30+ YEARS OF PROUD LEGACY

BABA FARID GROUP OF INSTITUTIONS
Bathinda, Punjab (India)

NAAC GRADE A+

SCHOOL OF SKILL DEVELOPMENT

BFGI SKILL BULLETIN

MONTHLY NEWSLETTER – MARCH 2026

VISION

To become a leading centre for skill development that empowers students with practical competencies, innovation capabilities, and industry-relevant expertise, enabling them to excel in their careers and contribute meaningfully to society.

MISSION

- To promote hands-on learning and practical skill development among students across disciplines.
- To enhance students' professional capabilities through training, competitions, and experiential learning opportunities.
- To encourage innovation, product development, and problem-solving through interdisciplinary collaboration.
- To bridge the gap between academic learning and industry expectations by fostering a culture of continuous improvement and excellence.

Message from the Chairman

It gives me great pleasure to know that the School of Skill Development, BFGI, is launching its Monthly Newsletter. This initiative reflects the institution's commitment to promoting industry-oriented learning, innovation, and a progressive culture of knowledge sharing within the campus.

Such a platform will serve as an effective medium to showcase achievements, initiatives, and the dynamic activities carried out by the School. It will also encourage students to think creatively, participate actively, and develop the confidence and capabilities required to meet the evolving expectations of the professional world.

I appreciate the efforts of the School of Skill Development in taking this meaningful step and extend my best wishes for the continued success of this initiative. I am confident that this newsletter will grow into a valuable source of inspiration and pride for the entire BFGI community.

Warm Regards
Dr. Gurmeet Singh Dhaliwal
Chairman
Baba Farid Group of Institutions

Message from the Campus Director

It is indeed heartening to see the School of Skill Development taking progressive initiatives to cultivate a dynamic environment of experiential learning, innovation, and creativity. Such initiatives provide students with meaningful opportunities to explore their potential, apply knowledge in practical contexts, and develop confidence through active engagement and participation.

The School's continuous efforts to encourage innovation, collaborative learning, and creative problem-solving are highly commendable. By promoting a culture of curiosity, dedication, and excellence, the School is contributing significantly towards shaping capable and forward-thinking individuals who can make meaningful contributions to society.

These initiatives truly reflect the progressive vision of BFGI in nurturing talent, encouraging innovation, and fostering holistic development among students. I appreciate the dedication and collective efforts of the entire team and extend my best wishes for many more impactful initiatives and achievements in the times ahead.

Best Wishes
Dr. M.P. Poonia
Campus Director
Baba Farid Group of Institutions

Message from the Associate Dean

It gives me great pleasure to present the Monthly Newsletter of the School of Skill Development, highlighting the dynamic initiatives and achievements accomplished during the month. The School continues to work with a clear vision of strengthening practical learning, innovation, and student engagement through its four dedicated centres focused on employability enhancement, skill development, product innovation, and competitive excellence.

Through structured training programs, technology-driven workshops, product development initiatives, and active participation in skill competitions, our students are gaining valuable exposure and hands-on experience beyond the classroom. These efforts are helping them develop confidence, creativity, and the practical competencies required to meet the evolving demands of industry and society.

I sincerely appreciate the dedication of our students, faculty members, trainers, and mentors whose collective efforts are driving the success of these initiatives. I am confident that the School of Skill Development will continue to create meaningful opportunities and achieve many more milestones in the journey ahead.

Best Wishes
Dr. Nimisha Singh
Associate Dean, School of Skill Development
Baba Farid group of Institutions

Centre for Product Development (CPD)

1. From Waste to Wonder: BFCET Civil Students Redefine Sustainability

• Innovative Lightweight RCC Bench by Civil Engineering Students

The students of 8th Semester Civil Engineering, School of Engineering, Baba Farid Group of Institutions (BFGI), Bathinda, successfully designed and developed an Innovative Lightweight Reinforced Cement Concrete (RCC) Bench as part of practical learning under the Center for Product Development. The project reflects the effective implementation of theoretical knowledge of concrete technology, structural design, and sustainable construction practices into a real-life product. The bench has been designed as a four-seater structure having a length of 1.5 meters, ensuring comfortable seating capacity along with adequate strength and durability.

The students carried out detailed mix design calculations for M20 grade concrete, ensuring the proper proportioning of cement, sand, coarse aggregates, and water as per standard engineering practices. The mix was prepared carefully to achieve the required compressive strength, workability, and long-term durability. Reinforcement steel bars were incorporated into the structure to resist tensile stresses and prevent cracking under loading conditions. Basic load calculations were also performed to ensure the structural safety and serviceability of the bench.

An innovative approach was adopted by incorporating 2-inch diameter PVC hollow pipes inside the seat and backrest portion of the bench. The introduction of hollow sections helped in reducing the overall volume of concrete without affecting the structural performance. Through this technique, students were able to reduce concrete consumption by approximately 15–18 percent and reduce the overall weight of the bench by nearly 12–15 percent. This innovation demonstrates an important concept of modern civil engineering, which focuses on material optimization, cost reduction, and efficient resource utilization.

The casting process was carried out using properly prepared moulds to maintain dimensional accuracy and smooth finishing. Concrete was mixed thoroughly, poured carefully, and compacted to remove air voids and achieve uniform strength. After casting, proper curing was carried out to ensure strength development and durability of the structure. The finished bench was installed and fixed near the New Innovation Lab Area, making it available for practical use by students and visitors.

The project provided hands-on exposure to students in areas such as reinforcement placement, concrete casting, curing techniques, and structural stability assessment. It also enhanced their understanding of sustainable construction practices and encouraged innovative thinking in product development.

Innovative Lightweight RCC Bench

The Civil Engineering students of Baba Farid College of Engineering and Technology (BFCET) implemented an innovative sustainability initiative based on the concept of "Waste to Wealth," converting plastic waste generated within the campus into useful and meaningful infrastructure. The activity was carried out by the 6th Semester Civil Engineering students under the guidance of Er. Ravneet Singh Sidhu with the objective of promoting environmental awareness, waste management, and eco-friendly engineering practices.

During the initial study, students observed that the campus generates approximately 5–6 kilograms of plastic waste daily, mainly in the form of chips packets, plastic wrappers, and nearly 300 plastic bottles of different sizes such as 200 ml, 1 litre, and 2 litre bottles. Improper disposal of plastic waste contributes to environmental pollution, soil contamination, and blockage of drainage systems. Recognizing the need for sustainable solutions, students decided to utilize plastic waste creatively in infrastructure development.

The initiative reflects the importance of responsible engineering practices in addressing environmental challenges and demonstrates how technical knowledge can be used for the benefit of society.

- **Landscaping Development**

The landscaping activity was carried out in a selected area of the campus that was previously uneven, unorganized, and not effectively utilized. The identified location had irregular ground levels, patches of loose soil, and lacked proper planning for plantation or student use. After a detailed site inspection, the students analyzed the surface condition and identified the requirement for ground improvement, proper leveling, and structured development of the area. The primary objective of the activity was to convert an underdeveloped space into a well-planned green area that could be used for plantation, sitting, and enhancing the overall campus environment.

The work involved systematic ground leveling and soil redistribution to remove surface irregularities and achieve a uniform ground level. Students manually carried out the process of removing excess soil from elevated portions and filling the low-level areas to create a balanced and stable surface. The soil was then properly compacted to increase its strength and load-bearing capacity, ensuring that the surface remains stable and does not undergo settlement in the future. The compaction process also helps in improving the durability of the developed area and maintaining its structure during rainfall or regular use.

Students applied basic civil engineering principles related to site development, earthwork, and land improvement techniques during the activity. They learned how proper leveling contributes to surface drainage, soil stability, and ease of maintenance. The activity also helped them understand the importance of preparing a suitable base before plantation work, as proper soil condition plays a significant role in plant growth and sustainability of green areas.

In addition to technical learning, the landscaping activity significantly improved the aesthetic appearance of the campus by transforming an unused space into an organized and visually appealing green zone. The developed area provides a pleasant environment for students and visitors and contributes positively to the overall infrastructure of the institution. It also promotes environmental awareness by encouraging plantation and maintenance of green spaces within the campus.

The activity provided practical exposure to students in planning, teamwork, and execution of civil engineering tasks at a small scale. It helped them understand the real-world importance of land development in construction projects and highlighted how minor improvements in surface conditions can enhance usability and environmental quality. Overall, the landscaping work reflects the integration of technical skills with environmental responsibility, encouraging students to contribute towards sustainable campus development.

Landscaping Development

- **Plantation Boundary Wall Making using Waste Plastic Bottles**

To protect the plants and maintain a systematic arrangement of the landscaped area, the students constructed an eco-friendly boundary wall using 200 ml plastic bottles collected from waste generated within the campus. The initiative was undertaken with the objective of reducing plastic pollution while developing a functional and visually appealing protective boundary around the plantation area. Students conducted a collection drive to gather discarded plastic bottles from different locations on the campus, ensuring proper segregation of recyclable waste. The bottles were thoroughly cleaned and prepared for reuse in order to maintain hygiene and ensure durability in the construction process.

The collected bottles were then filled with plastic wrappers, chips packets, and other non-biodegradable waste materials that are otherwise difficult to dispose of safely. Filling the bottles with plastic waste increased their internal density and provided additional strength, making them suitable for use as structural elements in the boundary formation. This process not only helped in utilizing a large amount of plastic waste but also demonstrated how low-cost materials can be converted into useful construction components through innovative thinking.

The prepared bottles were arranged systematically along the edges of the landscaped area to create a continuous boundary that clearly defines the plantation space. Proper alignment and placement of the bottles ensured stability and uniformity in the boundary structure. The boundary wall prevents unnecessary movement of soil, protects plants from being damaged due to foot traffic, and helps maintain an organized layout of the garden area. The arrangement also contributes to soil retention and supports the overall structure of the landscaped region.

The bottle boundary serves as an effective alternative to traditional construction materials such as bricks, stones, or concrete blocks, thereby reducing the use of conventional resources and promoting sustainable construction practices. This approach demonstrates how engineering concepts can be applied creatively to solve environmental challenges using locally available waste materials. The use of plastic bottles also reduces the burden on landfill sites and prevents environmental hazards caused by improper disposal of plastic waste.

In addition to its functional advantages, the boundary wall enhances the aesthetic appeal of the landscaped area by giving it a neat, organized, and innovative appearance. The activity promotes awareness about recycling, resource conservation, and environmental responsibility among students and visitors. It also encourages the adoption of eco-friendly practices in daily life and highlights the importance of sustainable development in engineering applications. Overall, the initiative reflects a practical example of transforming waste materials into valuable resources while improving the environmental quality of the campus.

Plantation Boundary Wall Making using Waste Plastic Bottles

- **Bench Making using Waste Plastic Bottles**

As part of the sustainability initiative, students also developed a bench using discarded plastic bottles collected from the campus. The bottles were arranged carefully in a systematic manner to provide structural balance and support. The arrangement ensured uniform load distribution and sufficient stability for seating purposes.

The bench developed using plastic waste demonstrates that non-biodegradable materials can be reused effectively for functional applications. This activity encouraged students to think creatively and explore innovative alternatives to conventional construction materials.

The plastic bottle bench is lightweight, economical, and environmentally friendly. It also serves as a demonstration model to promote awareness about plastic recycling and sustainable product development.

Bench Making using Waste Plastic Bottles

- **I ❤️ BFGI" Model Development**

Students also created an "I ❤️ BFGI" model using plastic wrappers and other non-biodegradable waste materials collected from different areas of the campus. The objective of developing this model was not only to utilize plastic waste creatively but also to express students' sense of belonging, pride, and responsibility towards their institution. By transforming waste materials into a meaningful display, students demonstrated how environmental concerns can be addressed through innovative ideas and practical implementation. The model symbolizes the students' emotional connection with the institution and their commitment to contributing positively towards campus development through sustainable initiatives.

The preparation of the display model involved careful collection, segregation, and arrangement of plastic wrappers in a planned pattern to clearly represent the message "I ❤️ BFGI." Students worked collaboratively to ensure proper color combination, alignment, and stability of the structure so that it remains visually attractive and durable. The activity required patience, planning, and teamwork, as the materials used were lightweight and required careful fixing to maintain the desired shape and appearance. Through this process, students gained practical understanding of material handling and creative design using waste resources.

The display model serves as a strong visual awareness message for students, faculty members, and visitors entering the campus area. It encourages individuals to think about the impact of plastic waste on the environment and motivates them to adopt eco-friendly habits such as reducing plastic usage, promoting recycling, and maintaining cleanliness in their surroundings. The model also highlights how simple initiatives can create awareness and inspire others to participate in environmental conservation activities.

In addition to spreading awareness, the model enhances the visual appearance of the campus by adding an innovative and creative element to the surroundings. The presence of such structures demonstrates the institution's commitment towards promoting sustainable development practices and encouraging students to apply their technical knowledge for environmental improvement. The activity also reflects how academic learning can be combined with creativity to produce meaningful outcomes that benefit society.

Overall, this initiative provided valuable practical exposure to students in areas such as construction techniques, material reuse, and environmental sustainability practices. Students developed important skills including problem-solving, planning, teamwork, and innovative thinking through hands-on participation in the activity. The project highlights the importance of integrating theoretical knowledge with real-life applications to address environmental challenges effectively. It also emphasizes the role of engineering education in developing responsible professionals who understand the importance of resource conservation and sustainable infrastructure development.

Such activities motivate students to become socially responsible engineers who not only focus on technical excellence but also contribute towards environmental protection and community welfare. The initiative demonstrates that even small efforts in waste management can create a significant positive impact when supported by creativity, teamwork, and a commitment towards sustainability.

I ❤ BFGI" Model Development

2. A comprehensive, execution-grade Furniture

A comprehensive, execution-grade furniture approach focuses on the systematic design, development, and implementation of furniture that is not only aesthetically appealing but also structurally strong, durable, and functionally efficient. Execution-grade furniture refers to products that are developed with detailed planning, proper material selection, dimensional accuracy, and practical usability considerations, ensuring that the final product meets real-world performance requirements. Such furniture is designed by incorporating engineering principles, ergonomic standards, and cost-effective production techniques to achieve reliability and long-term serviceability.

The process involves careful assessment of user requirements, space availability, load-bearing capacity, and environmental conditions before finalizing the design. Engineering calculations and technical drawings are prepared to ensure proper dimensions, stability, and safety of the furniture structure. Selection of suitable materials such as wood, metal, polymer, or reinforced concrete is carried out based on strength, durability, availability, and maintenance requirements. The focus is placed on optimizing material usage to reduce cost while maintaining structural integrity and quality standards.

Execution-grade furniture also emphasizes precision in fabrication and assembly processes. Proper tools, moulds, fixtures, and joining techniques are used to ensure dimensional accuracy and uniform finishing. Quality checks are conducted at various stages of production to ensure that the furniture meets performance expectations and safety standards. Attention is given to details such as surface finishing, edge smoothness, load distribution, and stability so that the furniture can withstand regular usage without deformation or damage.

In addition to functionality, modern execution-grade furniture incorporates the concept of sustainability by promoting the use of recyclable materials, waste reduction techniques, and energy-efficient manufacturing processes. Innovative approaches such as lightweight design, modular structure, and multi-functional usability are also considered to enhance efficiency and convenience. The aim is to produce furniture that is economical, durable, easy to maintain, and suitable for institutional or industrial environments.

Such furniture plays an important role in supporting academic, administrative, and laboratory activities by providing comfortable and reliable infrastructure. The development of execution-grade furniture also provides practical exposure to students in areas such as product design, material selection, fabrication techniques, and quality control. It encourages problem-solving skills, innovation, and application of theoretical knowledge in real-life product development scenarios.

Overall, a comprehensive execution-grade furniture approach ensures that the final product meets professional standards, supports user comfort, and contributes towards efficient utilization of available resources while maintaining quality, sustainability, and long-term usability.

Development of Classroom Furniture

3. Laboratory Tables & Workstations – Developed in BFGI Workshop

The Laboratory Tables and Workstations were designed and developed in the BFGI workshop with the objective of creating strong, durable, and functional furniture suitable for academic laboratories, innovation centers, and skill development spaces. The development process focused on ensuring that the tables meet practical laboratory requirements such as adequate load-bearing capacity, proper working height, stability, and long-term durability. The initiative reflects the institution's commitment towards developing in-house infrastructure through technical expertise and hands-on implementation.

The design of laboratory tables was prepared by considering the nature of laboratory activities, space availability, and user comfort. Proper dimensions were selected to ensure ergonomic suitability so that students can work comfortably for longer durations without inconvenience. The structure was designed to support laboratory equipment, tools, and project components safely. Special attention was given to strength and stability to ensure that the tables can withstand vibrations, weight of instruments, and continuous usage.

The fabrication work was carried out in the BFGI workshop using appropriate materials and standard manufacturing practices. The structure of the tables was prepared using durable materials suitable for long-term use in laboratory environments. The assembly process involved cutting, shaping, fitting, and finishing of components with proper alignment to ensure structural balance. Adequate support members were provided to maintain rigidity and prevent deformation during usage.

The developed workstations were designed to provide sufficient surface area for conducting experiments, assembling prototypes, and placing tools or instruments in an organized manner. Provision for proper leg space, uniform height, and balanced structure ensures convenience for students and faculty members during practical work. The tables were also designed in such a way that they can be easily placed and rearranged as per laboratory requirements.

Surface finishing was carried out carefully to ensure smooth edges and proper finishing, reducing the chances of damage or injury during usage. The furniture was designed to be low maintenance and suitable for continuous academic use. The development of laboratory tables within the institution also helped in reducing procurement cost and ensured customization according to specific laboratory requirements.

This initiative provided practical exposure to workshop processes such as measurement, cutting, fabrication, assembly, and finishing techniques. It demonstrates the effective utilization of institutional resources and technical skills in developing useful infrastructure. The in-house development of laboratory furniture promotes self-reliance, encourages innovation, and strengthens the practical learning environment within the institution.

The Laboratory Tables and Workstations developed in the BFGI workshop contribute to improving the functionality and organization of laboratories, supporting academic activities, project development work, and skill-based training. The initiative reflects the integration of design thinking, technical execution, and resource optimization for developing efficient institutional infrastructure.

Development of Laboratory Tables & Workstations

4. Gym Equipment (Basic Institutional Fitness Equipment) – Developed in BFGI Workshop

Basic institutional gym equipment was designed and developed in the BFGI workshop with the objective of promoting health, fitness, and physical well-being among students and staff members. The initiative focused on developing strong, safe, and durable fitness equipment suitable for regular institutional use, while also utilizing in-house technical resources and workshop facilities. The development of gym equipment within the institution reflects a practical approach towards self-reliance, cost optimization, and skill-based learning.

The equipment was designed by considering important factors such as user safety, structural strength, stability, and ergonomic comfort. Proper dimensions were selected to ensure that the equipment is convenient to use for individuals of different physical builds. The design also considered load-bearing requirements so that the equipment can withstand repeated usage without structural deformation or instability. Emphasis was given to ensuring balanced weight distribution and secure structural support to avoid accidents during exercise.

Fabrication of the gym equipment was carried out in the BFGI workshop using suitable materials that provide strength and durability. Standard workshop processes such as measurement, cutting, welding, grinding, fitting, and finishing were used to prepare the final structure. Proper joining techniques were adopted to ensure that all components remain firmly connected and capable of handling dynamic loads generated during physical exercise.

The developed equipment includes basic institutional fitness structures that support common exercises aimed at improving strength, flexibility, and endurance. The structures were designed in a simple and practical manner so that they can be easily used within the campus premises. Special care was taken to ensure smooth finishing of surfaces and rounded edges to minimize the risk of injury and enhance user comfort.

The initiative also provided practical exposure to students and technical staff involved in the development process. They gained experience in understanding structural stability, material behavior under load, and fabrication techniques used in developing fitness equipment. The activity encouraged the application of engineering knowledge in developing products that directly contribute to the well-being of the institutional community.

Developing gym equipment within the BFGI workshop helped in reducing procurement costs while allowing customization according to available space and user requirements. The initiative demonstrates effective utilization of workshop facilities and promotes a culture of innovation and practical problem-solving.

Overall, the development of basic institutional gym equipment strengthens the campus infrastructure by encouraging healthy lifestyle practices and physical fitness. It reflects the institution's commitment towards holistic development by integrating technical skills with social well-being and resource optimization.

Institutional Gym Equipment Development

5. LED Panel Lights (Institutional Energy Systems) – Developed/Assembled in BFGI Workshop

LED Panel Lights were developed and assembled as part of institutional energy optimization initiatives in the BFGI workshop, focusing on energy efficiency, long service life, and reliable lighting performance for classrooms, laboratories, offices, and innovation spaces. The objective of this initiative was to promote sustainable energy systems within the institution while providing practical exposure in electrical assembly, circuit integration, and product development related to modern lighting technologies.

The LED panel lighting system was designed considering illumination requirements for academic environments, where uniform light distribution, reduced glare, and minimum energy consumption are essential for comfortable working conditions. Proper selection of LED drivers, panel housing, heat dissipation components, and electrical connections was carried out to ensure consistent lighting output and safe operation. The design ensures adequate brightness levels suitable for reading, writing, laboratory work, and project activities, thereby supporting an effective teaching-learning environment.

The assembly process involved careful integration of LED strips/modules, driver circuits, wiring connections, and protective outer panels. Appropriate electrical safety measures were considered during assembly to ensure protection from short circuits, overheating, and voltage fluctuations. The panel structure was designed to allow proper heat dissipation, which helps in maintaining performance stability and increasing the lifespan of LED components

LED panel lights consume significantly less electrical power as compared to conventional lighting systems, thereby reducing overall energy consumption within the institution. The use of energy-efficient lighting contributes towards lower electricity costs and supports environmentally responsible infrastructure development. The initiative promotes awareness regarding the importance of adopting sustainable energy solutions in institutional buildings.

The development and assembly of LED panel lights in the BFGI workshop provided practical exposure in electrical component handling, basic circuit understanding, wiring techniques, and installation practices. It also helped in understanding the working principles of solid-state lighting systems and the importance of energy conservation in modern infrastructure.

The LED panel lights developed under this initiative contribute to improving lighting quality across institutional spaces while promoting green energy practices. The activity reflects the integration of technical knowledge with sustainability objectives and demonstrates the institution's commitment towards energy-efficient campus development.

Institutional LED Lighting Systems Development

6. Solar Street Lights (Renewable Energy Infrastructure) – Developed/Assembled in BFGI Workshop

Solar Street Lights were developed and assembled as part of renewable energy initiatives in the BFGI workshop to promote sustainable infrastructure and reduce dependence on conventional electricity sources. The project aimed to implement energy-efficient outdoor lighting solutions that utilize solar power for illumination of campus roads, pathways, parking areas, and common utility spaces. This initiative reflects the institution's commitment towards adoption of green energy technologies and environmentally responsible engineering practices.

The solar street lighting system was designed by integrating major components such as solar photovoltaic (PV) panels, rechargeable batteries, LED luminaires, charge controllers, and supporting structures. Solar panels absorb sunlight during the daytime and convert solar energy into electrical energy, which is stored in batteries for use during night-time. The stored energy powers the LED lights automatically after sunset, ensuring uninterrupted lighting without reliance on grid electricity.

The system design considered important parameters such as solar panel capacity, battery backup time, illumination intensity, and energy efficiency. LED lights were selected due to their low power consumption, long life, and high luminous efficiency. Proper mounting structures were used to install the solar panels at suitable angles to receive maximum sunlight exposure for effective charging performance.

Special attention was given to electrical connections, safety measures, and weather resistance to ensure reliable performance in outdoor environmental conditions such as rain, dust, and temperature variations. The assembled system was designed to operate with minimal maintenance requirements, making it suitable for long-term institutional use.

The development of solar street lights in the BFGI workshop provided practical exposure in renewable energy systems, electrical wiring, energy storage mechanisms, and installation techniques. Students and technical staff gained understanding of solar energy utilization, energy conversion principles, and the importance of sustainable power solutions in modern infrastructure development.

Solar street lighting contributes significantly towards reduction in electricity consumption and operational cost, while also reducing carbon footprint. It supports uninterrupted lighting in outdoor areas even during power outages, improving safety and visibility within the campus premises.

The initiative demonstrates effective implementation of renewable energy technology and highlights the role of educational institutions in promoting sustainable development. The Solar Street Lights developed under this project strengthen the institutional infrastructure while encouraging innovation, environmental awareness, and responsible utilization of natural resources.

Development of Solar Street Light Systems

7. In-house AC Servicing (Institutional Maintenance System)

In-house AC servicing has been implemented as part of the institutional maintenance and technical skill development initiative to ensure efficient functioning of air conditioning systems installed across classrooms, laboratories, offices, seminar halls, and other academic spaces. The objective of establishing an in-house servicing system is to reduce dependency on external service providers, minimize maintenance costs, and ensure timely upkeep of air conditioning units so that academic and administrative activities continue smoothly without interruption.

The servicing process includes regular inspection, cleaning, and maintenance of key AC components such as air filters, condenser coils, evaporator coils, drainage systems, electrical wiring, and refrigerant levels. Dust accumulation inside filters and condenser units reduces cooling efficiency and increases electricity consumption. Through periodic servicing and cleaning, the performance of air conditioning systems improves significantly, ensuring uniform cooling and reduced load on electrical systems.

Till date, more than 80 AC units have been successfully serviced under the in-house maintenance initiative. Regular servicing has helped in improving cooling performance, reducing energy consumption, and increasing the operational life of the equipment. Minor issues such as reduced airflow, water leakage, unusual noise, and inefficient cooling were identified and rectified at an early stage, preventing major technical failures and reducing repair expenses

Basic servicing activities include cleaning of air filters, checking blower performance, inspection of electrical connections, ensuring proper drainage of condensed water, tightening loose fittings, and verifying gas pressure levels wherever required. Preventive maintenance ensures smooth functioning of the systems during peak summer months when continuous cooling is essential for maintaining a comfortable learning environment.

The initiative also provides practical exposure in understanding the working principles of air conditioning systems, including heat transfer, refrigeration cycles, and electrical safety considerations. It promotes skill development in troubleshooting, preventive maintenance, and systematic inspection techniques.

The implementation of in-house AC servicing has resulted in cost savings, reduced equipment downtime, and improved efficiency of institutional infrastructure. It reflects the importance of regular maintenance practices in ensuring durability, performance optimization, and sustainable utilization of resources. The initiative strengthens the culture of self-reliance and technical capability within the institution while supporting uninterrupted academic functioning.

In-house AC Servicing (Institutional Maintenance System)

8. CCTV Camera Assembly & Projector Assembly (Institutional Security, AV & ICT Systems) – Developed in BFGI Skill Innovation Lab

CCTV Camera Assembly and Projector Assembly were developed in the BFGI Skill Innovation Lab under the mentorship of Dr. Amandeep Singh, with active contribution from students of AI-ML and IoT specialization, namely Divanshu, Grinsh, Dushyant, Arshdeep, and Garvit. The initiative was undertaken to strengthen institutional security infrastructure and enhance ICT-enabled teaching-learning systems while providing hands-on technical exposure to students in electronics integration, networking, and installation practices.

The CCTV system was assembled using CP Plus and N Viewvision IP Dome Cameras, which are widely used for institutional surveillance due to their high-resolution video output, network compatibility, and reliable performance. The students were involved in understanding the configuration and working of IP-based cameras, including components such as image sensors, network interface modules, connectors, and mounting structures. They also learned the process of establishing IP connectivity, cable management, and positioning of cameras at appropriate angles to ensure maximum coverage of classrooms, laboratories, corridors, and entry areas. The IP dome cameras support real-time monitoring and recording, contributing to improved campus safety, discipline, and security management.

The Projector Assembly component was carried out using CASIO projectors, which are known for energy efficiency, long operational life, and suitability for academic environments. Students participated in understanding the internal components of projectors such as optical units, display systems, cooling arrangements, and power supply connections. Proper alignment and testing were performed to ensure clear image projection, brightness consistency, and reliable functioning during lectures, seminars, workshops, and technical presentations. CASIO projectors support modern teaching methods by enabling digital content delivery and interactive learning experiences.

Through this project, the students gained practical exposure in IoT-enabled devices, networking fundamentals, wiring techniques, system configuration, troubleshooting, and equipment installation. Their involvement helped them understand the real-world application of AI-ML and IoT knowledge in institutional infrastructure systems related to surveillance and digital communication technologies. The mentors systematic guidance, technical supervision, and successful implementation of the project in the Skill Innovation Lab. The initiative reflects the importance of interdisciplinary learning, where students from AI-ML and IoT domains contribute to practical engineering solutions that support institutional development.

Overall, the contribution of mentor and students demonstrates the integration of technical skills with practical implementation. The project strengthens campus security systems and ICT infrastructure while encouraging innovation, teamwork, and hands-on learning in emerging technology areas.

CCTV & Projector Systems Assembly Development

School of Business Studies (Fashion Designing products)

School of Agriculture (Organic products)

Microgreen Powder

Seedpaper

Beewax candles

Banana chips

Black carrot candies

Oyster Mushroom

School of Sciences

Hair Sprays and Organic Hand Senitizers

School of Humanities

Sketch painting

3D printed Models

9. Monthly Exhibition for Product Display

On 27th March 2026, the School of Business Studies (Department of Hotel Management) organized its Monthly Exhibition, where students demonstrated their culinary expertise by preparing and presenting selected food and beverage items. The exhibition aimed to provide practical exposure in food production, presentation techniques, menu planning, costing, and customer interaction, thereby enhancing industry-relevant skills among students. During the exhibition, three products were exclusively displayed by the Hotel Management students. The appetizer Khatti Meethi Bhel priced at ₹50 showcased a delightful combination of sweet, tangy, and spicy flavours, prepared using puffed rice, chutneys, fresh vegetables, and aromatic spices, reflecting a perfect balance of taste and texture. The main course Amritsari Dahi Bhalla priced at ₹50 represented authentic North Indian cuisine, consisting of soft lentil dumplings soaked in fresh curd and garnished with flavourful chutneys and spices, highlighting students' skills in traditional recipe preparation and attractive plating. The mocktail Spiced Kanji Ras priced at ₹40 was presented as a refreshing and healthy beverage, known for its distinctive tangy taste and digestive benefits, demonstrating students' understanding of nutritious and functional drinks. Overall, the Monthly Exhibition provided a valuable platform for experiential learning, enabling students to strengthen their practical competencies, creativity, teamwork, and entrepreneurial understanding, while promoting quality standards in hospitality and hotel management.

Monthly Exhibition by School of Business Studies
(Department of Hotel Management)

BABA FARID
GROUP OF INSTITUTIONS

Bathinda, Punjab (India) | www.babafaridgroup.edu.in

/babafaridgroup