richard I. Levin (2021). *Statistics for Management.* Uttar Pradesh, Pearson India Education Services Pvt. Ltd.

⋙ **Financial Management**

The book highlights the modern, analytical approach to corporate finance decision-making. Its aim is:

to help readers develop a thorough understanding of the theories and concepts underlying financial management in a systematic way

to make the subject of finance interesting to learn, simple to comprehend and relevant in practice
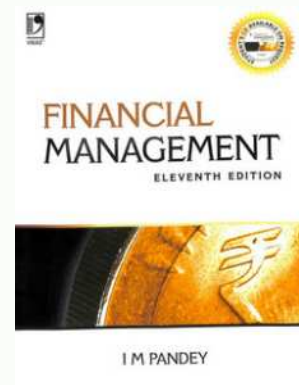
to help readers appreciate the logic for making better financial decisions.

The book has excellent pedagogical tools like Excel applications, Illustrative problems, Real-life examples, Cases, and Practical projects, and distinctly differentiates itself from other textbooks in terms of coverage, presentation, and equal focus on theory and practice.
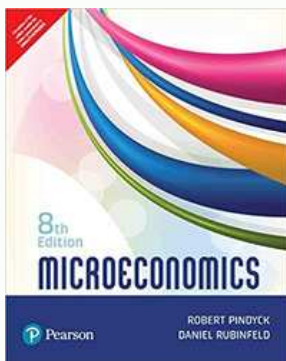
The text comprehensively covers MBA, M Com, CA, CFA, ICWA and other postgraduate and professional courses.

Amazon

I M Pandey (2017). *Financial Management .* Noida, Vikas Publishing House Pvt. Ltd.,

⋙ **Microeconomics**

The 8th edition of Microeconomics provides a treatment of microeconomic theory that stresses the relevance and application to managerial and public policy decision making. This edition includes a number of new topics, Updated examples, and improved exposition of existing materials.· This edition includes a number of new topics, Updated examples, and improved exposition of existing materials.· This text incorporates over 100 real-world examples into the flow of the text, rather than as segregated boxed features.

· Key terms are defined in margins throughout the book and in the glossary. · Chapter 4 includes new material on speculative demand and network externalities to include social networks.· Chapter 5 contains a new section on bubbles and informational cascades.

Amazon

Robert Pindyck (2021). Microecomomics. Uttar Pradesh, Pearson India Education Services Pvt. Ltd

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