2019 - 2020 (Even Semester)

S.No	class	Subject	Hours
1.	III BCA 'A'	Software Engineering - U2CAC61	4
2.	III BCA 'A'	Multimedia Lab - U2CAC6P2	4
3.	II BCA 'A'	RDBMS Lab - U4CAS4P	3
4.	II MCA	Data Communications and Networks - P19CAC22	3
5.	PG NME	Introduction to Internet and web Designing - P19CAN21	2
		Total	16

S.No	Date	Day order	Class	Hour	Topics	Remark
1.	5.12.19	I	II MCA	11-12	★ Give the syllabus for Data Communications and Networks ★ Introduction to Data Communication	
2.	6.12.19	II	II MCA	10-11	★ Introduction ★ Fundamental Concepts ★ Real-life Data Communicat-ions ★ Data Communications	
			III BCA 'A'	11-1	★ Multimedia Lab - Introduction to Photoshop tools	
			MCA NME	2-3	★ Give the syllabus for Introduction to Internet and web designing	
3.	7.12.19	III	III BCA 'A'	12-1	★ Give the syllabus for Software Engineering ★ Introduction to Software Engineering	
4.	9.12.19	IV	III BCA 'A'	11-12	★ Software Engineering definitions → ½ day Leave ←	
5.	10.12.19	V	II MCA	10-11	★ Protocols ★ Standards ★ Standards Organizations - Standards creation Committees - Forums - Regulatory Agencies	
6.	11.12.19	VI	III BCA 'A'	10-12	★ Multimedia Lab - Visiting Card - Merge three images	

S.No	Date	Day order	class	Hour	Topics	Remark
			MCA NME	1.30 - 2.30	★ HTML Table tag	
15	4.1.2020	III	III BCA 'A'	11.30 - 12.30	★ No lecturer class (UG)	
16	6.1.2020	IV	III BCA 'A'	9.30 - 11.30	★ Planning a Software Project - Defining the Problem ★ Goals and Requirements - Developing a Solution Strategy - Planning the Development Process ★ Phased Life-cycle Model ★ Milestones, Documents and Reviews ★ The Cost Model ★ Prototype Life-cycle Model ★ Successive versions - Planning an Organizational structure ★ Project structure ★ Programming Team structure ★ Management by Objectives	
			III BCA 'A'	1.30 - 2.30	★ Software Cost Estimation - Software Cost Factors	
			MCA NME	2.30 - 3.30	★ HTML Table tag	06/1/2020
17	7.1.2020	V	II MCA	10.30 - 11.30	★ Asynchronous, Synchronous and Isochronous Communication ★ Simplex, Half-duplex and Full-duplex Communication	

S.No	Date	Day order	Class	Hour	Topics	Rem
					★ Multiplexing and Demultiplexing ★ Types of Multiplexing	
18	8.1.2020	VI	III BCA 'A'	9.30 – 11.30	★ Multimedia Lab – Rainbow Effect – Blinking Effect – Changing Color of an image	
			III BCA 'A'	11.30 – 12.30	★ Software Cost Estimation techniques – Expert Judgment – Delphi Cost – Work Breakdown structures – Algorithmic Cost Model ★ Staffing - Level Estimation ★ Estimating Software Maintenance Costs.	
					→ Founder's Day ←	
19	9.1.2020	I	II MCA	9.30 – 10.30	★ Transmission Errors – Introduction – Error classification – Types of Errors – Error detection techniques ★ Checksum ★ Parity Check ★ Longitudinal Redundancy check ★ Cyclic Redundancy Check	

I - IT - I A

S.NO	Date	Day order	class	Hour	Topics	Remarks
			II BCA 'A'	1.30 - 3.30	★ DDL Constraints	
20	10.1.2020	II	II MCA	9.30 - 10.30	★ Hamming Code ★ Recovery from Errors - Stop-and-wait - Go-back-n - Sliding window	
			III BCA 'A'	10.30 - 12.30	★ Campus Interview	
			MCA NME	1.30 - 2.30	★ Tables Example Program	
21	11.1.2020	III	III BCA 'A'	11.30 - 21.30	★ Estimating Software maintenance Costs	
22	13.1.2020	IV			→ Talentiza '2020 ←	
23	20.1.2020	V	II MCA	10.30 - 11.30	★ Transmission Media - Introduction - Guided Media ★ Twisted Pair ★ Coaxial Cable ★ Optical Fibre	
24	21.1.2020	VI	III BCA 'A'	9.30 - 12.30	★ Campus Interview	
25	22.1.2020	I	II MCA	10.30 - 11.30	★ UG & PG Association	
			II BCA 'A'	1.30 - 4.30	★ RDBMS Lab - TCL Commands	
26	23.1.2020	II	III BCA 'A'	10.30 - 12.30	★ Campus Interview	
			MCA NME	2.30 - 3.30	★ Frames in HTML	
27	24.1.2020	III	III BCA 'A'	11.30 - 12.30	★ Software Requirements Definition	

Date	Day order	Class	Hour	Topics	Remark
				- Software Requirements Specification	
27.1.2020	IV	III BCA 'A'	10.30 - 11.30	★ Software Requirements Specification	
		III BCA 'A'	1.30 - 2.30	★ Formal Specification Techniques	
		MCA NME	2.30 - 3.30	★ Frames example Programs	
28.1.2020	V	II MCA	9.30 - 12.30	★ Revision - Error detection techniques ★ Student Seminar	
29.1.2020	VI	III BCA 'A'	9.30 - 12.30	★ Campus Interview	
29.1.2020	I	II MCA	11.30 - 12.30	★ Student Seminar ★ UnGuided Media	
		II BCA 'A'	1.30 - 3.30	★ RDBMS Lab - PL/SQL Programs	DH 29/01/2020
30.1.2020	II	II MCA	9.30 - 10.30	★ Network Topologies, Switching and routing algorithms - Introduction - Topologies ★ Mesh ★ Star ★ Tree ★ Ring ★ Bus ★ Hybrid	
		III BCA 'A'	10.30 - 12.30	★ Campus Interview	

Date	Day order	Class	Hours	Topics	Remark
		MCA NME	1.30 – 2.30	★ Allow them to prepare internal examination	
31-1-2020	III	III BCA 'A'	11.30 – 12.30	★ Allow them to prepare internal examination	
1-2-2020	IV	III BCA 'A'	10.30 – 11.30	★ Quality and Productivity Factors – Revision	
		III BCA 'A'	1.30 – 2.30	★ Revision : Planning an Organizational structure	
		MCA NME	2.30 – 3.30	★ Revision : HTML Tables & Lists	
3-2-2020	V	II MCA	10.30 – 11.30	★ First Internal examination	
4-2-2020	VI	III BCA 'A'	9.30 – 12.00	★ First Internal examination	
5-2-2020	I	II MCA	10.30 – 11.30	★ First Internal examination	
		II BCA 'A'	1.30 – 3.30	★ RDBMS Lab – PL/SQL Programs	
6-2-2020	II	II MCA	9.30 – 10.30	★ First Internal Examination	
		III BCA 'A'	10.30 – 12.00	★ First Internal Examination	
7-2-2020	III	III BCA 'A'	11.30 – 12.30	★ Internal Paper distribution and discussion	
10-2-2020	IV	III BCA 'A'	10.30 – 11.30	★ Campus Interview	
		III BCA 'A'	1.30 – 2.30	★ Campus Interview	
		MCA NME	2.30 – 3.30	★ Internal Paper discussion	
11-2-2020	V	II MCA	10.30 – 11.30	★ Basics of Switching – Circuit Switching	

CHAPTER: 3

LIFE, WORK AND CONTRIBUTION OF A P J ABDUL KALAM

3.1 Introduction

3.2 Dr. A P J Abdul Kalam

3.3 Religious and Spiritual views of Dr. A P J Abdul Kalam

3.4 The Top Contributions of Dr. A P J Abdul Kalam to Science, Humanity, Technology, and the Nation

3.5 Dr. A P J Abdul Kalam’s Contribution towards Education

3.6 Dr. A.P.J. Abdul Kalam's Expectations from the Indian Education System

3.7 Dr. A P J Abdul Kalam’s Contribution towards Society:

3.8 Writings of A P J Abdul Kalam

3.9 Brief Summary of Important Books Authored by Dr. A.P.J. Abdul Kalam

3.10 Conclusions

CHAPTER: 3

LIFE, WORK AND CONTRIBUTION OF A P J ABDUL KALAM

3.1 Introduction

In the present chapter, the researcher described about Dr. A P J Abdul Kalam in detail. The present chapter describes the life of Dr.A P J Abdul Kalam from childhood to death, his work as scientist, president, and writer and so on. The present chapter also describes his contribution in the field of science, technology, humanity, nation, education, society and so on.

Life of each great man has been passed through many conflicts; some face various troubles even from the childhood, but their devotion, diligence, patience, self realization and faith in the God bring them at the top level of achievement. In shaping their life, their mother, father, elders, teachers, friends, classmates etc. have been the source of motivation. As a result, they have been great and guide for others. This also happened in the life of the most honorable former president of our India – Dr. A P J Abdul Kalam. He had much trust in the youth. He liked the children a lot. He had the dreams of making future India magnificent and for this he considered the students and the youth as a base. He started campaign to meet students to motivate them. His name consists of five words which are as: Avul Pakir Janulabdeen Abdul Kalam. Dr.A P J Abdul kalam was the dream – achiever personality who could see high sky standing on the land on the earth. From the childhood, he liked to see in the sky. He was continuously seeing the flying birds in the sky with steady eyes. He

observed very sharply the fallen feathers of the birds. Thus, from the childhood his mind wanted to fly high in the sky.

3.2 Dr. A P J Abdul Kalam

The full name of Dr.A P J Abdul Kalam was Avul Pakir Jainulabdeen Abdul Kalam. Dr.A P J Abdul Kalam was the 11th president of India from the year 2002 to the year 2007. He was born on 15 October, 1931 in Rameshwaram, Tamil Nadu. He studied physics and aerospace engineering. He was known as the "Missile Man of India" for his tremendous work on the development of ballistic missile and launch vehicle technology also. He was also known as the "people's president" for his work, duty and proficiency during the presidency of India. After completing the duty of the president of India, Dr.A P J Abdul Kalam turned his life to the civilian life of education, writing and public service. He was honored with several awards. He also got the Bharat Ratna which is India's highest civilian honor. While delivering a lecture at the Indian Institute of Management in Shillong. Dr. A P J Abdul Kalam collapsed and died from an apparent cardiac arrest on 27th July, 2015 at the age of 83 years.

3.2.1 Early Life and Education of Dr. A P J Abdul Kalam

Avul Pakir Jainulabdeen Abdul Kalam was born on 15th October 1931 in a Muslim family in Rameshwaram in the state of Tamil Nadu. His father's name was Jainulabdeen and he was a boat owner and the Imam of the local mosque. His mother's name was Ashiamma and she was a housewife. A P J Abdul Kalam was the youngest of four brothers and one sister in his family. Because of the poor condition of the family, A P J Abdul Kalam sold newspapers to help his family's income in the

early age Kalam was an average student in getting the grades in his school education, but it is said that he was a bright and hardworking student and had a strong desire to learn. A P J Abdul Kalam completed school education from the Schwartz Higher Secondary School, Ramanathapuram, and then he completed his graduation in the subject of physics in the year 1954 from Saint Joseph's College, Tiruchirappalli. Then he moved to Madras in the year 1955 and studied aerospace engineering from Madras Institute of Technology.

3.2.2 Childhood

Dr. Abdul Kalam's cousin brother – Samsuddin had given the important contribution in his life. Samsuddin was the only distributor of the newspaper in Rameshwaram. The population of literate people in the city of Rameshwaram was almost one thousand only. And Samsuddin managed to provide the newspapers to them in the early time. Abdul helped him in this work. Samsuddin taught Abdul to earn something along with the study. Self-earning is one kind of feeling proud. It teaches something to you and gets different experiences with meeting others.

Each child gets different social and economic atmosphere and the atmosphere of feelings. In this kind of atmosphere, character builds up consciously and effortlessly. So the age of 16 is very important. And Abdul also got different experiences and knowledge from mother, father, brothers, sisters and relatives. The knowledge from Samsuddin and Jallaluddin showed a different way to Abdul for the rest of the life.

The close friends of the childhood also play an important role in the life. A P J Abdul Kalam had also three close friends in the childhood: Ramanand Shashtri, Arvindan – a son of Laxman Shashtri the main

worshipper of Rameshwar temple and Shivprakashan. All three were from the highly rigid and orthodox family – though the difference in their religions has been never obstacle in their friendship. What a high level friendship was!

3.2.3 Secondary Education.

After completing primary education, Abdul went for secondary education to district place – Ramnathpuram leaving his native place Rameshwaram. At that time, his father said, “Abdul, you have to go for development. Doesn’t the gavial bird fly towards the sun leaving its nest? You have to leave a powerful wish to live in mother land for occupying in the land of your ambition; our love will never bound you or our need will not hold you.”, and his mother Ashiamma told him quoting the sayings of Khalil Jibran, “Your children are not only yours, they are sons – daughters of life that desire to publish themselves. They do not come from you, but by you. Certainly love your children, but don’t give them your thoughts: because they have their own free thinking.”

Then she brought Abdul and his three brothers in the mosque and recited the prayer of Al–fatiha from the Quran in front of them. While parting from Abdul, she told, “Though this is land is habitat for your body, but not for your soul. Your soul lives in the house of tomorrow, no one from us of Rameshwaram can visit that house, not event in dream! There will be blessing of the Khuda on you.” Her blessing speech has been proved true today.

He got admission in Schwartz High School in Ramnathpuram, where his fifteen years old enthusiastic adolescence re-awakened. His teacher Iyadurai Solomon has been his ideal guide. His student felt free

for his warm and open mind attitude. He said, “a clever student can learn more from a weak teacher than a week student can learn from a clever teacher.” He also said, “To be succeed in the life and to achieve expected results, you have to understand and control three intense and powerful components: wish, beliefs and expectation.

Really Iyadurai Solomon was a great teacher. He developed self-respect in all the students. He reached the self-respect of Abdul Kalam very high and firmly insisted in him that he can expect whatever he wishes to be. You can change your luck through the help of faith.”

Abdul Kalam had very much attraction towards the mysteries of the sky and flight of birds from the childhood. When he used to see cranes and gavial very high in the sky, he also desired to fly. He had also firm faith to fly in the sky one day and really he was the first boy who flied in the sky from Rameshwaram!

3.2.4 Adoration of Higher Education.

When Dr.A P J Abdul Kalam got admission in Saint Joseph College in Trichi for the study of intermediate Exam in 1955, he said with self confidence that, “I have been grateful and confident youngster to be succeed. I decided for further education in a moment without any hesitation.”

Self-confidence is a key to success. He lived in hostel for this four years. In the last year of the hostel life, he had been secretary for vegetarian kitchen, a Muslim student-vegetarian!

His professors were votary of Kanchi Paramacharya. They motivate the people to enjoy “the happiness of scarification”. His professor of mathematics Prof. Thotharti Iyengar and seeing his professor

of Mathematics Prof. Thotharti Iyenger and Prof. Suryanarayan Shastri motivate even today too. What an etheric picture without the discrimination of religion, love for education and devotion!

When he joint in Saint Joseph College for degree course of B.Sc, he did not know any other option of higher education. After getting the degree of B.sc, he realized that physics was not his special subject. It was necessary to go in engineering to achieve his dreams. It was easy possible for him to go in engineering after completing even the intermediate course. But without any hesitation, he decided to go for engineering. He believed that it is batter to go late than not to reach at destination thoroughly. At that time, he applied to get admission in Madras Institute of Technology which was the crown in the technical institute of North India.

3.2.5 Economic Problems for Higher Education.

His strong affection for study has been conflictable. He fulfilled the expenditure of studying B.Sc. from earning through writing articles and teaching in tuition. But he felt the great challenge, when he got admission in Madras Institute of Technology. How to manage for fees? But his sister Zohra stood his side. His sister gave him one thousand rupee for fees for brother's educational progress by keeping her ornaments in mortgage. What an infrequent love of sister and auspicious feeling of sacrifice for the brother!

3.2.6 A Special Contribution of Scholar Professors:-

The contribution of a teacher is very big and special in nurturing and building of a student. Three professors of MIT had nurtured and shaped the ideas of A P J Abdul Kalam during his study in MIT. Three

professors Prof. Sponder, Prof. K A V Pandalai and Prof. Narsinhrav contributed in the professional career of A P J Abdul Kalam. Each one of them had a special personality. They work with the aim to satisfy the intellectual hunger of the students through talent and indefatigable spirit.

Prof. Sponder had taught him aerodynamics. His personality was very high and maintained the professional quality. He was always calm, showed spirit and kept complete self-control. He had been familiar with modern technology and also expected with the student to become familiar with the modern technology.

A P J Abdul Kalam got suggestion from Prof. Sponder before choosing the aeronautical engineering. He said that “not to worry about future opportunities, instead one should strengthen the base of desired field in which he/she wants to go on with high expectations” and Prof. Sponder observed that the problem of Indians was not education opportunities or industrial systems but their problem was the lack of understanding of difference between which field should be selected and how to choose it logically, why aeronautics? And why not electrical engineering?

A P J Abdul Kalam advices the newly admitted students in engineering that they emphasize to think over their choice that should be expressed their internal expectations and feeling clearly.

Prof. K A V Pandalai taught A P J Abdul Kalam the aero-structure design and its analysis. He was very happy, friendly and enthusiastic professor. He brought new approach in the subjects of education at every year. A P J Abdul Kalam said all the students that were taught by Prof. Pandalai will accept that he was full of intense intellectual character and

expertness and yet there was no any drop of arrogance in him. There was complete freedom to disagree with him about many points in the classroom.

Prof. Narsinhrav was a mathematician. He taught Abdul Kalam theoretical aerodynamics. A P J Abdul Kalam had not forgotten his way of teaching dynamics even today. After attending his lectures, A P J Abdul Kalam developed the liking for algorithmic physics.

Aeronautics is a fascinated subject to understand the difference between freedom and escape, motion and progress, to slip and to fluid are the mysteries of this science. These three of professors had presented these mysteries. Their certain and careful education enlightened the deep excitement in A P J Abdul Kalam about aeronautics. The pressure of their intellectual intensity, ideological clarity and completeness helped A P J Abdul Kalam to study many severe subjects. Gradually, boisterous mixture of information took place in the mind of A P J Abdul Kalam. The importance of structural matters of aero plane had been increasing in his mind. These three professors were expert in their own field and having authentic knowledge helped to shape this integrated knowledge.

3.2.7 Towards the Steps of Dream Achievement.

There was the name of Dr.A P J Abdul Kalam in the selection list of admission in M.I.T, but it is too expensive to get admission in this popular institute. It was the need of 1000 rupees. His father had not that much money to give to A P J Abdul Kalam. In this situation, Abdul's sister-Zohra came to help his brother 1000 rupees, even mortgaging her golden bangles and necklace. At that tme, Kalam impressed and been emotional, seeing his sister's trust on him and her intense desire to see her

brother educated. And finally Abdul determined to emancipate the mortgaged ornaments of his sister from his own earnings. He had no any other option to get money, so he studied a lot and got the scholarship. He went on with alacrity and enthusiasm. He had got the admission in MIT finally.

A dream to fly in the sky is excited here. Two aircraft that were put for learning mechanism in it had captured his mind. He was attracted towards these two aircraft. Ever after the learning hours, he sat aside then and starred them with respect as the symbol of will power of man to fly freely the sky as a bird. After completing the first year in MIT, when he had to choose a special branch, he chose aeronautical engineering instinctively. His goal was clear. He wanted to fly the planes.

3.2.8 Dream Achievement

Here, A P J Abdul Kalam realized the friendship and shelter of officers. He was fascinated by the help of Dr. Vikram Sarabhai. He did not check the knowledge and skill of A P J Abdul Kalam. But he tried to find the possibility hidden in his inner soul. He found the bulkiness in relation. Conversation with Dr. Sarabhai brought him to stand near the truth as if his dreams were covered by the dream of great person. He made his dream true by making hovercraft useful in battlefield by completing project with diligence and patience during his study. He had given it a name “Nandi”. He himself flied it first with emergency defense ministry Shree Krishna Menon and then with the director of “Tata Institute of Fundamental Research”. Dr. MGK Menon. At that time, he was full of happiness by his achievement of dream that he saw in the adolescence.

The slogan of Dr. Albert Eyenstyne, “I have less devoted to the society rather than I got from the society” had been the life mantra for A P J Abdul Kalam.

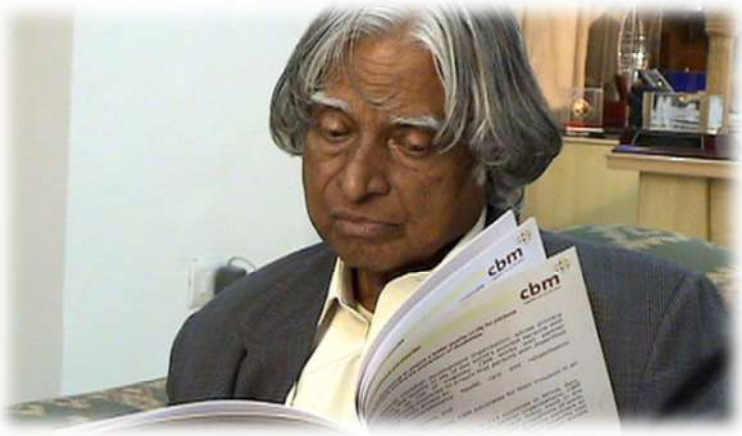
A P J Abdul Kalam believed that we are the drop of sea of knowledge. A man should become modest through knowledge as if the tree bends through the fruit. The character of the man enlightens through the modesty. The man should become sensitive and rectus nature. Social service should be the religion of the man. The man acquires knowledge at the end of hard working. A man should acquire the internal height by thinking and meditating. A man should become humanitarian man by running the pure stream of friendliness. The God has given the ideas to the mind. And prayer plays an important role to bring this strength out.

The contact of each – other was a spell of A P J Abdul Kalam. To succeed the work, the contribution of each member and the suggestion of the fellow workers should be given importance. He said that “the man with entire knowledge of the subject does not face any difficulty. One should keep calm for the responsibility that one has accepted. Patience is necessary in science”.

3.2.9 Love for Reading of Excellent Book.

When Dr. A P J Abdul Kalam went to study intermediate exam in Saint Josephs College, Tiruchirappalli, he had fortunately met the teacher like Rev Father T.N Sekaria. He taught him English. So his love for reading books increased. He read many best books. Tolstoy and Hardy had been his favorite writers. Then, he turned towards the books of philosophy. He said during that time and the same time he developed interest in physics. He had great interest in reading the books of

cosmology. He had great fun to read about planets, satellites and stars. Dr. A P J Abdul Kalam was not only a scientist but also an excellent reader too. He regularly read even after the working of eighteen to twenty hours.



A P J Abdul Kalam's Love for Reading

3.2.10 Career as a Scientist

Kalam joined the aeronautical Development Establishment of the Defense Research and Development Organization (DRDO) as a scientist in the year 1960. Kalam was also a part of the INCOSPAR committee working under Vikram Sarabhai the renowned space scientist. In the year 1969, Kalam joined the Indian Space Research Organization (ISRO), where he was the project director of India's first Satellite Launch Vehicle (SLV), which successfully deployed the Rohini Satellite in nearearth orbit in July 1980; Kalam had first started work on an expandable rocket project independently at DRDO in 1965. Between 1970s and 1990s, Kalam made an effort to develop the Polar Satellite Launch Vehicle (PSLV) and SLV-III projects, both of which proved to be successful. Kalam also directed two projects-Project Devil and Project Valiant,

which sought to develop ballistic missiles from the technology of the successful SLV program. Kalam was appointed as the chief executive in the mission, named Integrated Guided Missile Development Program (IGMDP). Kalam played a major part in developing many missiles under the mission including Agni an intermediate range ballistic missile and Prithvi the tactical surface-to-surface missile. Kalam served as the Chief Scientific Advisor to the Prime Minister and the Secretary of the Defense Research and Development Organization from July 1992 to December 1999. The Pokharan II nuclear tests were conducted during this period in which he played an intensive political and technological role. Kalam served as the chief project coordinator along with Rojagopala Chidambaram during the testing phase. Media coverage of Kalam during this period made him the country's best known nuclear scientist. In1998, along with cardiologist Soma Raju, Kalam developed a low cost coronary stent, named the "KalamRaju Stent".

In 2012, the duo designed a rugged tablet computer for health care in rural areas, which was named "KalamRaju Tablet".

A P J Abdul Kalam as Scientist

3.2.11 Presidency

Dr. A P J Abdul Kalam served as the 11th president of India lasted from 25th July 2002 to 25th July, 2007. During his presidency, he was known as the “people’s president” which shows his work, love for the people and people’s appreciation for his presidency. Dr.A P J Abdul Kalam was the third who became the president of India, who was honored with Bharat Ratna previously. He was also the first scientist and the first bachelor to occupy Rashtrapati Bhavan. He signed the office of profit Bill which was his toughest decision during his presidency. Kalam also supported the need of the Uniform Civil Code in India considering the population of India. During his presidency, Dr. A P J Abdul Kalam took many crucial decisions keeping in view the democratic approach. He had the best leadership to be the president of India. He had logic behind his decisions and positivity to do the work. Thus, Dr. A P J Abdul Kalam played tremendous role as the president of India.

A P J Abdul Kalam as President

3.2.12 Post Presidency

After completing the term of presidency, Dr. A P J Abdul Kalam became a visiting professor at various institutes like IIM-Shillong, IIM-Ahmedabad, IIM- Indore, IIS – Banglore etc. He also became the chancellor of the **IISST** – Thiruvananthapuram, professor at Aerospace Engineering in Anna University Kalam created a program called the What Can I Give Movement, in which he showed how to deal the corruption. He addressed the youth of India in this program. Thus, Dr. A P J Abdul Kalam passed his life after completing the term of his presidency very busy. It was also found that he kept himself busy in work even after his presidency. Most of the time, after presidency, he passed in motivating the youth, asking questions to children, in writings too. Thus, he passed his life with simple life style and high thinking.

3.2.13 Death

Kalam travelled to Shillong to deliver a lecture on "Creating a Liable planet Earth" at the Indian Institute of Management – Shillong. At around 6:35 p.m., only five minutes into his lecture, he collapsed. He had been rushed to the nearby Bethany Hospital in a critical condition; upon arrival, he lacked a pulse or any other signs of life. Despite being placed in the intensive care unit, Kalam was confirmed dead of a sudden cardiac arrest at 7:45 p.m. His last words to his aid Srijan Pal Singh were reportedly "Funny guy! Are you doing well?". On 30th July, 2015, the former president was laid to rest at Rameshwaram's Pei Karumbu Ground with full state honors.

A P J Abdul Kalam's Funeral

3.2.14 Awards and Honours of Dr.A P J Abdul Kalam .

Dr. A P J Abdul Kalam received honorary doctorates from 40 universities. The Government of India honoured him with the Padma Bhusan in 1981 and the Padma Vibhusan in 1990 for his work with ISRO and DRDO and his role as a scientific advisor to the Government. In the year 1997, Kalam received India's highest civilian honor, the Bharat Ratna for his contribution to the scientific research and modernization of defense technology in India. The Government of Tamil Nadu declared Dr. A P J Abdul Kalam's birthday – 15th October as "youth Renaissance Day". The following table is a list of awards that Dr. A P J Abdul Kalam received in his life.

A P J Abdul Kalam accepting Bharat Ratna

Educational and scientific institutions

- An agricultural college at Kishanganj, Bihar, was renamed the "Dr. Kalam Agricultural College, Kishanganj" by the Bihar state government on the day of Kalam's funeral. The state government also announced it would name a proposed science city after Kalam.
- Uttar Pradesh Technical University (UPTU) was renamed "A.P.J. Abdul Kalam Technical University" by the Uttar Pradesh state government.
- A.P.J. Abdul Kalam Memorial Travancore Institute of Digestive Diseases, a new research institute in Kollam city, Kerala attached to the Travancore Medical College Hospital.

- Wheeler Island, a national missile test site in Odisha, was renamed Abdul Kalam Island in September 2015.

Table-3.1

Awards and Honors of Dr. A P J Abdul Kalam

Year of award or honours	Name of award or honour	Awarding organisation
2014	Doctor of Science	Edinburgh University,UK
2013	Von Braun Award	National Space Society
2012	Doctor of Laws (Honoris Causa)	Simon Fraser University
2011	IEEE Honorary Membership	IEEE
2010	Doctor of Engineering	University of Waterloo
2009	Honorary Doctorate	Oakland University
2009	Hoover Medal	ASME Foundation, USA
2009	International von Kármán Wings Award	California Institute of Technology, USA
2008	Doctor of Engineering (Honoris m Causa)	Nanyang Technological University, Singapore
2008	Doctor of Science (Honoris Causa)	Aligarh Muslim University, Aligarh
2007	Honorary Doctorate of Science and Technology	Carnegie Mellon University
2007	King Charles II Medal	Royal Society UK
2007	Honorary Doctorate of Science	University of Wolverhampton, UK

Year of award or honours	Name of award or honour	Awarding organisation
2000	Ramanujan Award	Alwars Research Centre, Chennai
1998	Veer Savarkar Award	Government of India
1997	Indira Gandhi Award for National Integration	Indian National Congress
1997	Bharat Ratna	Government of India
1994	Distinguished Fellow	Institute of Directors (India)
1990	Padma Vibhushan	Government of India
1981	Padma Bhushan	Government of India

3.3 Religious and Spiritual Views of Dr. A P J Abdul Kalam

Religion and spirituality were very important to Kalam throughout his life. In fact, he made his own spiritual journey the subject of his final book, Transcendence: My Spiritual Experiences with Pramukh Swamiji.

3.3.1 Islam

A proud and practicing Muslim, daily namaz and fasting during Ramazan were integral to Kalam's life. His father, the imam of a mosque in his hometown of Rameswaram, had strictly instilled these Islamic customs in his children. His father had also impressed upon the young Kalam the value of interfaith respect and dialogue. As Kalam recalled: "Every evening, my father A.P. Jainulabdeen, an imam, Pakshi Lakshmana Sastry, the head priest of the Ramanathaswamy Hindu temple, and a church priest used to sit with hot tea and discuss the issues concerning the island." Such early exposure convinced Kalam that the

answers to India's multitudinous issues lay in "dialogue and cooperation" among the country's religious, social, and political leaders. Moreover, since Kalam believed that "respect for other faiths" was one of the key cornerstones of Islam, he was fond of saying: "For great men, religion is a way of making friends; Small people make religion a fighting tool."

3.3.2 Syncretism

One component of Kalam's widespread popularity among diverse groups in India, and an enduring aspect of his legacy, is the syncretism he embodied in appreciating various elements of the many spiritual and cultural traditions of India. In addition to his faith in the Quran and Islamic practice, Kalam was well versed in Hindu traditions; He learnt Sanskrit, read the Bhagavad Gita and he was a vegetarian. Kalam also enjoyed writing Tamil poetry, playing the veena (a South Indian string instrument), and listening to Carnatic devotional music every day. In 2002, in one of his early speeches to Parliament after becoming President, he reiterated his desire for a more united India, stating that "during the last one year I met a number of spiritual leaders of all religions and I would like to endeavor to work for bringing about unity of minds among the divergent traditions of our country". Describing Kalam as a unifier of diverse traditions, Congress leader Shashi Tharoor stated, "Kalam was a complete Indian, an embodiment of the eclecticism of India's heritage of diversity". BJP leader L. K. Advani concurred that Kalam was "the best exemplar of the Idea of India, one who embodied the best of all the cultural and spiritual traditions that signify India's unity in immense diversity. This was most strikingly evident in the last book he wrote, presciently titled Transcendence: My Spiritual Experiences with Pramukh Swami.

3.3.3 Pramukh Swami as Guru

Kalam's desire to meet spiritual leaders to help create a more prosperous, spiritual, and unified India was what initially led him to meet Pramukh Swami, the Hindu guru of the BAPS Swaminarayan Sampradaya, who Kalam would come to consider his ultimate spiritual teacher and guru. The first of eight meetings between Kalam and Pramukh Swami over a fourteen year period took place on 30 June 2001 in New Delhi, during which Kalam described being immediately drawn to Pramukh Swami's simplicity and spiritual purity. Kalam stated that he was inspired by Pramukh Swami throughout their numerous interactions. One such incident occurred the day following the terrorist attack on BAPS' Akshardham, Gandhinagar complex in September 2002; Pramukh Swami prayed for, and sprinkled holy water upon, the sites of all of the deceased, including the terrorists, demonstrating the view that all human life is sacred. Kalam recalled being moved by Pramukh Swami's equanimity and compassion, citing this incident as one of his motivations for writing Transcendence: My Spiritual Experiences with Pramukh Swamiji. Summarizing the effect that Pramukh Swami had on him, Kalam stated that "Pramukh Swami has indeed transformed me. He is the ultimate stage of the spiritual ascent in my life ... Pramukh Swamiji has put me in a God synchronous orbit. No maneuvers are required any more, as I am placed in my final position in eternity." Following Kalam's death a month after his final book was released, coauthor Arun Tiwari pointed to this passage as potentially prophetic and premonitory of Kalam's death.

A P J Abdul Kalam with Pramukh Swami

3.4 The Top Contributions of Dr. A P J Abdul Kalam to Science, Humanity, Technology, and the Nation

A great scientist, phenomenal teacher and people's President, Dr. A P J Abdul Kalam passed away on July 27, 2015, in Shillong. He once said that he wanted to teach forever, and he was doing the same on Monday evening when he laid to rest. Dr. Kalam was in IIM Shillong, addressing students when he suddenly got a cardiac arrest. His contribution to science, humanity and technology cannot be elucidated ever. Here are top contributions of Dr. A P J Abdul Kalam that turned him into a living legend for the entire.

A P J Abdul Kalam with SLV-III Team

1. Satellite Launch Vehicle

During the 1970s, when India had hardly dreamt of its SLV, Dr. A P J Abdul Kalam launched SLV III in July 1980, which deployed Rohini in near earth orbit. It was nearly a decade's hard work of Kalam, which made this task possible.

2. Integrated Guided Missile Development Program

Dr. Kalam was appointed as the CEO of this high-end program. Rather than backing off from this responsibility, Kalam tried in the best way possible to make it successful. As a result of his hard work and devotion, missiles like AGNI (a ballistic missile) and PRITHVI (surface-to-surface missile) came into existence.

3. Pokhran-II Nuclear Tests

During his tenure as Secretary of the Defence Research and Development Organization and Chief Scientific Advisor to Prime

Minister between July 1992 and December 1999, he took some great decisions. Dr. Kalam's intensive technical and political help in Pokhran-II nuclear tests earned him a lot of media coverage and established him as the best living nuclear scientist in the country.

4. Kalam-Raju Tablet

Dr. Kalam and Soma Raju, a well-known cardiologist, came up with a rugged tablet computer in 2012 to take care of the health of underprivileged people in rural India. It helped the government fight many health issues.

5. The Mission 2020

Dr. A P J Abdul Kalam was a visionary man and saw a dream of India becoming a developed nation by the year 2020. He always believed that education and the dominant young Indians could take the nation to greater heights. He will not be there to witness India's success in the coming days, but his guidance and blessings will surely help the country to fulfill his dream.

3.5 A P J Abdul Kalam's Contribution towards Education:

Dr. Kalam was a practical enlightening mastermind and creative thinker who remain for coordinating obsolete and present educational goals for the progression of an accustomed Indian culture. He was the first educational thinker who had provided the idea of teaching students to turn out to be autonomous learners so that they will continue as enduring learners.

Dr. Kalam travelled widely all over India and abroad and encouraged millions of students, academicians as well as educators at diverse levels by providing a speech and made them cognizant of the

significance and sacredness of the objective they have gone through. He ignited the young minds studying in various schools and colleges all over India with determined spirit by proverb, “The dream is not what you see in sleep…, dream is which does not let you sleep”. Being a dedicated supporter of open sources of software, he gave impulsion to IT enabled learning at dissimilar levels in rural areas of India. He acknowledged the prime inevitability for the ideal synthesis of quality education and appropriate supervision to teenagers for societal progress.

A P J Abdul Kalam Encouraging Students

3.6 Dr. A.P.J. Abdul Kalam's Expectations from the Indian Education System

Late Dr. A P J Abdul Kalam was a huge advocate of education as the primary driving force of personal growth. He believed that it was

knowledge that made a person great. Despite the range of titles he had earned in his lifetime, the visionary preferred to call himself a teacher. In a recent event at the Delhi Secretariat, in the presence of Delhi's Chief Minister, Dr Kalam claimed to be a teacher right from the start of his career.

Dr. Kalam believed that our education system requires certain reforms, both in terms of spirit and practicality of the knowledge imparted. In his speech at the Delhi Secretariat he emphasised on the inclusion of skill based education at the school level. At the event in Delhi Dr. Kalam said, "When the students pass out of senior secondary schools, they should have two certificates - of passing 10+2 examination and of a specific skill acquired by him during schooling,"

According to him, besides the normal curriculum the children should receive special training towards one skill set which will offer an extra certification which will not only help them get a job after school but also make them aware of the how real world industries function. To deal with the infrastructural costs he elucidated on mobile setup consisting of engineering labs on wheels which can cover multiple schools in a day.

The Bharat Ratna award winner believed in a different approach towards the issue of unemployment. He emphasized on a holistic view of the current employment scenario. On the 54th foundation day of IIT Bombay, Dr. Kalam stated, "In the present context, the education system has to be designed in a way that produces large number of employment generators and not just employment seekers."

According to him, the introduction of a particular skill set at a younger age will promote entrepreneurship in the country. This kind of education system will generate job creators instead of job seekers.

3.7 A P J Abdul Kalam's Contribution towards Society:

In the wake of moving on from Madras Institute of Technology (MIT – Chennai) in 1960 after completing Graduation, Kalam became a member of Aeronautical Development Establishment of Defense Research and Development Organization with occupation of a Boss Researcher. His research and educational leadership leaded him to enormous success and esteem in 1980s, which provoked the government to begin a sophisticated missile program under his directorship. Being a Chief Executive of Integrated Guided Missile Development Program, he performed a main part in the growth of several missiles in India with Agni and Prithvi.

In 1963–64, he made his visit to a Nasa's Langley Research Center in Poquoson, Virginia and Goddard Space Flight Center situated in Greenbelt, Maryland as well as Wallops Flight

Facility located at Eastern Shore of Virginia. Since 1970s and 1990s, Kalam completed an effort to extend the Polar SLV and SLVIII project which brought a huge success for him. In the year 1974, Kalam was transferred to Terminal Ballistics Research Laboratory which is a contributory of DRDO.

Besides such a great contribution of A P J Abdul Kalam towards science, education and society, he also awarded with numerous prestigious awards, as well as the Bharat Ratna, India's premier civilian

honor. He had devoted his whole life in social and political service by playing pivotal roles towards the development of country.

3.8 Writings of A P J Abdul Kalam

In his book India 2020, Kalam strongly advocated an action plan to develop India into a knowledge superpower and a developed nation by the year 2020. He regarded his work on India's nuclear weapons programme as a way to assert India's place as a future superpower.

I have identified five areas where India has a core competence for integrated action: (1) agriculture and food processing; (2) Education and healthcare; (3) Information and communication technology; (4) Infrastructure, reliable and quality electric power, surface. Dr. A P J Abdul Kalam delivering a speech transport and infrastructure for all parts of the country; and (5) self reliance in critical technologies. These five areas are closely interrelated and if advanced in a coordinated way, will lead to food, economic and national security.

Kalam describes a "transformative moment" in his life when he asked Pramukh Swami, the guru of the BAPS Swaminarayan Sampradaya, how India might realize this five pronged vision of development. Pramukh Swami's answer—to add a sixth area developing faith in God and spirituality to overcome the current climate of crime and corruption—became the spiritual vision for the next 15 years Kalam's life, which he describes in his final book, Transcendence: My Spiritual Experiences with Pramukh Swamiji, published just a month before his death. It was reported that there was considerable demand in South Korea for translated versions of books authored by him.

Kalam took an active interest in other developments in the field of science and technology, including a research programme for developing biomedical implants. He also supported open source technology over proprietary software, predicting that the use of free software on a large scale would bring the benefits of information technology to more people.

Kalam set a target of interacting with 100,000 students during the two years after his resignation from the post of scientific adviser in 1999. He explained, "I feel comfortable in the company of young people, particularly high school students. Henceforth, I intend to share with them experiences, helping them to ignite their imagination and preparing them to work for a developed India for which the road map is already available.

Table 3.2

Books Published by A P J Abdul Kalam:

No	Title of Book	Author(s)	Publisher	Languages in which published/translated
1	Development in Fluid Mechanics and Space Technology.	A P J Abdul Kalam & Roddam Narasimha	Indian Academy of Sciences,1988.	English
2	My Journey(Book of Poems)	A P J Abdul Kalam	The Rupa publications,2013.	English
3	Wings of Fire	A P J Abdul Kalam & Prof Arun Tiwari	Universities Press India Pvt Ltd,Hyderabad, 1999.	English, Hindi, Assamese, Audio book, Braille, Bodo, Bangla, Gujarati, Kannada, Malayalam, Tamil, Oriya, Marathi, Telegu,Urdu, Korean, Sinhalease, Russian, Chinese, Thai, Japanese

No	Title of Book	Author(s)	Publisher	Languages in which published/translated
4	India 2020: A Vision for the New Millennium.	A P J Abdul Kalam and Dr Y S Rajan	Penguin Books India Ltd,New York,1998.	English, Hindi, Marathi, Oriya Gujarati, Sinhalese, Malayalam, Assamese, Punjabi,Kannada,Telugu, Tamil, Thai (2014)
5	Ignited Minds	A P J Abdul Kalam	Penguin Books India Ltd, New York,2002.	English, Hindi, Malayalam, Gujarati, Marathi, Oriya, Tamil,Punjabi, Telugu,Assamese,Sinhalease, Romanian
6	Envisioning an Empowered Nation	A P J Abdul Kalam and Dr A S Pillai	Tata McGrawhill, New Delhi.	English, Hindi, Tamil
7	Luminous Sparks (Poem)	A P J Abdul Kalam	Punya Publishing Pvt Ltd, Bangalore,2004.	English
8	The Life Tree	A P J Abdul Kalam	Penguin Books India Ltd, New York.	English
9	Guiding Souls	A P J Abdul Kalam, Arun Tiwari	Ocean Books India Ltd,New Delhi-2.	English, Hindi, Malayalam and Tamil
10	Mission India(Abridged Version of India 2020)	A P J Abdul Kalam and Y S Rajan	Penguin Books India Ltd, New York,2005.	English
11	Children Ask Kalam	A P J Abdul Kalam	Pearson Education, Delhi.	English, Tamil
12	Songs of Life	A P J Abdul Kalam	Prabhat Prakashan.	English
13	Indomitable Spirit	A P J Abdul Kalam	Rajpal & Sons,New Delhi.	English, Korean

No	Title of Book	Author(s)	Publisher	Languages in which published/translated
14	You are Born to blossom	A P J Abdul Kalam and Arun Tiwari	Ocean Books Pvt Ltd,New Delhi-2,2011.	English, Hindi, Malayalam
15	Inspiring Thoughts	A P J Abdul Kalam	Rajpal & Sons,New Delhi, 2007.	English
16	Family and the Nation	A P J Abdul Kalam and Acharya Mahapragya	Harper Collins India Ltd,New Delhi.	English, Tamil, Hindi
17	Scientific Indian	A P J Abdul Kalam and Y S Rajan	Penguin Books India Ltd, New York.	English
18	Spirit of India	A P J Abdul Kalam	Rajpal & Sons,New Delhi.	English, Hindi
19	Target 3 Billion	A P J Abdul Kalam and Srijan Pal Singh	Penguin Books India Ltd, New York,2012.	English
20	"You are Unique"	A P J Abdul Kalam	Punya Publishing Pvt Ltd, Bangalore.	English
21	Building a New India	A P J Abdul Kalam and Y S Rajan	Penguin Books, New Delhi.	English
22	Turning Points	A P J Abdul Kalam	Harper Collins India Ltd,New Delhi,2012.	English, Tamil, Malayalam
23	'Squaring the circle: Seven steps to Indian Renaissance'	A P J Abdul Kalam & Prof Arun Tiwari	Universities Press India Ltd, Hyderabad, 2013.	English
24	"Thoughts for Change: We can do it"	A P J Abdul Kalam & A S Pillai	Tranquebar Press, 2013.	English

No	Title of Book	Author(s)	Publisher	Languages in which published/translated
25	My Journey : Transforming dreams into actions	A P J Abdul Kalam	The Rupa Publications, 2013.	English,Tamil, Telugu
26	Governance For Growth in India	A P J Abdul Kalam	The Rupa Publications, 2014.	English
27	Manifesto for Change	A P J Abdul Kalam & V Ponraj	Harper Collins India Ltd,New Delhi,2014.	English
28	Beyond 2020 A Vision for Tomorrow's India	A P J Abdul Kalam and Y S Rajan	Penguin Books India Ltd, New York,2014.	English
29	The Righteous Life	A P J Abdul Kalam	The Rupa Publications, 2014.	English
30	Forge Your Future	A P J Abdul Kalam	Rajpal & Sons,New Delhi,2014.	English
31	The Guiding Light : A Selections of Quotations from My Favourite Books	A P J Abdul Kalam	The Rupa Publications, 2015.	English
32	Re-Ignited	A P J Abdul Kalam & Srijan Pal Singh	Penguin Books, May 2015	English
33	Transcendence My Spiritual Experiecnes with Pramukh Swamiji	A P J Abdul Kalam With Arun Tiwari.	Harper Collins India Ltd,New Delhi,20 June 2015.	English

No	Title of Book	Author(s)	Publisher	Languages in which published/translated
34	Advantage India: From Challenge to Opportunity	A P J Abdul Kalam & Srijan Pal Singh	Harper Collins India Ltd,New Delhi,15 Oct 2015.	English

3.9 Brief Summary of Important Books Authored by Dr. A.P.J. Abdul Kalam

It is said that, "Books are the precious life blood of great souls".Generally all great people present their views and ideas in the form of books. Dr. Kalam has written many books which present his views and ideas about India and Indian people. His famous books are:

- **The Family and the Nation:**

This Book was written by Dr. A P J Abdul Kalam and Acharya Mahapragya. This book is the summary of knowledgeable communication happened between Dr. A P J Abdul Kalam and Acharya Mahapragya. This book covers the topics like the mobility of Indian culture, the idea of unity, the creation of healthy person, the creation of a happy family and the rise of a prosperous nation.

- **Squaring the Circle:**

This book is grounded in the belief that the destiny of India is that of a developed Nation, and rests on the conviction of the socialist, secular and democratic nature of our Republic where all citizens are assured of justice, equality, and liberty. But it does not hide the widespread dissatisfaction in the current state of affairs-social-economic inequality, social ills like nepotism, corruption and female foeticide, and a brazen departure from the directive principles of our Constitution regarding responsibility of the government towards the poor.

This book offers no new theory, advice or a vision beyond reiterating what the Father of our Nation had set for independent India, and later, the Integrated Humanism developed by Deen Dayal Upadhyay based on Gandhian socialism. The book shares with the readers the insights that Dr Kalam got after meeting some great leaders of our times, particularly, president Nelson Mandela, President Lula Da Silva and President Vaclav Havel to create a pro-poor society. The book offers tribute to great Indian institution builders such as JRD Tata, Homi Bhabha and Vikram Sarabhai, and lauds Verghese Kurien and young industry leaders of creating World-class businesses and wealth for their shareholders and employees.

This book is a tribute to these Nation builders and those who are building it now and those would do it the future. Besides the Father of our Nation, Mahatma Gandhi, it draws inspiration from Socrates, Galileo Galilee and Abraham Lincoln. All four of these great souls clashed with the course of politics that was prevalent in their times and questioned the collective notion of "this is right."

❖ **Main Kalam Bol Raha Hu:**

This book was written by Prashant Gupta and A P J Abdulkalam published in the year 2013. This book presents the synthesis of thinking of Dr. A P J Abdul Kalam on the basis of the books and articles written by him and different lectures delivered by him during his life.

This book integrates the subjects like simplicity, hard working ways to success, new ideas, the strength of dreams, moral value based education system, life education, youth education, citizenship etc.

❖ **Vigyanrushi:**

This books was written by Dixit Balwantrai and Ramesh Patel and published in the year 2012. This book presents the life of Dr. A P J Abdul Kalam from his childhood, adolescence, primary education to his higher education and about his family. In this book, the thinking of Dr. A P J Abdul Kalam has included.

❖ **Children Ask Kalam:**

Children Ask Kalam is an unique collection of the communication between Dr Kalam and children. Dr A P J Abdul Kalam, widely loved and admired by people of all age groups, is very popular with children. Every day, hundreds of children from every nook and corner of the country write to Dr. Kalam asking him questions on a variety of topics. Sharing their concerns Kalam takes time out to respond to these queries. This book brings Dr Kalam's view on a variety of topics to a wider audience. The president's answers bring to the fore his multifaceted personality. Though he writes in simple language, one will find that his answers do not shy away from addressing the most complex of issues. The letters have been selected carefully after much thought. For the purpose of clarity, the book is divided into six themes - education, science, children's issues, nation, spirituality and general. This book brings to fore the concerns of the children of this country and our President's initiatives to alleviate them.

❖ **Guiding Souls:**

This book is a dialogue on the purpose of life, offers answers to many such questions. The questions like: “What is to become of men? How can I set out on my own into a world that seems filled with conflict

and strife? How do I cope with day-to-day pressures? How can my life be useful and happy?" These and others such questions are frequently put by the students and young professionals, to the visionary President Dr. Kalam answers the following question in this book.

Dr. A.P.J. Abdul Kalam and Prof. Arun K. Tiwari, in this book outline a spiritual approach to life. Appealing to the innocent creativity of youth, the book rejects both extremes-hype and hoop-la of globalization and the pessimism of seeing the world as a theatre of conflict-and describes the ultimate goal and mission of humanity as constituting the task of helping evolution on planet Earth. The book covers a wide spectrum of history and human activity. It evokes the presence of some great human belongs who walked on this planet as exemplars for the ideals presented in the book.

❖ **Indomitable Spirit:**

Dr. A P J Abdul Kalam has a very clearly and cleverly emotions and passion about India, and the issues and concerns India stands facing. The book takes one into a fascinating journey of the certain Inspiring Lives of people, like Bharat Ratna, MS Subbulakshmi, Prof. Vikram Sarabhai, Prof. Brahm Prakash, Prof. MGK Menon, Dr. Raja Ramanna, and talks about the great visionaries who have crafted the nation. The book also highlights the Teachers in the life of Dr. A P J Abdul Kalam, and who influenced him to be what he is today.

This book deals deeper into the "The Mission of Education", and why it is important to retain the smile of the child and the role of parents, role of school. Further he talks about "Creativity and Innovation" and

“Art and literature”, and how Art helps to bring out the beauty of life in its noblest form.

It is also dedicated to a much hyped arena , “Science and spirituality”, “Tomorrow’s citizens”, ” Empowered Woman”, “Towards a Knowledge society” and “Building a Developed India”, “Enlightened Citizenship” and “Creative Leadership” as he went ahead to quote that, “Quality leaders are like magnets, they attract the best people

The book also talks about “Indomitable Spirit”.

At last the book ends with some fabulous quotes which will linger long in memories.

1. Power comes from Inside
2. You have to evolve yourself and shape your life
3. Perception of disabilities lies in the Mind.

❖ **Mission India:**

Mission India is a road map for the youth of today who will shape the India of tomorrow. The mission is to transform India into a developed nation and one of the world's top five economic powers by the year 2020. Dr A.P.J. Abdul Kalam and Y.S. Rajan examine India's strengths and weaknesses to show how this goal is not an unrealistic one. This inspirational book introduces children to the unknown success stories of India and discusses the country's problems at the beginning of the twenty-first century. It looks at different aspects of national life, and clearly explains the achievements and challenges in each of these areas. It also discusses the ways in which today's youth can make a difference to the country. Based on the central tenets of the runaway best-seller, India 2020: A Vision for the New Millennium, this book seeks to inspire

readers with the crucial sense of purpose which is essential for developing a strong and prosperous nation

❖ **The Life Tree:**

Dr A.P.J. Abdul Kalam, has contributed invaluably to our country's progress in space research and defense technologies. However, he is not only an eminent scientist. He is also a sensitive and thoughtful poet. This confluence of scientific brilliance and poetic talent is truly unique. The poem contained in this book brings out Dr. Kalam's deep love for India and her rich culture. Together with his devotion to God and to this Motherland, his devotion to humanity is also uniquely manifested in these poems. Believing his ability and achievements to be God's gifts, he has dedicated them to the welfare of the Indian people. Through the medium of his poetry, he has sent a message of selfless service, dedication and pure faith.

Dr. Kalam has always been an opponent of communalism, classism, linguistic chauvinism, regionalism and violence. Showing a profound understanding of Indian society, he attempts to find solution to problems with compassion, detachment, forbearance and sympathy. In this poem he has attempted, very credibly, to express in simple terms even a concept as complex as the search for God.

O creator of dreams,
Why do you keep searching for God?
Nature is His home, purity His abode
And Life is but His blessing!
Keep loving nature and care for its being,
Then you can see divinity all over!'

As a true Indian, Dr. Kalam is naturally distressed by the misuse of religion for ungodly ends. Nevertheless, he is confident that true faith in God and compassion for humankind can save us from the poison of communalism and casteism.

❖ **The Luminous Sparks:**

The Luminous Sparks kindles the ‘dreaming gaze’ of an inspired leader into a powerful vision. A vision that makes the seer and the scientist say, “Blossom we will”. For the process he envisions to effect this change constituting harmony, gratitude, love that is ‘continuum’ and a “life of giving”. Dr. A P J Abdul Kalam once again *ignites the minds* of readers through his biography in verse and colors.

More importantly, here “the poet’s saplings of love meant to change the hearts, the sparks ignite the inner divinity. A hidden energy vibrates in the lines of the poems. The poems are as simple and ideas as transparent as is the persona of the poet. A P J Abdul Kalam selects interesting but earthy episodes from his life that motivated him in his musings. The moving anecdotes are followed by the inspirational verses replete with nature imagery. The vivid illustrations by artistes enhance the visual splendor of the book. *The Luminous Sparks* delights the senses as much as it stirs the inner fire in our souls because of this creative collaboration and “unity of minds”.

❖ **Ignited Minds:**

Dr. Kalam has dedicated Ignited Minds to a High School child, named Snehal Thakkar, whom he met at a school. While talking to the students, a question had come up: "Who is our enemy?” Kalam

recalled that many answers came up, but the answer on which all agreed, came from her (Snehal Thakkar): "Our enemy is poverty".

It is a highly motivating book for young Indians, as also to anyone interested in understanding the reasons for remaining behind in the march of human civilization. The small book of 205 pages contains dynamic and original ideas, examines attitudes afflicting the Indians, and presents prescriptions for rapid growth of India to enable the country to emerge as a developed country. The scientist and the seer inside Kalam have addressed the book to young citizens of India.

❖ **Envisioning an Empowered Nation :**

This book was written by Dr. A P J Abdul Kalam with co-author A. Shivatanu Pillai. This book comprises lectures delivered by A P J Abdul Kalam at different time and mutual conversation with Anna University, other colleges, universities and the students of colleges. He devoted this book to youth power and student power of India. He motivated to write this book by meeting many people. Dr. Kalam has visited almost all parts of India and interacted with people from all walks of life- students, youths, farmers, scientists, engineers, technicians, doctors, medical staff, educationists, industrialists, armed forces personnel, spiritual leaders, political leaders, administrators, economists, artists, sports persons, physically and mentally challenged and the rural populace. School children and youth also interacted with him through his website. He gave many suggestions on making India a developed nation and their role in achieving this mission. He would like to highlight a few of the suggestions, among the many, which he received from children and youth. The aspiration of young ignited minds to make the nation great is

evident. It is important to recognize that India has a population of 700 million such young minds. This is a large force, which needs to be harnessed constructively towards a singular mission of making India a developed country. Like the young, every citizen of India he interacted with, would like to live in a happy, prosperous, peaceful and safe India.

❖ **You are Born to Blossom:**

'You Are Born to Blossom' is an attempt to induce young minds to realize that tremendous resources and support systems exist in the field of education. In this book he explores flavors of the variety of the themes. Taking education, learning and teaching as the backdrop to his reflection, human life-cycle, relationships within families, the significance of work, attributes of leadership, the nature of science, spirituality and moral themes.

This book opens up so many topics for reflection, poses so many practical challenges and asks so many profound questions that each reader will being his/her unique intellectual journey. This book recalls many of the steps in Dr. Kalam's own emotional, moral and intellectual development. This book about scientist and philosopher, Dr. A P J Abdul Kalam's vision of a new India enumerates the most vital facets of education and their contributions in building a better workforce for societal prosperity and development. Co-authored with engineer, scientist and erstwhile pupil, penned down with much hopes of creating awareness about the strengths of knowledge, the book promises to refurbish the missing link in the modus operandi of the Idealists and the Global in achieving their goals. The speedy and substantial progress of the Information and Communication Technology (ICT) and the wide

possibilities at its disposal have been highlighted as the key factor for this specific purpose. The book has aptly been structured under eight chapters, each one depicting the sequential paths to human fulfillment, with the finale resting on education as a spiritual journey.

The book serves its purpose well in inspiring young minds to open their doors of creative perception and pour out their latent skills when they are most needed for national growth. While education is the most powerful instrument in building a stable and mature society, every reader will realize how best to utilize the available resources in fulfilling his/her responsibility.

❖ **India 2020 – A Vision for the New Millennium:**

The Book is dedicated to a ten-year-old girl who came up to him for his autograph. ‘What is your ambition?’ he asked her. "I want to live in a developed India", she replied without hesitation. This book is dedicated to her and millions of Indians who share her aspiration.

According to Dr. A P J Abdul Kalam, "A developed India by 2020, or even earlier, is not a dream. It need not be a mere vision in the minds of many Indians. It is a mission we can all take up - and succeed."

This book presents the vision of A P J Abdul Kalam on various subject like developed India, common people, technology, science and agriculture, independence, and so on.

❖ **Wings of Fire:**

The book narrates the journey of A P J Abdul Kalam – as a child born in the island-town of Rameswaram in a typical middle class Muslim family, his struggle to become an engineer, his dream of building in-

house missile, the triumph followed the failure – all that went into the making of a neighborhood.

A P J Abdul Kalam's autobiography depicts an extraordinary life: a child born into a little-educated family of boat-owner in Rrameswaram- a small pilgrim in Tamil Nadu. Kalam grew up to lead India's space research and missile development programme, and emerged as one of the most important scientist- leader of our time.

- **Transcendence: My Spiritual Experiences with Pramukh Swamiji:**

This is the final book written by Dr. A P J Abdul Kalam, the eleventh President of India and a pioneering scientist. Co-authored by Professor Arun Tiwari and published by HarperCollins India, the book describes Kalam's spiritual experiences with and reflections on Pramukh Swami Maharaj, the guru and spiritual leader of the BAPS Hindu organization. Kalam recounted the spiritual transformation he experienced during his fourteen-year association with Pramukh Swami, described the inspiration he obtained from Pramukh Swami's leadership of BAPS, and expressed his vision for a society in which science and spirituality are fused. Kalam stated that he saw in Pramukh Swami "a true embodiment of transcendence," and titled the book to reflect his belief that Pramukh Swami is gunatit, a term signifying transcendence of ephemeral qualities and the modes of nature.

The co-author of the book, Arun Tiwari, had been working under Kalam since 1982, first as a missile scientist at the Defense Research and Development Laboratory and then as the program director of a defense technology spin-off. In 1999, Tiwari co-wrote Kalam's autobiography,

Wings of Fire, which has become a modern classic, selling more than a million copies in eighteen languages. Since then, Tiwari has written twelve books, with this, his latest book, having taken him about a year to write together with Kalam. Tiwari is also an adjunct professor in the School of Management Sciences, University of Hyderabad.

3.10 Conclusions:-

The present chapter is dealt with the life, work and contribution of Dr. A P J Abdul Kalam. The conclusions of the present chapter are as under.

1. Kalam was an average student in getting the grades in his school education.
2. Teachers had played an important role in shaping the life of Dr. A P J Abdul Kalam.
3. Tolstoy and Hardy had been A P J Abdul Kalam's favorite writers.
4. During his presidency, A P J Abdul Kalam was known as "people's president."
5. In the year 1997, Kalam received India's highest civilian honor, the Bharat Ratna for his contribution to the scientific research and modernization of defense technology in India.
6. Kalam considered Pramukh Swami as his ultimate spiritual teacher and guru.
7. Being a scientist by profession, A P J Abdul Kalam wrote many books and presented his thinking in the form of books. He had excellent skill of writing, though he was a scientist.

S.NO	Date	Day order	Class	Hour	Topics	Remark
					- Packet Switching * Datagram approach * Virtual circuit approach - Message Switching	
42	12.2.2020	VI	III BCA 'A'	9.30 - 10.30	* Aptitude test	
			III BCA 'A'	10.30 -12.30	* State - Oriented Notations → ½ day leave ←	
43	13.2.2020	I	II MCA	9.30 - 10.30	* Student Seminar	
			II BCA 'A'	1.30 - 3.30	* RDBMS Lab PL/SQL Programs	
44	14.2.2020	II	II MCA	9.30 - 10.30	* Revision : Topologies	
			III BCA 'A'	10.30 -12.30	* Multimedia Lab - Ripple Effect - Reflection Effect - Hot flaming fire effect	
			MCA NME	1.30 - 3.30	* Revision : Frames in HTML	
45	17.2.2020	III	III BCA 'A'	11.30 -12.30	* Campus Interview	
46	18.2.2020	IV			* 1 day leave ←	
47	19.2.2020	V	II MCA	10.30 11.30	* Routing Algorithms	
48	20.2.2020	VI	III BCA 'A'	9.30 - 12.30	* Campus Interview	
49	21.2.2020	I	II BCA 'A'	1.30 - 2.30	* Class test : Normalization	

FIA

S.No	Date	Day order	Class	Hour	Topics	Remark
50	24.2.2020	II	II MCA	9.30 - 10.30	★ Networking Protocols and OSI Model - Introduction - Protocols in Computer Communications - The OSI Model - OSI Layer Functions	
			III BCA 'A'	10.30 - 12.30	★ Campus Interview	
			MCA NME	1.30 - 2.30	★ Basic Programming Techniques	
51	25.2.2020	III	III BCA - 'A'	10.30 - 12.30	★ UG Association → College Thiruvalluvar Day ←	
52	26.2.2020	IV	III BCA 'A'	10.30 - 11.30	★ Software Design - Fundamental Design Concepts	
53	27.2.2020	V	II MCA	10.30 - 11.30	★ OSI Layer Functions	
54	28.2.2020	VI	III BCA 'A'	9.30 - 12.30	→ ITECA '20 ←	
55	29.2.2020	I	II MCA	10.30 - 11.30	★ Board of Study meeting	
			II BCA 'A'	1.30 - 3.30	★ RDBMS Lab - First Internal exam	
56	2.3.2020	II	III BCA 'A'	10.30 - 12.30	★ Multimedia Lab - Image masking - Guide layer - Shape tweening - Text Animation	

FIA

S.No	Date	Day order	Class	Hours	Topics	Remark
			MCA NME	1.30 - 3.30	★ Conditional Checking in Java Script	
57	3.3.2020	III	III BCA 'A'	11.30 - 12.30	★ Modules & Modularization Criteria - Coupling and Cohesion ★ Design Notations - Data Flow Diagram - Structure Charts - HIPO Diagrams - Procedure Templates - Pseudo code	
58	4.3.2020	IV	III BCA 'A'	10.30 - 12.30	★ Multimedia Lab - First Internal exam	
			III BCA 'A'	1.30 - 2.30	★ Design Techniques ★ Test Plans ★ Milestones, walkthroughs and Inspections ★ Design Guidelines	
			MCA NME	2.30 - 3.30	★ User defined Functions ★ Dialog boxes - Alert - Prompt - Confirm	
59	5.3.2020	V	II MCA	10.30 - 11.30	★ X.25 Protocol - Introduction - Characteristics of X.25 - Packet Format - X.25 Operation	

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S.NO	Date	day order	class	Hours	Topics	Remark
60	6.3.2020	VI	III BCA 'A'	9.30 -11.30	✱ Multimedia Lab - Bounce a ball - Picture Animation - Globe Animation - Action script ✱ Mouse Drag ✱ Mouse Rollover ✱ Random Display	
			III BCA 'A'	11.30 - 12.30	✱ Verification and Validation Techniques - Quality Assurance - Walkthroughs and Inspections - Static Analysis	
61	7.3.2020	I	II MCA	10.30 - 11.30	✱ Internetworking ✱ Dealing with incompatibility issues ✱ Virtual Network ✱ Internetworking Devices - Repealers - Bridges	
			II BCA 'A'	1.30 - 3.30	✱ RDBMS Lab - Cursor - Exception - Trigger	
62	9.3.2020	II	II MCA	9.30 - 10.30	✱ Routers ✱ Gateway	

S.No	Date	Day order	Class	Hour	Topics	Remark
66	13.03.2020	VI	III BCA 'A'	9.30 - 11.30	★ Multimedia Lab - Second Internal examination	
67	16.3.2020	I	II MCA	10.30 - 11.30	★ Address Resolution protocol (ARP) ★ Reverse Address Resolution protocol (RARP) ★ Internet Control Message protocol (ICMP) ★ Comparison of OSI and TCP/IP protocol suites Syllabus Completed	
			II BCA 'A'	1.30 - 3.30	★ RDBMS Lab - Second Internal examination	
68	17.3.2020	II	II MCA		→ NO lecturer class	
69	18.3.2020	III			→ 1/2 day leave ←	
70	19.3.2020	IV				
71	20.3.2020	V				
72	23.3.2020	VI				

S.No	Date	Day order	Class	Hours	Topics	Remark
					Online class	
1	3.8.20	I			Orientation	
2	4.8.20	II	II BCA 'A'	2 - 3.30	Data Structure Google Meet ⇒ Syllabus ⇒ Introduction & Overview	
3	5.8.20	III	II BCA 'A'	11 - 12.30	Google Meet ⇒ Arrays ⇒ One Dimentional Array	
4	6.8.20	IV	II BCA 'A'	2 - 3.30	Google Meet ⇒ Operations on Arrays ★ Traversing ★ Sorting ★ Searching	
5	7.8.20	V			→ Admission Duty ←	
6	8.8.20	VI	II BCA 'A'	2 - 3.30	Google Meet ⇒ operations on Arrays ★ Insertion ★ Deletion ★ Merging ⇒ Application of Arrays ⇒ Multidimensional Arrays - Two-dimensional Arrays	
7	10.8.20	I	II BCA 'A'	10 - 12	Google Meet ⇒ Stacks ★ Introduction ★ Definition ★ Array representation of stacks	

S.No	Date	Day order	Class	Hour	Topics	Remark
8	12.08.20	II	II BCA 'A'	12 - 12.40	★ Revision Chapter 1 & 2 ★ Online test (Google Forms)	
			II BCA 'A'	2 - 3.30	★ Google Meet - Linked list representation of Stacks - operations on stacks ★ Push ★ Pop	
9	13.08.20	III			→ Admission Duty ←	
10	14.08.20	IV	II BCA 'A'	2 - 3.30	Google Meet ★ Operations on Stacks - Program Coding explanation of stack using Array and Linked List	
11	17.08.20	V	II BCA 'A'	1.30 - 2.30	Google Meet ★ Linked Lists - Definition - Single Linked List ★ Creation	

S.No	Date	Day order	class	Hour	Topics	Remark
15	21.8.20	III	III MCA	11.30 - 12.30	Google Meet - Modern Block ciphers	
			II BCA 'A'	2.30 - 3.30	Google Meet - Infix to Postfix Conversion using Stack	
16	24.8.20	IV	III MCA	10.30 - 12.30	Google Meet - Modern Block cipher - Modern Stream cipher - Chapter 1 online test (Google Forms)	
17	25.8.20	V	II BCA 'A'	9.30 - 10.30	Google Meet - Evaluation of postfix expression using Stack with examples.	
			III MCA	1.30 - 2.30	Google Meet ★ Data Encryption Standard (DES) - Introduction - Overview - DES Structure	
18	26.8.20	VI	II BCA 'A'	11.30 - 12.30	★ Google Meet - Queue and its operations	

S.No	Date	Day order	class	Hour	Topics	Remark
					- Introduction - Definition - Representation of Queues.	
			III MCA	1.30 - 2.30	Google Meet ★ DES Function ★ DES Analysis ★ Security of DES	
19	27.8.20	I	II BCA 'A'	11.30 - 12.30	Google Meet ★ Various Queue Structures - Circular Queue	
20	28.8.20	II	III MCA	10.30 - 11.30	Google Meet ★ Advanced Encryption Standard (AES) - Introduction - Transformations	
			II BCA 'A'	11.30 - 12.30	★ Online Test Google Meet - Deque - Priority Queue	
			II BCA 'A'	1.30 - 3.30	★ Online Test Google Meet ★ Data Structure Lab - Linked List	
21	29.8.20	III	III MCA	11.30 - 12.30	Google Meet ★ AES transformations	
			II BCA 'A'	2.30 - 3.30	Google Meet ★ MultiQueue Implementation ★ Class test	

S.No	Date	Day order	class	Hour	Topics	Remark
1	28.12.20	I			→ Condolence Meeting ←	
2	29.12.20	II	I BCA 'A'	9.30 - 12.30	→ No lecture class ←	
3	30.12.20	III	I MCA	2.30 - 3.30	→ No Lecture Class ←	
4	31.12.20	IV	III BCA 'A'	9.30 - 10.30	★ Give the syllabus for software Engineering	
5	2.1.21	V	I MCA	9.30 - 10.30	→ No lecture class ←	
6	4.1.21	VI	III BCA 'A'	9.30 - 10.30	★ Introduction to software Engineering - Introduction	
			I MCA	1.45 - 2.30	★ Data Communications and Networking - Data Communications - Components - Data Representation - Data Flow	
7	5.1.21	I	III BCA 'A'	9.30 - 12.30	★ Multimedia Lab - Merge images - Visiting card Design	
			I MCA	1.45 - 2.30	★ Google Meet ★ Networks - Criteria - Physical Structures - Topologies	
			III BCA 'A'	2.30 - 3.30	★ Some Definitions ★ Some Size Factors	

ours
3
2
4
2
3
-

7 hours

S.No	Date	Day order	Class	Hour	Topics	Remark
					★Project Size Categories	
8	6.1.21	II	I BCA 'A'	9.45 – 12.15	★ C++ Lab – Arithmetic operation	
			PG-NME	1.45 – 2.30	★ Introduction to the Internet – Networking – Internet – Electronic Mail	
9	7.1.21	III	I MCA	2.30 – 3.15	★ Google Meet – Network types ★ Local Area Network ★ Wide Area Network ★ Switching ★ The Internet ★ Accessing the Internet	
10	8.1.21	IV	III BCA 'A'	9.30 – 10.30	★ Quality and productivity Factors	
			I MCA	11.30 – 12.15	★ Google Meet – Internet History – Standards and Administration	
			PG NME	2.30 – 3.15	★ World wide web – Hyper-text – Browsers – Search Engines – usenet – Telnet	

S.No	Dat
11	11.1.
12	12.1.
13	13.1.

S.No	Date	Day order	Class	Hours	Topics	Remark
14	18.1.21	II	I BCA 'A'	9.45 - 12.15	★ C++ Lab - Attendance Percentage Calculation using I/O Statements	
			PG NME	1.45 - 2.30	★ Head and Body Sections - Header Section ★ Title ★ Prologue ★ Links	
15	19.1.21	III	I MCA	2.35 - 3.315	★ TCP/IP Protocol Suite	
16	20.1.21	IV	PG NME	2.35 - 3.15	★ Colorful Web Page ★ Comment lines	
17	21.1.21	V	I MCA	9.45 - 10.30	★ Introduction in Physical Layer - Data and signals - Digital signals : Bit rate & Bit length - Transmission Impairment - Performance	
			I BCA 'A'	10.35 - 12.15	★ C++ Lab - Welcome greet using if.. Statement - Fever Checking using if.. else Statement - Employee Bonus Calculation using Ladder if.. Statement	

S.No	Dat
18	22.1.
19	23.1.
20	25.1.
21	27.1.
22	29.1.

Remark	S.NO	Date	Day order	class	Hour	Topics	Remark
	18	22.1.21	VI	III BCA 'A'	10.30 - 12.30	✱ Summative examination	
	19	23.1.21	I	III BCA 'A'	9.30 - 12.30	✱ Summative examination	
	20	25.1.21	II	I BCA 'A'	9.45 - 12.15	✱ C++ Lab - Demonstration of looping statement	
				PG NME	1.45 - 2.30	✱ Ordered & Unordered list	
				III BCA 'A'	2.30 - 3.30	✱ Planning & the Development Process.	
	21	27.1.21	III	I MCA	2.35 - 3.15	✱ Multiplexing & its types	
	22	29.1.21	V	I MCA	9.45 - 10.30	✱ Transmission Media - Guided Media	
				I BCA 'A'	10.35 - 12.15	✱ C++ Lab - Print your name in 10 times using while statement - Reverse a number using while statement	
				III BCA 'A'	2.30 - 3.30	✱ Planning an Organizational Structure	

30/01/2021

01/02/2021