

# ENGLISH

## CHAPTER 4: AN INDIAN – AMERICAN WOMAN IN SPACE: KALPANA CHAWALA



# AN INDIAN – AMERICAN WOMAN IN SPACE: KALPANA CHAWALA

~Summary~

-by Khushwant Singh

This chapter is about the **rise and fall** of **Kalpna Chawla**, The world's first **Indian-American** woman in **space**. She was a **small-town** girl from **Haryana** who had studied **aeronautical engineering**. She **went** to the **USA** for her **masters** in **Aerospace Engineering** and became a **flight instructor**. She became an American **citizen** by getting **married** to **Jean-Pierre Harrison**, a fellow flight instructor. Her **next steps** to ascension after completing her **doctorate** in **Aerospace engineering** was to apply to **NASA**. NASA hired her as a research scientist, following which she had **applied** for the **space shuttle programme** and **received training** to become an **astronaut**.

Her **first mission** was to conduct **experiments** with her crew while **orbiting** the earth on "The Columbia". The experiments involved **Biology, Metallurgy, and semiconductor electronics**. The mission lasted around 16 days, the entire crew had **circled** the **globe** over 250 times travelling a distance of about 10.5 **million** kilometres and collected a lot of valuable **data**.

But **tragedy** struck her crew when they had ventured to outer space on their **second** trip on-board the same Columbia which **burst into flames** while returning and had **crashed** in **Texas**. The shuttle had **lost contact** at over 200,000 feet while returning, there were **no survivors**, and it was a **great loss** as some of the **best** space scientists, had **perished** in the accident. The whole world **mourned** their loss.

Kalpna Chawla is a **national hero** and a shining star in her field of Aerospace Engineering. She had mentioned that **gender** is **never** an **obstacle** to achieve **greatness**. Her message was that the **pathway** to one's **dreams** exist and they must have the **courage** to achieve greatness with **hard work** and **determination**.

~Conclusion~

Despite her tragic end, Kalpna Chawla remains a source of inspiration. Her message to the world was that everyone who has ambitions should also have the courage to begin their journeys.

## NCERT SOLUTIONS

### Questions (Page No. 50-51)

#### (Working with the Text)

Question 1. Answer the following questions.

- Where was Kalpana Chawla born? Why is she called an Indian American?
- When and why did she go to the U.S.? Who did she marry?
- How did she become an astronaut? What gave her the idea that she could be an astronaut?
- What abilities must an astronaut have, according to the journalist?
- Describe Kalpana Chawla's first mission in space.
- What does Kalpana Chawla say about pursuing a dream? Do you agree with her that success is possible?

Answer:

- Kalpana Chawla was born at Kamal, in Haryana. She was born in India but married an American and became a naturalised citizen. So she is called an Indian American.
- Kalpana went to the U.S. for higher studies in aeronautical engineering. There she married the flight instructor Harrison.
- Kalpana had already got a bachelor's degree in aeronautical engineering before she went to the U.S. She earned her PhD in aerospace engineering. In 1994 she was selected by NASA for training as an astronaut. She was encouraged by the people around her.
- An astronaut needs to know a lot about biology and aeronautical engineering. He/ she must have a wide knowledge of science subjects.

- e. Kalpana's first mission in the space shuttle, Columbia, was nearly 16 days long. She went around the earth 252 times. Among her colleagues were a Japanese and Ukrainian astronauts. They performed so many experiments.
- f. Kalpana Chawla, a girl from a small town, touched the skies. In her message to college students of Chandigarh, from space, she said that it was always possible to realise one's dream. One could certainly get success provided one had the vision and the courage.

Yes, I do agree with her on this point.

Question 2. Read the newspaper report to find the following facts about the Columbia's ill-fated voyage.

- a. Date and place of lift off \_\_\_\_\_.
- b. Number of astronauts on board \_\_\_\_\_.
- c. Number of days it stayed in space \_\_\_\_\_.
- d. Number of experiments done by scientists \_\_\_\_\_.
- e. Date of return journey \_\_\_\_\_.
- f. Height at which it lost contact \_\_\_\_\_.

Answer:

- a. Date and place of lift off 16 January 2003.
- b. Number of astronauts on board Seven.
- c. Number of days it stayed in space: 15 days, 16 hours and 34 minutes
- d. Number of experiments done by scientists about 16 days eighty experiments.
- e. Date of return journey 1 February 2003.
- f. Height at which it lost contact 200,000 feet.

## Questions (Page No. 51-52)

### (Working with the Language)

Question 1. Match the following.

1. Unprecedented space tragedy	i	Something that causes feelings of respect and wonder.
2. Certified flight instructor	ii	Having knowledge of a wide variety of subjects.
3. Space mission	iii	Nowadays, in these times.
4. Super specialisation	iv	A set of jobs to be done in space by a group.
5. Encyclopaedic knowledge	v	Person with the correct qualification to teach people to fly planes.
6. Awe-inspiring	vi	A sad accident of a kind that has never happened before in space.
7. In this age	vii	Great expertise in a limited field or a particular subject.

Answer:

1. Unprecedented space tragedy	iv	A sad accident of a kind that has never happened before in space.
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6. Awe-inspiring	i	Something that causes feelings of respect and wonder.
7. In this age	iii	Nowadays, in these times.

Question 2. Use these phrases in sentences of your own, after finding out their meanings.

- a. broke apart
- b. streaked over
- c. spread across
- d. lifted off

- e. blast off
- f. went on
- g. cheered along
- h. on board
- i. carry on

Answer:

- a. **broke apart:** The fire broke the house apart.
- b. **streaked over:** The jet plane streaked over the valley this morning.
- c. **spread across:** The disease is spread across the entire world.
- d. **lifted off:** The helicopter made a lot of noise when it lifted off from the helipad.
- e. **blast off:** The airplane blasted off at midnight.
- f. **went on:** The meeting went on the whole evening.
- g. **cheered along:** The cricketers were cheered along by the audience.
- h. **on board:** There were 600 passengers on board.
- i. **carry on:** She was convinced to carry on her career in singing.

Question 3. We add 'un-' to make opposites.

For example, true — untrue.

Add 'un-' to the words below to make their opposites. Then look up the meanings of the words you have formed in the dictionary.

- a. identified -----
- b. controlled -----
- c. attended -----
- d. successful -----
- e. important -----
- f. educated -----
- g. interesting -----
- h. qualified -----
- i. trained -----
- j. answerable -----

Answer:

- a. unidentified
- b. uncontrolled
- c. unattended
- d. unsuccessful
- e. unimportant
- f. uneducated
- g. uninteresting
- h. unqualified



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- i. untrained
- j. unanswerable

## Questions (Page No. 52)

### (Speaking)

Question 1. In her message to students of her college, Kalpana Chawla said, “May you have the vision to find the path from dreams to success... Wishing you a great journey.”

Form pairs. Use “May you...” and “I wish you/Wishing you” to wish your partner good luck and success in

- a. a sports event,
- b. a quiz or a competition, and
- c. a test or examination.

Be sure to thank your partner when she/he wishes you in turn. You may also look up a telephone directory, or go to a post office, and get a list in English and Hindi of standard phrases that can be sent in greeting telegrams anywhere in India. Discuss which of these you might use, and when. Compare the English and Hindi phrases for expressing good wishes. Do you know such phrases in any other language?

Answer:

- a. May you win the sports event.
- b. I wish you perform your best in the quiz competition.
- c. Wishing you all the best for your examination.

## Questions (Page No. 53)

### (Writing)

Question 1. Do you have a ‘dream’, or something you very much wish to do?



Write a paragraph saying what you want or wish to do. Then say (in another paragraph) how you think you can make your dream come true.

Answer: My dream is to become a scientist and invent something useful for the society and generations to come.

I think I can make my dream come true by studying strategically. I will have to make and follow a proper time table for the same.

Question 2. Given below are some words that are spelt differently in British and American English. Fill in the blanks accordingly.

British American

a. colour \_\_\_\_\_

b. \_\_\_\_\_ labor

c. \_\_\_\_\_ traveler

d. counsellor \_\_\_\_\_

e. centre \_\_\_\_\_

f. \_\_\_\_\_ theater

g. \_\_\_\_\_ organize

h. realise \_\_\_\_\_

i. \_\_\_\_\_ defense

j. offence \_\_\_\_\_

Answer:

British American

- a. colour color
- b. labour labor
- c. traveller traveler
- d. counsellor counselor
- e. centre center
- f. theatre theater
- g. organize organize
- h. realise realize
- i. defence defense
- j. offence offense



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