KUMARAGURU
Institutions

DEPARTMENT ASSOCIATION

MONTHLY MAGAZINE

January'24

kct_ece

BY ASSOCIATION OF ECE

DEPARTMENT OF ECE

VISION

To be a centre of repute for learning and research with internationally accredited curriculum, state-of-the-art infrastructure and laboratories to enable the students to succeed in globally competitive environments in academics and industry.

MISSION

The Department is committed to:

- Motivate students to develop professional ethics, self confidence and leadership quality.
- Facilitate the students to acquire knowledge and skills innovatively to meet evolving global challenges and societal needs.
- Achieve excellence in academics, core engineering and research.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

Graduates of the Electronics and Communication Engineering Programme will have the ability to:

PSO1: Analyze and Design, verify and validate VLSI Systems by selecting appropriate hardware and software tools.

PSO2: Design, develop and validate inter disciplinary products/ process by applying the knowledge and skills of Embedded Systems, Signal Processing, Electromagnetics and Communication Engineering.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The Programme Educational Objectives of Electronics and Communication Engineering
Undergraduate Programme are:

PEO1: Graduates will be successful as Professionals, Researchers or Entrepreneurs in Electronics, Information and Communication Engineering disciplines.

PEO2: Graduates will continuously be updated with the state-of the art technology through formal and informal education to provide sustainable solutions.

PEO3: Graduates will demonstrate ethical and social responsibilities as an individual and in a team of diverse culture.

PROGRAMME OUTCOMES (POs)

PO1: The graduates would be able to apply the knowledge of mathematics, sciences, engineering fundamentals and skills to solve problems in electronics and communication.

PO2: The graduates would acquire skills to analyse complex problems in the domain of electronics and communication engineering.

PO3: The graduates would be able to design, develop and validate solutions for electronics and communication systems meeting the specifications vis-à-vis the society.

PO4: The graduates will have proficiency to acquire, analyse data and interpret results leading to relevant research.

PO5: The graduates would be able to use appropriate modern engineering/simulation tools including modelling and forecasting for complex technological entities.

PO6: The graduates would have awareness of and the need to uphold professional responsibilities and also be aware of health, safety, social and legal aspects of their work.

PO7: The graduates would have an understanding of the societal and human context in which their engineering contributions will provide sustainable development.

PO8: The graduates would carry out professional responsibilities adhering to ethical and standard norms of engineering practices.

PO9: The graduates would have ability to function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary environment.

PO10: The graduates would be capable of communicating effectively with the engineering community and society at large.

PO11: The graduates would demonstrate knowledge and understanding of engineering and management principles for technological and socially relevant projects.

PO12: The graduates would recognize the need for and also have ability to engage in continual, life-long learning.

RIDDLE SPHERE

DESCRIPTION:
The event is conducted to develop the observation, concentration and aptitude skills. Also to sink the students into fun and unwrap their mind. The participants brushed up their cognitive skills with a pinch of fun. They also tried to observe everything and stayed concentrated throughout the event. Overall all the participants tried their best and participated with their fullest cooperation.

ORGANIZED BY :

Pujashri S-22BEC213
Poornashri N-22BEC111

EVENT MODE : Offline
DATE : 3rd January, 2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : C 208, First floor, C Block

Winners Name:

1. Thamizharasi S-22BEC188
2. Ananya B N -22BEC207
3. Vishvasri A-22BEC204

TALK TROUPES - F40 SESSION

DESCRIPTION:
The session aims to provide the dynamics of group discussions, providing participants with a clear understanding of what employers typically look for in this setting. It focuses on enhancing communication skills, promoting effective teamwork, and developing the ability to express opinions articulately while respecting diverse perspectives. Participants will learn strategies to navigate different discussion scenarios, handle disagreements diplomatically, and contribute meaningfully to group conversations.

ORGANIZED BY :

Hariprasanna A K -20BEC035
Janani J – 21BEC052

EVENT MODE ; Offline
DATE : 03rd January,2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : C 208, First floor, C Block

Resource Person:

Pavin P S - 20BEI208
Final Year - Department of EIE

PROFILE PULSE

DESCRIPTION:
This event aims to provide attendees with valuable insights into crafting compelling resumes that effectively showcase their skills, experiences, and accomplishments. Through targeted guidance and practical tips, participants will learn how to tailor their resumes to stand out in today's competitive job market. Furthermore, the session on the uses of LinkedIn Premium will equip individuals with a comprehensive understanding of the advanced features and benefits that come with a premium LinkedIn subscription.

ORGANIZED BY :

Madhubala G – 22BEC085
Sarath Kumar S – 22BEC146

EVENT MODE : Offline
DATE : 4th January, 2024
TIME : 10.30 A,M to 12.30 P.M
VENUE : C 208, First floor, C Block

Resource Person:

1.**Mohan Yelnadu** - Head of Application Security, Trust Bank, Singapore
2.**Dr.J.Mohankumar** - Associate professor, ECE, KCT

CASHFISTA-F 40 SESSION

DESCRIPTION:

This session on financial investment and savings empowered individuals with the knowledge and skills necessary to make informed and strategic decisions about their financial resources. By providing insights into various investment vehicles, such as stocks, bonds, mutual funds, and retirement accounts, the session helped individuals tailor their investment strategies to align with their unique financial objectives and risk tolerance.

ORGANIZED BY :

Hariprasanna A K -20BEC035
Janani J – 21BEC052

EVENT MODE: Offline
DATE : 5th January 2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : C 208,First floor
C Block

Resource Person:

Abdul Khadar Hussain S
President of Flick Club

ELECTRO ENIGMA

DESCRIPTION:

Students found the event very helpful because the quiz asked was from their current subjects . They gained a good insigths . They learned new terminology related to their subjects. Participants found it very helpful to test their knowledge

Winners Name:

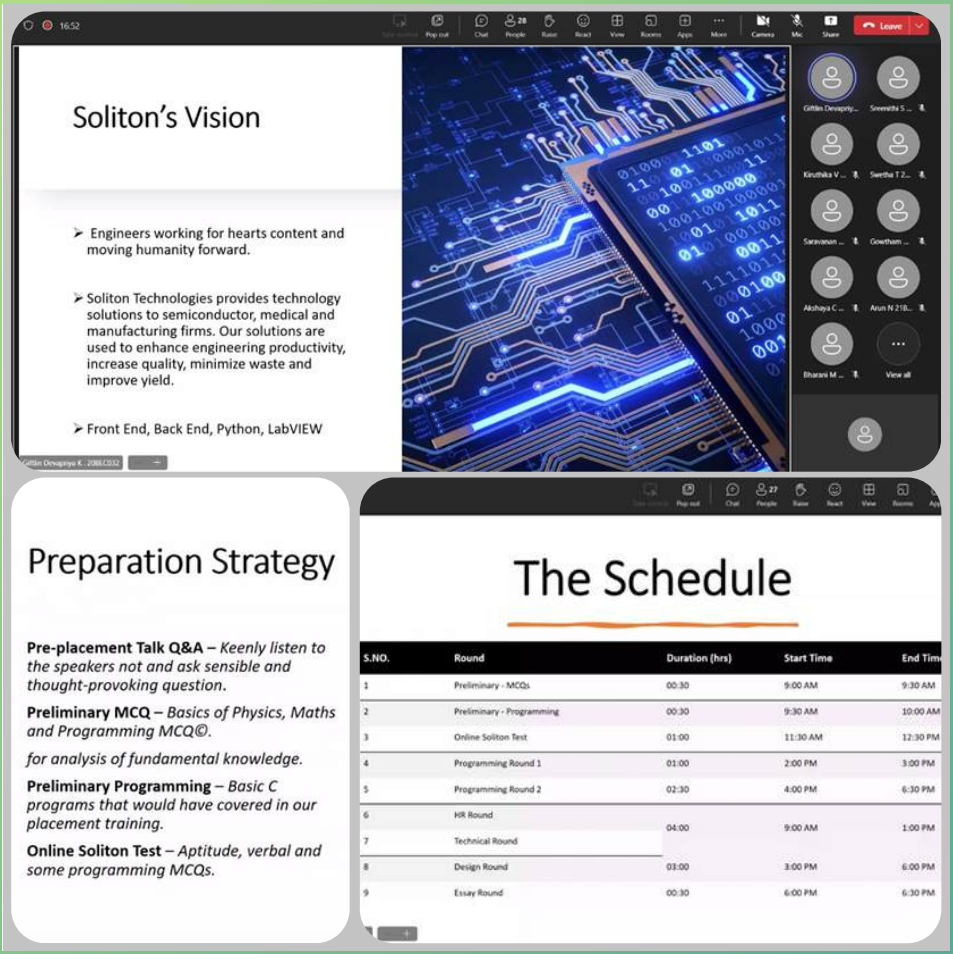
1. Sanjay M S-22BEC142,
   Sujith Kani A-22BEC174
2. Mervin A-22BEC093,
   Lokesh Adith K P-22BEC080
3. Rosan Karthik R M-22BEC130, ,
   Rupan R-22BEC132,
   Sangeeth Pranav S B - 22BEC139

ORGANIZED BY :

Naandheny S V-22BEC098
Susidharan V K- 22BEC117

EVENT MODE: Offline
DATE : 5th January 2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : C 208, First floor
C Block

TECHTUNE INTENSIVE - F 40 SESSION



DESCRIPTION:

Aimed to give the basic information of the Soliton interview process, the session offered a clear understanding of the expectations and criteria that the company values in potential hires and demystified the intricacies of Soliton's recruitment. Participants gained valuable information about the company's culture, values, and the specific skills and attributes Soliton seeks in its employees.

ORGANIZED BY :

Hariprasanna A K -20BEC035
Janani J – 21BEC052

EVENT MODE : Online - MS Teams
DATE : 11th January 2024
TIME : 5.00 P.M to 6.30 P.M

Resource Person:

Giftlin Devapriya K 20BEC032
Final year ECE,placed in Soliton

CODE ADVENT

DESCRIPTION:

Code advent event enhanced the participant's programming skills, particularly in C and Python, by emphasizing debugging and problem-solving. Throughout the event, participants engaged in coding challenges that require not only writing efficient code but also identifying and fixing bugs. This event served as a platform to develop their logical reasoning, analytical thinking, and debugging capabilities in both C and Python programming languages.

ORGANIZED BY :

Dharaniya V S-22BEC029
Cavyasri J- 22BEC023
Felix Matthew J -22BEC034

EVENT MODE: Offline
DATE : 22nd January 2024
TIME :5.00 P.M to 6.30 P.M
VENUE : COE lab, Ground floor C Block

Winners Name:

1.Harshini.M 22BEC051, Arunachalam S 22BEC017
2.Gokulkrishna S 22BEC038, Dhayanithi K S 22BEC032
3.Tawfiq luqman F 22BEC187, Madhanraj P -22BCS056

SMASH MASTERS

DESCRIPTION:

The event showcased skill, sportsmanship, and competitive spirit among players. Participants aimed to win matches by scoring points through strategic rallies, demonstrating agility, and employing effective shot techniques. The event concluded with high spirits, as participants displayed remarkable skill and sportsmanship. The overall outcome reflected a well-executed and enjoyable competition for all participants

ORGANIZED BY :

Nishanthan M -21BEC089

EVENT MODE: Offline
DATE : 8th January 2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : Badminton Court, Ground Floor, SFS

Winners Name:

1.Sanjeevkumar S -21BEC127
2.Saravanan M- 21BEC132
3.Janani J -21BEC052
4.Sreenithi S -21BEC150

PROGRESS PARADE

DESCRIPTION:

Students gained insights into setting strategic goals through an interactive session, acquired event management skills empowers students for a successful year ahead .The event highlighted the need to set important goals and master skills for organizing events and make the upcoming year successful

ORGANIZED BY :

Madhu Prathika S-22BEC084
Madhumithaa S - 22BEC086

EVENT MODE: Offline
DATE : 4th January 2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : C 208, First floor
C Block

Resource person:

Inbavel T 20BEC039
President of Nithilam

SPARK CIPHER

DESCRIPTION:

Students participated in a quiz assessing their understanding of circuits and proficiency in coding skills. The quiz encompassed questions to evaluate students' knowledge of circuits and coding abilities. Additionally, students utilized Tinker cad to create circuits as part of their practical application in the assessment process.

ORGANIZED BY :

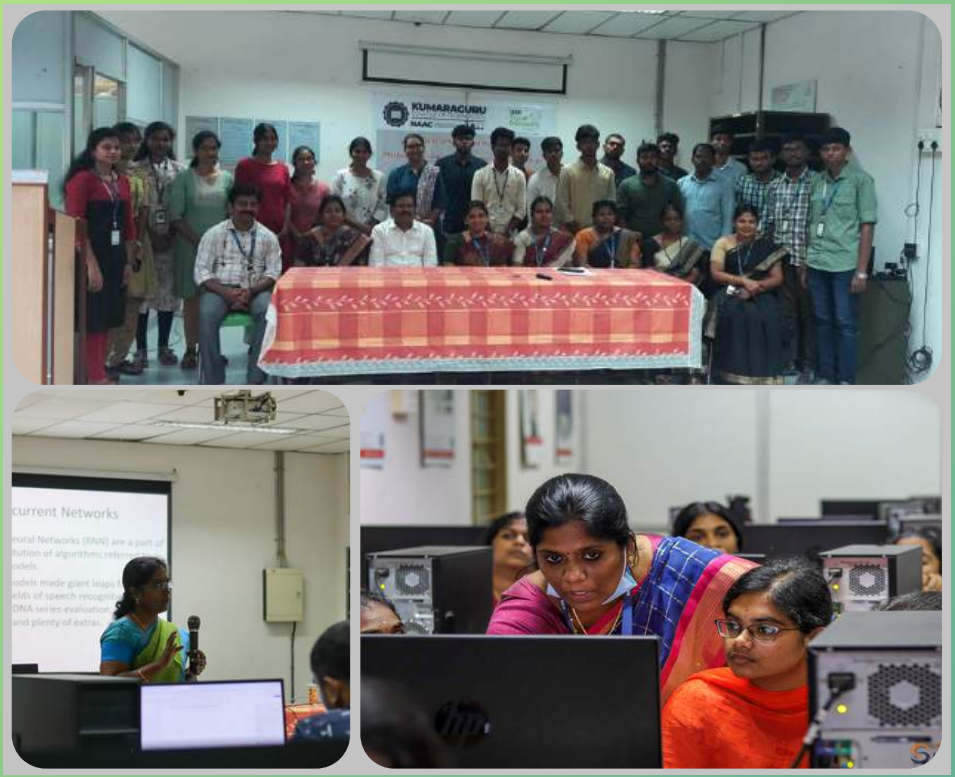
Lokesh Adith K P -22BEC080
Prithika G -22BEC120

EVENT MODE : Offline
DATE : 23.01.2024
TIME : 5.00 P.M to 6.30 P.M
VENUE : COE Lab, Ground floor
C Block

Winners:

1. Mervin A- 22BEC093, Magesh Srinivas B - 22BEC087
2. Rosan Karthik R M - 22BEC130,Pon Aravind S- 22BEC110,Krithikesh S - 22BEC077
3. Sandhiya K - 22BEC138,Naandheny S V- 22BEC098

IEEE SPS REGIONAL MEETING ON MACHINE LEARNING FOR SIGNAL PROCESSING APPLICATIONS



EVENT MODE : Offline
DATE : 5th – 6th January 2024
TIME : 09:00 am to 04:40 pm
VENUE : COE Lab, Ground floor C Block

DESCRIPTION:

The primary objective of the IEEE SPS regional Meeting on Machine Learning for Signal Processing Applications is to bring together researchers, academicians, and industry experts working in the fields of signal processing and machine learning. It aims to exchange knowledge and discuss emerging trends and challenges in applying machine learning techniques to signal processing domains. The technical event comprises a diverse range of sessions, including keynote speeches, plenary talks, and hands-on Sessions. In addition to the technical sessions, the IEEE SPS Meeting also features a Poster Session, and a Coding Contest on ML Algorithms, offering participants the opportunity to showcase their work and interact with fellow researchers and industry professionals.

Resource Person:

1. **Dr.Venkataesh Babu**, Professor Dept. of Computational and Data sciences IISC, Bengaluru
2. **Dr.D. Jude Hemanth**, Professor &Head, Dept of ECE, Karunya Institute of Technology and Sciences ,Coimbatore
3. **Ms.R. Dhivya Praba**, Assistant Professor II / ECE Kumaraguru College of Technology, Coimbatore
4. **Ms.R.S.Sandhya Devi,** Assistant Professor II / ECE Kumaraguru College of Technology, Coimbatore
5. **Dr.P.Visalakshi**, Professor, Dept of ECE,PSG college of Technology,Coimbatore
6. **Dr.S.J. Thiruvengadam**, professor & Dean Dept of ECE, Thiagarajar college of Engineering, Madurai
7. **Dr. N.Venkateswaran**, Professor,Dept of Biomedical Engineering ,Sri Sivasubramaniya Nadar College of Engineering,Chennai

PONGAL CELEBRATION

DESCRIPTION:
In a delightful Pongal celebration, we enthusiastically gathered to cook and savor Pongal, a significant harvest festival in Tamil culture .The collective effort not only showcased the culinary talents but also created a warm and inclusive atmosphere.

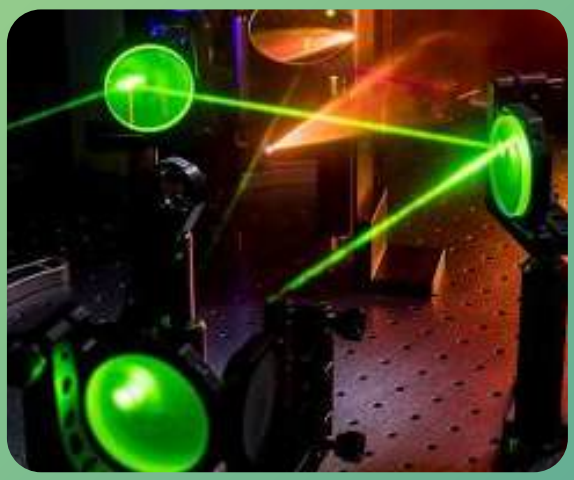
TIME:9:00 am to 1:00 pm
VENUE:
DATE : 07th January, 2024

The shared experience of preparing and enjoying Pongal strengthened the bonds among students , fostering a sense of community and mutual respect. This unique celebration provided a meaningful opportunity to connect with the rich cultural traditions of Tamil people and added a vibrant chapter to our academic journey. Laughter, joy, and a spirit of togetherness filled the surroundings, making the celebration a memorable experience

PHOTOELECTRONICS

INTRODUCTION

Photoelectronics is a branch of electronics that focuses on the study and application of devices and systems involving the interaction of light (photons) with electronic components. It encompasses technologies such as photodetectors, optoelectronic devices, fiber optics, image sensors, and light modulation. Photoelectronics plays a crucial role in various applications, including optical communication, imaging systems, sensors, and optoelectronic devices used in electronic cameras and displays.



WORKING PRINCIPLE

Photoelectronics operates on the fundamental principle of the interaction between light (photons) and electronic materials, giving rise to a diverse array of devices with specific functionalities. Photodetectors, such as photodiodes and phototransistors, rely on the photoelectric effect, where incident photons generate electron-hole pairs within semiconductor materials, resulting in a measurable photocurrent or voltage. Optoelectronic devices, including light-emitting diodes (LEDs), lasers, and solar cells, utilize the generation and manipulation of photons for applications ranging from illumination to energy conversion. In fiber optics, the total internal reflection of light pulses through optical fibers enables high-speed communication, with photoelectronic components like lasers and detectors facilitating signal transmission.

APPLICATIONS

- **Telecommunications:** Fiber optic cables carry vast amounts of data globally with high speed and bandwidth.
- **Healthcare:** Lasers are used in surgery, diagnostics, and imaging techniques.
- **Manufacturing:** Photonics enables precise material processing, inspection, and control.
- **Environmental monitoring:** Light-based sensors track air and water quality, pollution levels, and climate change.
- **Entertainment and displays:** LEDs illuminate homes, stadiums, and large screens, while advanced optics enhance projection and virtual reality experiences.

Letz Explore

TEKMEDIA

ABOUT

We are a technology services and consulting company specialized in media transport and data communication products and solutions. We work with entrepreneurs and businesses to fulfill their onsite and offshore product development needs.
Our specialties include: product design, development, maintenance, support and network operations consulting services.

MISSION

We work with technology companies to build results-driven and scalable software development teams in India. We specialize in providing high-quality, cost-effective software design, development & maintenance services.

SKILLS REQUIRED

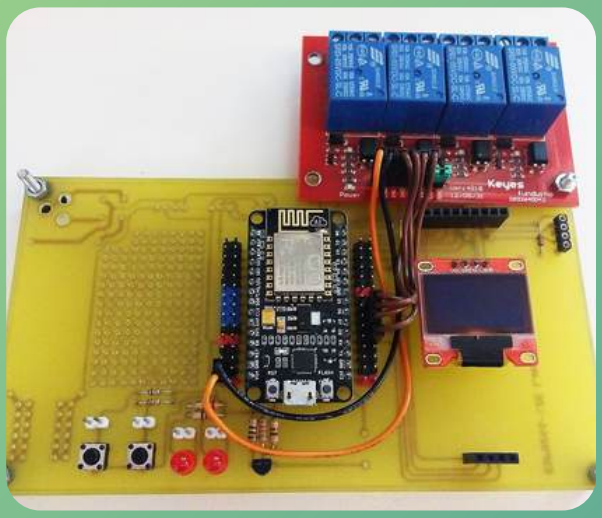
UI Design/Front-end development
Git and GitHub
Data science
Cybersecurity
Troubleshooting and test automation
An agile mindset

EMPLOYEE BENEFITS

Competitive compensation
Flexibility to work remotely
Group insurance coverage
Wellness benefits
Special occasion bonuses

RELAY CONTROLLED LIGHT USING -ESP32

This home automation project integrates an ESP32 microcontroller with a relay to facilitate remote control of a light source through the Blynk application on either a smartphone or computer. The fundamental aim of this project is to introduce users to the foundational principles of home automation and the broader concepts associated with the Internet of Things (IoT). The ESP32, known for its versatility and connectivity features, serves as the central processing unit, orchestrating communication between the relay and the Blynk app. The relay, a pivotal component, functions as a switch, allowing users to remotely manage the state of the connected light. Through this practical application, individuals can gain hands-on experience in leveraging IoT technologies for enhancing home functionality and control. This project not only illuminates the collaborative potential of ESP32 and Blynk but also serves as an accessible entry point for those interested in exploring the dynamic realm of home automation.



Components Required:

- ESP32
- LCD Display
- 5V Relay Module (Relay Board)
- LED -02
- Strip board
- Switch
- 100Ω Resistor (1/4 Watt)
- Connecting Wires
- Power Supply

Working of the Project

The ESP32-based home automation project with Blynk is a comprehensive endeavor that utilizes the ESP32 microcontroller to effectively control a light remotely through a relay. In this setup, the relay plays a pivotal role, essentially acting as a switch to manage the state of the connected light source. The ESP32 microcontroller is intricately programmed using the Blynk library, enabling the establishment of seamless wireless communication. Through the intuitive Blynk application on a smartphone or computer, users can effortlessly toggle the relay's state, thereby controlling whether the light is turned on or off. The hardware connections involve carefully wiring the relay to the ESP32 and the light bulb, ensuring a cohesive integration of components. The ESP32 code not only configures the relay pin but also adeptly manages the intricate communication protocols with the Blynk app. This project serves as a fundamental introduction to the realm of home automation, providing a hands-on experience in mastering the principles of remote control and wireless connectivity, all presented through a user-friendly app interface.

COMPLETE THE ABOVE MENTIONED MINI PROJECT AND SUBMIT THE PROOF TO WIN EXCITING PRIZE

QUESTION 1

Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

a) 1/2
b) 2/5
c) 8/15
d) 9/20

Answer: **D**

QUESTION 2

The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Re. 1. The sum (in Rs.) is:

a) 625
b) 630
c) 640
d) 650

Answer: A

QUESTION 3

In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:

a) 3 km/hr
b) 5 km/hr
c) 8 km/hr
d) 9 km/hr

Answer: C

QUESTION 4

A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants to be the working member for which, he was to receive 5% of the profits. The profit earned was Rs. 7400. Calculate the share of B in the profit.

a) Rs. 1900
b) Rs. 2660
c) Rs. 2800
d) Rs. 2840

Answer: B

QUESTION 5

Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds
is:

a) 1 : 3
b) 3 : 2
c) 3 : 4
d) None of these

Answer: B

EDITORS:

SANDHIYA K - 22BEC138
HARSHINI.M - 22BEC051
JAGANNATH V - 22BEC054