

RRB

Railway Recruitment Board

Junior Engineer

CBT-2 : 2024

Computer Based Test - Stage II

General Awareness and Science & Technology

Comprehensive Theory *with*
Practice Questions





MADE EASY Publications Pvt. Ltd.

Corporate Office: 44-A/4, Kalu Sarai, New Delhi-110016 | **Ph. :** 9021300500

E-mail: infomep@madeeasy.in | **Web:** www.madeeasypublications.org

RRB-Junior Engineer : General Awareness and Science & Technology

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Preface

The post of **Railway Recruitment Board-Junior Engineer** has always been preferred by Engineers due to job stability. Indian Railways is one of the biggest Government employers in India. With the exam being just a few months away, it is time for the candidates planning to appear for the exam to pull up their socks and start their RRB-JE preparation.



The **RRB-JE CBT-2** exam subjects are shown in table given below:

Papers	Subjects	Maximum Marks	Duration
CBT-2 : Objective Type	(i) General Awareness	15 Marks	120 Minutes
	(ii) Physics and Chemistry	15 Marks	
	(iii) Basics of Computers and Applications	10 Marks	
	(iv) Basics of Environment and Pollution Control	10 Marks	
	(v) Technical Abilities (viz, CE, ME, EE, EC, CS etc)	100 Marks	
	Total	150 Marks	

Note: There shall be negative marking for incorrect answers in CBT-2. Each question carries 1 mark and 1/3rd of the marks allotted for each question shall be deducted for each wrong answer.

This book comprises both the **General Awareness and Science & Technology** subjects including Computer Applications and Environment. MADE EASY has taken due care to present detailed theory and MCQs without compromising the accuracy of answers.

Apart from Railway Recruitment Board-Junior Engineer Exam, this book is also useful for Public Sector Examinations and other competitive examinations for engineering graduates. I hope this book will prove as an important tool to succeed in RRB-JE and other competitive exams.

I have true desire to serve student community by providing good source of study materials and quality guidance.

Any suggestion from the readers for improvement of this book is most welcome.

With Best Wishes

B. Singh (Ex. IES)

CMD, MADE EASY Group

Exam Syllabus

(Computer Based Test 2024–Second Stage)

General Awareness : Knowledge of Current affairs, Indian geography, culture and history of India including freedom struggle, Indian Polity and constitution, Indian Economy, Environmental issues concerning India and the World, Sports, General scientific and technological developments etc.

Physics and Chemistry : Up to 10th standard CBSE syllabus.

Basics of Computers and Applications : Architecture of Computers; input and Output devices; Storage devices, Networking, Operating System like Windows, Unix, Linux; MS Office; Various data representation; Internet and Email; Websites & Web Browsers; Computer Virus.

Basics of Environment and Pollution Control : Basics of Environment; Adverse effect of environmental pollution and control strategies; Air, water and Noise pollution, their effect and control; Waste Management, Global warming; Acid rain; Ozone depletion.

Technical Abilities : The educational qualifications mentioned against each post shown in Annexure-A, have been grouped into different exam groups as below. Questions on the Technical abilities will be framed in the syllabus defined for various Exam Groups given at Annexure-VII-A, B, C, D, E, F & G.



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RRB JE

Railway Recruitment Board
Junior Engineer Examination

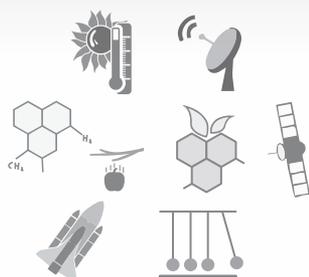
CBT-2

General Awareness

Section

A

Comprehensive Theory with
Practice Questions



- Indian History & Culture
- Indian Geography
- Indian Polity
- Indian Economy
- Environmental Issues
- General Knowledge
- Defence and Science & Technology



History and Culture of India

ANCIENT INDIA

PREHISTORIC PERIOD

- The early prehistoric period was observed before the 8th millennium BCE.
- The period of the prehistoric agriculturalists and pastoralists was during approximately the 8th to the mid-fourth millennium BCE.
- The Early Indus or Early Harappan period witnessed the emergence of the first cities in the Indus River System (3500-2600 BCE).

Period/ Age	Remarks
Paleolithic Age	<ul style="list-style-type: none"> • People in Paleolithic age were dependent on hunting for their livelihood and used to travel from one place to another depending on the availability of natural resources for survival. • They developed sharp weapons of stone for hunting purpose.
Mesolithic Age	<ul style="list-style-type: none"> • During Mesolithic age, people were still hunter-gatherers, but were possibly starting to stay in one place. • Domestication of animals can be seen in this age.
Neolithic Age	<ul style="list-style-type: none"> • During Neolithic age, stone tools and weapons were also further modified and were sharpened by fine shedding of the stones. • It also contributed greatly in the field of transportation by an important invention of the wheel.
Chalcolithic Age	<ul style="list-style-type: none"> • The people of Chalcolithic age practiced agriculture. They used tools made up of copper and stone. • Painted pottery was the most distinguishing feature of all Chalcolithic cultures.

INDUS VALLEY CIVILIZATION

- Indus Valley Civilization is one of the oldest civilizations of the world. It flourished around the Indus river and its tributaries. The area consists of modern Pakistan and Northwestern India. Mohenjodaro is the largest site of the Civilization.
- Indus valley civilization is also called as Harappan civilization because Harappa was the first site to be excavated in 1921 under the supervision of **Daya Ram Sahni**.
- The known extent of this civilization in the west is upto Sutkagendor in Baluchistan; Alamgirpur (UP) in the east; Daimabad (Maharashtra) in South; and Manda (J and K) in the north.
- This civilization belongs to Bronze Age/ Chalcolithic Age. Hence, it is also called Bronze Age civilization.
- Contemporary civilizations of Harappan civilization are Mesopotamian or Sumerian civilization, Egyptian civilization and Chinese civilization.
- John Marshall was the first scholar to use the term "Indus Valley Civilization".

Important Sites of Harappan Civilization

1. Harappa

- People of Harappa knew the process of making tarcoal.
- Main gate for the entry in the houses of Harappa was in the north direction.
- R-37 cemetery have been found here.
- Terracotta figurine of Mother Goddess have been found here.

2. Mohenjo-daro

- Mohenjo-daro was discovered in 1922 under the supervision of **R.D. Bannerji**.

- The literal meaning of Mohenjo-daro in Sindhi language is **mound of the dead**.
- The Great Bath, a granary, big halls, a bronze statue of a dancing girl, idol of a yogi and numerous seals have been found here.
- Seven layers of Mohenjo-daro city directs that the city was destroyed and rebuilt seven times.

3. Lothal

- In 1954, Lothal was discovered by S.R. Rao in Gulf of Cambay in Gujarat.
- Red & black clay pots, copper tools, brick built tank like structure, a bead making factory and a seal from Iran have been found at Lothal.
- Linear scale of bronze have been found here.
- A dockyard has been found at Lothal.

4. Kalibangan

- Kalibangan was discovered in 1953. It is located in upper Rajasthan.
- It did not have a drainage system.
- A number of firepits *agnikundas* (firepits) have been found here.

- It saw two cultural phases viz. pre-Harappan and Harappan.
- A ploughed field have been found here.

5. Dholavira

- Dholavira in Gujarat was discovered in 1992 by **J.P. Joshi**.
- Dholavira shows all the three phases of Harappan civilization.
- A script consists of big alphabets has been found on a gate in Dholavira.



Major Harappan Sites and their Excavators					
Site	River	District	Province/ State	Country	Excavators
Harappa	Ravi	Sahiwal	Punjab	Pakistan	Daya Ram Sahni (1921), Madho Swaroop Vatsa (1926), Wheeler (1946)
Mohenjodaro	Indus	Larkana	Sindh	Pakistan	Rakhal Das Bannerji (1922), Mackay (1927), Wheeler (1930)
Chanhudaro	Indus	Shaheed Benazirabad	Sindh	Pakistan	Mackay (1925), N.G. Mazumdar (1931)
Lothal	Sabarmati & Bhogva	Ahmedabad	Gujarat	India	S.R. Rao (1954)
Kalibangan (i.e., the bangles of black colour)	Ghaggar	Hanuman-garh	Rajasthan	India	Amalanand Ghosh (1951), B.B. Lai & B.K. Thapar (1961)
Banawali	Saraswati	Fatehabad	Haryana	India	R.S. Bist (1973)
Dholavira	Luni	Kutchh	Gujarat	India	J.P. Joshi (1967-68)

Major Harappan Sites and Archeological Findings	
Site	Archaeological Findings
Harappa	6 Granaries in row, Working floors, Workmen's quarters, Virgin-Goddess (seal), Cemetery (R-37, H), Stone symbols of Lingam (male sex organ) & Yoni (female sex organ), Painted pottery, Clay figures of Mother Goddess, Wheat & Barley in wooden mortar, Copper scale, Crucible for bronze, Copper-made mirror, Vanity box, Dice.
Mohenjodaro	Great Bath, Great Granary (the largest building of civilization), Assembly hall, Shell strips, Pashupati Mahadeva/Proto-Shiva (seal), Bronze Image of a nude woman dancer, Steatite image of bearded man, Human skeletons huddled together, Painted seal (Demi-God), Clay figures of Mother Goddess, A fragment of woven cotton, Brick Kilns, 2 Mesopotamian seals, 1398 seals (57% to total seals of civilization), Dice.
Chanhudaro	City without a citadel, Inkpot, Lipstick; Metal-workers', shell-ornament makers' and bead-makers' shops; Imprint of dog's paw on a brick, Terracotta model of a bullock cart, Bronze toy cart.
Kalibangan	Ploughed field surface (Pre-Harappan), 7 Fire altars, Decorated bricks, Wheels of a toy cart, Mesopotamian cylindrical seal.
Lothal	Dockyard, Rice husk; Metal-workers', shell-ornament makers' & bead-makers' shops; Fire altars, Terracotta figurine of a horse, Double burial (burying a male and a female in a single grave), Terracotta model of a ship, Dying vat, Persian/ Iranian seal, Baharainean seal, Painted jar (bird & fox).
Surkotada	Bones of horse, Oval grave, Pot burials.
Banawali	Lack of chess-board or gridiron pattern town planning, Lack of systematic drainage system, Toy plough, Clay figures of Mother Goddess.
Daimabad	Bronze images (Charioteer with chariot, ox, elephant & rhinoceros)
Dholavira	A unique water harnessing system and its storm water drainage system, a large well and a bath (giant water reservoirs), Only site to be divided into 3 parts, Largest Harappan inscription used for civic purposes, A stadium.

Important Features of Indus Valley Civilization

- **Town planning** was the most distinguishable feature of the Harappan civilization. Hence, this civilization is also called first urbanisation.
- Towns were divided into parts viz. citadel and lower town. Citadels were occupied by members of ruling class and lower town was inhabited by the common people.
- Harappan cities were developed in **Block Pattern/Chess Board Pattern** because roads of these cities used to cut each other at right angles.
- Most peculiar feature of town planning was their **drainage system**. Drains were built of burnt bricks and covered by stone lids and manholes for cleaning.
- Complete burial was the most common method of the disposal of the dead.
- They grew wheat and barley on a large scale. The other crops grown were pulses, cereals, cotton, dates, melons, pea, sesamum and mustard.
- No clear evidence of rice has been found, except from Rangpur and Lothal where some grains of rice were found, but they may be of later period.
- Harappan people were mostly peasants and thus the Harappan civilization was an agro-commercial civilization.
- Evidences of hoe and plough have been found in kalibangan and Banawali.

- Harappans domesticated sheep, goat, buffalo and pig. They also knew about tiger, camel, elephant, tortoise, deer, various birds, etc. However, they did not know about **lion**.
- **Humpless bull** or unicorn was the most important animal.
- They did not know about the horse, except a jaw bone of horse which has been recovered from Surkotada in Gujarat in upper layers of excavation.
- The Harappans were the earliest people to produce cotton because cotton was first produced in this area. The Greeks called it **sindon**, which is derived from **sindh**.
- The Harappan culture belongs to the Bronze Age, as the people were very well acquainted with the manufacture and use of bronze.
- Leather was also known to them but no evidence of **silk** has been found.
- Harappans used to make seals, stone statues, terracotta figurines, etc.
- Harappans did not know about iron.
- Seals are made of **steatite** and they are square in shape.
- Land and sea trade was in vogue.
- Most important trading partner was Mesopotamia. It is evident from the inscriptions of Mesopotamia. Other trading partners were Afghanistan, Persia, central Asia and various parts of India.
- The Mesopotamian inscriptions refer to trade relations with **Meluha** which was the ancient name given to Indus region.
- The mode of trade was barter system.
- Pashupati seal has been found from Mohenjodaro in which a Yogi figure has been depicted. The Yogi on the seal is surrounded by buffalo, tiger, elephant, rhinoceros and deer. Hence, the Yogi is said to be proto-Shiva.
- Signs of phallic worship have been found.
- Harappans worshipped Mother Goddess. It is evident from the terracotta figurine recovered from Harappa.
- Harappans worshipped **pipal** tree.
- No evidences of temples have been found in this civilization.
- The Harappan script is not alphabetical but mainly pictographic.

- The Harappan script has not been deciphered so far.
- Script was consisted of about 400 symbols, out of which 75 were original and remaining were their variants.

Major Imports Items	
Material	Source place
Gold	Kolar (Karnataka), Afghanistan, Persia (Iran)
Silver	Afghanistan, Persia
Copper	Khetri (Rajasthan), Baluchistan, Saudi Arabia
Lead	Rajasthan, South India, Afghanistan, Iran
Tin	Afghanistan, Central Asia
Agates	Western India
Lapis Lazuri and Sapphire	Afghanistan
Turquoise	Central Asia, Iran
Amethyst	Maharashtra

VEDIC PERIOD

- Aryans are said to be propounders of Vedic civilization.
- They spoke a language called **arya** which was similar to later days Sanskrit. Hence, they are called Aryans.
- Central Asian theory of Max Muller is widely accepted theory of the origin of Aryans.

Views on Original Home of Aryans	
Europe	Sir W. Jones
Central Asia	Max Muller
Arctic Region	Bal Gangadhar Tilak
Tibet Region	Dayanand Saraswati

- The source of knowledge about the Aryans is the Vedic literature, of which Vedas are the most important. **Veda** means knowledge.

- The Vedas are not an individual religious work. The Vedic literature had grown in the course of many centuries and was handed down from generation to generation by word of mouth. Hence, they are called *shruti*.
- The Vedas are also called *apaurusheya* which means man did not compose them; and *nitya* which means they were existing in all eternity.

Vedic Literature

- Vedic literature consists of four classes of literary creations, viz. Vedas, Brahmanas, Aranyakas and Upanishads.
- The Vedas are collection of hymns, prayers, charms, litanies and sacrificial formulae. These are four in number.

Vedic Literatures	
Vedas	Details
Rigveda	<ul style="list-style-type: none"> • It was compiled around 1500–1000 BC. • The literal meaning of the word <i>rig</i> is 'to praise'. • It is a collection of hymns in praise of gods. • It has been divided into ten volumes called Mandals. • Mandal II to VII are the oldest books. They are also called family books because these are attributed to families of <i>rishis</i>. • Mandal VIII and IX belong to middle time. • Mandal I and X are the last to be compiled. • Mandal III contains the Gayatri Mantra which was compiled in the praise of sun god Savitri. • Mandal IX is dedicated only to Soma god, the Lord of Plants. • Mandal X contains a hymn called Purusha Sukta in which origin of varna system is discussed. • Those rishis who were experts in Rigveda were called <i>hotra</i> or <i>hotri</i>. • The Rigveda has many things in common with Avesta, which is the oldest text in Iranian language.
Samaveda	<ul style="list-style-type: none"> • It is a collection of songs mostly taken from the hymns of Rigveda and set to tune. • It is a book of chants. • The experts in the knowledge of Samaveda were called <i>udgatri</i>. • Compilation of Samaveda is known to be the beginning of Indian music. • Samaveda consists of 1810 hymns.
Yajurveda	<ul style="list-style-type: none"> • It is a collection of sacrificial formulae. • It describes the rituals to be followed at the time of recitation of mantra. • The experts in the knowledge of Yajurveda were called adhvaryu. • It is found in both prose and poetry. • It consists of two parts, viz. Krishna Yajurveda and Shukla Yajurveda.
Atharvaveda	<ul style="list-style-type: none"> • It is a collection of charms and spells. • It contains magical hymns to get relief from diseases. • Indian medicinal science called Ayurveda has its origin from Atharvaveda.

Other Vedic Literatures	
Name	Details
The Brahmanas	<ul style="list-style-type: none"> • These are prose texts which contain details about the meanings of Vedic hymns, their applications, stories of their origins, etc. • The Aitareya or Kaushitaki Brahmanas are assigned to the Rigveda; Tandyā and Jaiminiya Brahmanas to Samaveda; Taittiriya and Shatapatha Brahmanas to the Yajurveda; and Gopath Brahmanas to the Atharvaveda. • Tandyā Brahmana is the oldest of all the Brahmanas. • Shatapatha Brahmana is the most voluminous among all the Brahmanas.
The Aranyakas	<ul style="list-style-type: none"> • These are the concluding portions of the Brahmanas. • These were called Aranyakas because the mystical and philosophical character of their content required that they should be studied in the solitude of <i>aranya</i> (forest). • They initiated a changeover from materialistic religion to spiritual religion. Thus, they formed a tradition that culminates in the Upanishads. • Aranyakas are like a bridge between Vedas cum Brahmanas and Upanishads.
The Upanishads	<ul style="list-style-type: none"> • These are the last phase of Vedic literature. • Upanishads deal with metaphysics i.e. philosophy. • These are also called Vedānta because these were the last books to be compiled in the series of Vedic literature. • These contain subject matter about soul, brahman, rebirth, theory of karma, etc. • Upanishads emphasized the path of knowledge. • The literal meaning of Upanishad is 'to sit near the feet of'. • The most important Upanishads are Chhandogya Upanishad and Brahadaranyaka Upanishad. • The other important Upanishads are Katha Upanishad, Isha Upanishad, Prasna Upanishad, Mundaka Upanishad, etc. • The conversation of Yama and Nachiketa is the subject matter of Katha Upanishad. • The word <i>satyameva jayate</i> in the National Emblem is taken from Mundaka Upanishad.

Ancient Rivers

Rigvedic Names	Modern Names
Sindhu	Indus
Vitasta	Jhelum
Askin	Chenab
Parushni	Ravi
Vipasa	Beas
Satudri	Sutlej
Drishadvati	Ghaggar
Krumu	Kurram
Gomal	Gomati

Important Features of Vedic Period

Early Vedic Aryans

- The early Aryans lived in the geographical area covered by eastern Afghanistan, North-West Frontier Province, Punjab and western Uttar Pradesh.
- As per the Rigveda, the whole region in which the Aryans first settled in the Indian subcontinent is called *saptasindhava* region or the **Land of the Seven Rivers**.
- Rigveda also mentions about The Himalayas, Mijavant mountains and *Samudra* (ocean).
- Rigveda mentions Saraswati and Sindhu falling in the ocean. Saraswati was the most revered river in the Rigveda.

- Ganga and Yamuna were not the important rivers in the Rigvedic period.
- The polity of the early vedic Aryans was basically a tribal polity with the tribal chief in the centre.
- The tribe was called *jana* and the tribal chief was called *rajana*.
- *Rajana* looked after the affairs of the tribe with the help of other tribal members and two tribal assemblies called *Sabha* and *Samiti*.
- *Sabha* was consisted of elder members of the tribe where as the *Samiti* which mainly dealt with policy decisions and political business included common people.
- Women were allowed to participate in the proceedings of *Sabha* and *Vidatha*.
- The economy was a semi-nomadic pastoral economy based on pasture lands.
- Cattle rearing was the main occupation of the early vedic Aryans. However, agriculture was also practised as a secondary occupation.
- Barley was the most important crop which was called *yava*. Wheat was a secondary crop.
- Cow was the most important animal of the Rigvedic Aryans.
- Rigvedic Aryans used the **horses** on a large scale which were absent in the Harappan culture.
- The term *ayas* used for copper or bronze shows that metal working was known.
- The most important divinity in the Rigveda is **Indra**, who is called **Purandar** (breaker of forts).
- Indra played the role of a warlord and he is also considered to be the rain god. 250 hymns are devoted to him in Rigveda.
- **Agni** was only next to Indra. He is the fire god to which 200 hymns are devoted. Agni acted as a kind of intermediary between the gods on the one hand, and the people on the other
- The third important position is occupied by **Varuna**, who personified water.
- **Soma** was considered to be the god of plants and an intoxicating drink was named after him.
- Society was patriarchal and the eldest male of the *kutumba* was the head of the family.
- Varna system based on birth was not prevailing in this period.
- The four varnas (*brahmana*, *kshatriya*, *vaishya* and *shudra*) were mentioned for the first time in the **Purushsukta** of Mandal X of Rigveda.
- Every member of same family was free to take any occupation.
- The smallest unit of society was family which was primarily monogamous and patriarchal.
- The *niyoga* system provided a childless widow could remarry the younger brother of her deceased husband for the sake of progeny.
- Child marriage was not in vogue.
- The fathers property was inherited by son. The daughter could inherit it, only if the she was the only child or her parents.

Later Vedic Aryans

- The later vedic Aryans expanded from Punjab over the whole of western Uttar Pradesh covered by the Ganga-Yamuna doab.
- The political system of the later vedic Aryans shifted towards monarchy.
- The king now ruled over an area of land called *Janapada*.
- The kingship was being given the status of divine origin. Expressions like *adhiraja*, *rajadhiraja*, *samrat* and *ekrat* are used in most of the texts.
- Women were no longer permitted to sit in the *sabha* and it was now dominated by nobles and Brahmans.
- King performed the *rajasuya* sacrifice which was supposed to confer supreme power on him.
- He performed the *ashvamedha* sacrifice which meant unquestioned control over an area in which the royal horse ran uninterrupted.
- He also performed *vajapeya* sacrifice or chariot race, in which the royal chariot was made to win the race against his kinsmen.
- Agriculture became primary occupation in later vedic times, though cattle rearing continued as secondary occupation.
- Rice (*vrihi*) and wheat (*Godhuma*) became the chief crops of the later vedic aryans, though they continued to produce barley (*yava*).
- Few agricultural tools made of iron were used. Later vedic texts speak of six, eight, twelve and even twenty-four oxen yoked to the plough.
- The plough was known as *sira* and the furrow was known as *sita*.
- A new metal *iron* was introduced in the vedic age.
- It was known as *shyam ayas* and copper was known as *lohit ayas*.
- The later vedic people were acquainted with four types of pottery-black and red ware, black slipped ware, painted grey ware and red ware.
- The medium of exchange was the cow and some types of jewellery.
- In later vedic period varna came to be birth based rather than profession based.

Occupation Based Four Varnas	
Teacher and priests	Brahmanas
Rulers, Administrators	Kshatriyas
Farmer, Merchant, Bankers	Vaishyas
Artisan and Labourers	Sudras

- All the three higher varnas were entitled to *upanayana* or investiture with the sacred thread according to the vedic mantras.
- The fourth varna (*shudra*) was deprived of the sacred thread ceremony and the recitation of the gayatri mantra.
- Incidents of polygamy and child marriage increased as compared to early vedic period.
- The two outstanding Rigvedic gods, Indra and Agni lost their former importance.
- The concept of *trimutri* emerged by which *Prajapati* (creator), *Rudra* (god of animals) and *Vishnu* (preserver and protector) came into being.
- **Pushan**, who was supposed to look after cattle, came to be regarded as the god of the *shudras*, although in the age of Rigveda cattle rearing was the primary occupation of the Aryans.
- The *brahmanas* claimed a monopoly of priestly knowledge and expertise.

BUDDHISM & JAINISM

Evolution of Jainism and Buddhism

Causes of Origin

- In the post vedic times the condition of the *shudras* further deteriorated. The shudras were meant for serving the higher three varnas, and along with the women were barred from taking to vedic studies.
- *Shudras* were called cruel, greedy and thieving in habits, and some of them were treated as untouchables.
- The *Kshatriya* reaction against the domination of priestly class was one of the causes of origin of new religions.
- Vardhamana Mahavira and Gautam Buddha belonged to the *Kshatriya* clan and both disputed the authority of the *Brahmanas*.
- Vaishyas were the third in the varna hierarchy, so naturally they looked for some religion which would improve their position.

- Newer doctrines started propagating the idea of *Moksha* as the main aim of life in place of materialistic religion of the Vedas. This led to the religious transformation of the whole area and as many as 62 heterodox sects rose to the occasion.
- Some of the important sects were Buddhism, Jainism, Ajivaka and Charvaka.

Buddhism

1. Life of Buddha

- Siddhartha was born in 563 BC in a *Shakya Kshatriya* family in **Lumbini** near Kapilavastu (Nepal).
- His father's name was **Shuddhodhana** who was the chief of the Shakya clan.
- His mother's name was **Mahamaya** or **Mayadevi** who was a princess of Koshalan dynasty. She died after seven days of his birth.
- He belonged to Shakya clan, hence called **Shakya Muni**.
- He was raised by his foster mother **Gautami Prajapati**. Hence, he was known as **Gautama** also.
- He was married to **Yashodhara** and **Rahul** was born to them.
- At the age of 29, he left his home on his horse **Kantaka**.
- He got **Enlightenment** at the age of 35 at **Bodh Gaya** under a *pipal* tree on the bank of river *Nilanjana*. Hence, he was called *Buddha* – one who has got Enlightenment.
- He delivered his first sermon to his five disciples at Deer Park in Sarnath. This is known as '*setting in motion the wheel of law*'.
- Most of the sermons were given at Shravasti.
- He passed away at the age of 80 in 483 BC at *Kusinagar*.

Terms associated with Buddha	
Phases of Buddha's Life	Known as
Left home	Mahabhinishkramana
Meditation under Peepal tree at Bodh Gaya	Attained knowledge (Buddha)
First sermon	Dharmachakra-parivartana
Death	Mahaparinivana

2. Teachings of Buddhism

- The fundamental principles of Buddha's teachings are represented by the Four Noble Truths (*arya-satyas*) viz.

- (i) *Dukkha* (that the world is full of sorrow)
 - (ii) *Dukkha samuddaya* (that there are causes of sorrow)
 - (iii) *Dukkha Nirodha* (that this sorrow can be stopped)
 - (iv) *Dukkha nirodha-gamini pratipada* (path leading to cessation of sorrow)
- One could get out of this chain of suffering and achieve the final salvation (nirvana) by following the Eight Fold Path (Ashtangika Marga).
 - These Eight Fold Paths are:
 - (i) Right speech
 - (ii) Right action
 - (iii) Right means of livelihood
 - (iv) Right exertion
 - (v) Right mindfulness
 - (vi) Right meditation
 - (vii) Right resolution
 - (viii) Right view
 - Buddha summarised the whole process in three words viz. *Sila* (right conduct), *Samadhi* (right concentration) and *Prajna* (right knowledge).
 - Buddha advocated "*The Middle Path*" in which extremes are avoided.
 - Three vows of Buddhism are Buddha, Dhamma and Sangha.

3. Buddhist Literature

- It is also called Pali literature.
- *Sutta Pitaka*, *Vinay Pitaka* and *Abhidhamma Pitaka* are known of the tripitakas of Buddhism.
- Tripitakas are the most important holy books of Buddhism.
- *Sutta Pitaka* consists of sermons and teachings of Buddha.
- *Vinay Pitaka* is the collection of the rules governing the sangha and monks.
- *Abhidhamma Pitaka* deals with the philosophy of Buddhism.
- A small part of Sutta Pitaka is *Jataka Stories*. There are 550 stories related to the birth of Buddha which are meant to give moral teachings to the people.
- *Dipavamsa* and *Mahavamsa* are known as Ceylonese books. Ashoka sent his daughter and son to propagate Buddhism in Sri Lanka (Ceylon) where these books were compiled.

- *Milindapanho* is also an important book related to Buddhism. It is a collection of discussions between Indo-Greek king *Menander* (Milinda) and Monk *Nagasena*. Milinda posed several questions to Nagasena about Buddhism.
- *Buddha Charita*, a book written in Sanskrit is the biography of Buddha compiled by *Ashvaghosh*.

4. Sects of Buddhism

- There are three sects of Buddhism viz. Hinayana, Mahayana and Vajrayana.
 - (i) **Hinayana** (lesser vehicle): It was an orthodox group. The teachings of Buddha shall be obeyed strictly. Hinayana emphasised individual Salvation. They worshipped Buddha through symbols. No idol worship was allowed. This sect was mainly popular in Magadha, Sri Lanka and Burma.
 - (ii) **Mahayana** (greater vehicle): It was a sect with broader outlook. It followed the spirit of teachings of Buddha. They emphasised group salvation. They believed in semi-divine identity called *Bodhisattva*. They started worshipping Buddha through idols. They wrote scriptures in Sanskrit called *Vaipulyasutras*. *Kanishka* was the patron of Mahayana sect of Buddhism.
 - (iii) **Vajrayana** (vehicle of thunderbolt): It believed in super human powers. They had faith in miracles and tantra. It became popular in eastern India by 10th century AD. *Palas* patronised the Vajrayana sect of Buddhism.

5. Buddhist Architecture

- **Stupa:** It is a semi-domical structure. Ashoka constructed the most important stupa at Sanchi in MP.
- **Chaityas:** These are Buddhist temples constructed in caves. e.g. chaityas at Karle near Nasik.
- **Viharas:** These are the buildings constructed for the residence of monks. The first Vihara was erected by **Kumaragupta-I** at Nalanda which was called **Nalanda Mahavihara**.

Buddhist Councils

Sl.	Year/Place	Ruler/Patron	President	Importance
First	483 BC/Rajgriha	Ajatashatru	Mahakassapa	Compilation of Vinaya Pitaka and Sutta Pitaka
Second	383 BC/Vaishali	Kalashoka	Saba Kami	Buddhists split into Sthaviravadins and Mahasanghikas
Third	250 BC/Pataliputra	Ashoka	Mogaliputta Tissa	Abhidhamma Pitaka compiled
Fourth	100 AD/Kundala Van (Kashmir)	Kanishka	Vasumitra	Division into Hinayana and Mahayana sect

Jainism

- Jainas believe in 24 tirthankaras or great teachers or leaders of their religion.
- Rishabhdeva** is believed to be the first tirthankara by the Jainas. He was also known as **Adinath**.
- The twenty third Tirthankara, **Parshvanath** was the son of Ikshvaku king Ashvasena of Kasi.
- Rishabhdeva** and Arishtanemi are mentioned in the Rigveda.
- Vayu Purana** and **Bhagwat Purana** mention Rishabhdeva as the incarnation of Narayana.
- The twenty-fourth tirthankara was **Vardhamana Mahavira**.

1. Life of Mahavira

- Vardhamana Mahavira, was born in the village of **Kundagrama** near Vaishali in about 540 BC.
- His father **Siddhartha** was the chief of **Jnatrika** clan.
- His mother **Trisala** was the sister of Chetaka, an eminent Lichchhavi noble of Vaishali.
- He was married to **Yashoda** and lived a life of householder.
- His daughter's name was **Annoja** and his son in law was **Jameli**.
- He became an ascetic at the age of 30.
- At the age of 42, he attained **Kaivalya** i.e. the supreme knowledge and final deliverance from the bonds of pleasure and pain. Hence he was called **Kevalin**.
- He sat under a **sal** tree on the bank of river **Riju Palik** or **Riju Kala** in Jambhika gram near Vaishali for the attainment of Kaivalya.
- He died in 468 BC at the age of 72 at **Pawapuri**.

2. Teachings of Jainism

- Five Cardinal Truths of Jainism are:
 - Ahimsa** (non-injury to living beings)
 - Satya** (speaking the truth)

- Asteya** (non-stealing)
 - Aparigraha** (non-possession of property)
 - Brahmacharya** (continence or celibacy)
- First four of the above Cardinal Truths were originally given by Parshvanath. The fifth was added by Mahavira.
 - Five Cardinal Truths are called as **Panch Mahavratas** for monks and **Panch Anuvratas** for common people respectively.
 - The triratnas of Jainism are:
 - Samyaka Jnana** (Right knowledge)
 - Samyaka Vichara** (Right thought)
 - Samyaka Karma** (Right action)
 - According to Jainism it is not god's but man's deeds (karma) and the fruits there of (karmaphala) that shape the destiny of a man.
 - Jainism has given much wider definition to non-violence which includes non-violence of thought, speech and action.
 - Sallekhna** is an orthodox Jaina tradition in which a person accepts voluntary death by fasting.

3. Sects in Jainism

- It is believed that about two hundred years after the death of Mahavira a terrible famine broke out in Magadha.
- Chandragupta Maurya** was the king and **Bhadrabahu** was the chief of Jaina community at that time.
- Chandragupta and Bhadrabahu, along with their followers went to Karnataka leaving **Sthulabahu** incharge of the Jainas that remained in Magadha.
- The Jainas who went to Karnataka were called **Digambaras** (those who were stark naked) and the Magadhan Jainas were called **Shvetambaras** (those who put on white robes).
- Digambaras observed the tenets of Jainism very strictly while the Shvetambaras were liberal in approach.

4. Jaina Literature

- Jaina literature was first written in *Prakrit* and later in *Sanskrit*.
- *Purvas* literature is almost lost. Later literature consists of *12 angas, 12 upangas, 10 prakirnas, 6 chhedsutras* and *4 mulasutras*.
- Purvas were 14 in number.
- *Kalpasutra* was written by Bhadrabahu.

Jaina Councils

Sl.	Date/Place	Headed by	Result
1st	300 BC Pataliputra	Sthulabhadra	Jains divided into Shvetambara & Digambara
2nd	6th Century AD/Vallabhi	Devardhi Kshama-shraman	12 angas and 12 upangas were compiled

Similarities between Buddhism and Jainism

- Both deny the existence of God.
- Both have accepted the theories of karma, rebirth and moksha.
- Both believed that the way to liberation or to enlightenment is self-discipline and accepted Dhamma or Dharma is the way.
- Both emphasizes on meditation, self-improvement, compassion and non-violence to attain inner peace.
- Both Gautam Buddha and Mahavir belonged to princely families and not to priestly families.

Differences between Buddhism and Jainism

- Buddhism does not believe in the existence of soul whereas Jainism believes the existence of soul in every living being.
- According to Buddhism, a man attains moksha when he ends all the desires and can attain it while living in the world, but according to Jainism, moksha is freedom from miseries and can be attained only after death.
- Buddhism emphasizes the Eight Noble Paths whereas Jainism emphasizes on Tri Ratna.
- Most of the Jain texts are in Sanskrit and Prakrit, whereas Buddhist texts are in Pali.
- Buddhism spread to foreign countries, whereas Jainism did not travel outside the boundaries of India.

JANPADAS & MAHAJANPADAS

- The term Janapada consists of Janas means "man" or "subject" and Pada means foot".
- Janapada were merchants, artisans and craftsmen akin to marketplace or town surrounded by villages. With developments Janpadas became more powerful and turned into Mahajanpadas (great states).
- In ancient India, there were 16 Mahajanpadas. This period observed between 600 to 300 BC Era.

S.No.	Mahajanapadas	Capital	Present Places
1	Anga	Champa nagri	Bhagalpur and Munger (Bihar)
2	Assaka	Budanya	Godavari Valley
3	Avanti	Ujjain	Malwa (M.P.)
4	Chedi	Shuktimati	Bundelkhand (M.P.)
5	Gandhara	Taxila	Pakistan and Afghanistan
6	Kamboja	Rajpur	Kashmir and Afghanistan
7	Kashi	Varanasi	Varanasi (U.P.)
8	Kosala	Shravasti	Oudh (U.P.)
9	Kuru	Hastinapur/Indraprashta	Delhi and Meerut (U.P.)
10	Magadha	Rajgriha/ Patliputra	Patna and Gaya (Bihar)

Painting

The history of Indian paintings is just about as old as the history of the people of India. The most primitive instances of paintings in India can be traced back to cave paintings.

Types of Painting	Remarks
Mughal painting	Mughal painting is a style of Indian painting, generally confined to illustrations on the book and done in miniatures, and which emerged, developed and took shape during the period of the Mughal Empire between the 16th and 19th centuries.
Rajput painting	Rajput painting, a style of Indian painting, evolved and flourished, during the 18th century, in the royal courts of Rajputana.
Mysore painting	Mysore painting is an important form of classical South Indian painting that originated in the town of Mysore in Karnataka. These paintings are known for their elegance, muted colours and attention to detail. The themes for most of these paintings are Hindu Gods and Goddesses and scenes from Hindu mythology.
Tanjore painting	Tanjore painting is an important form of classical South Indian painting native to the town of Tanjore in Tamil Nadu. The art form dates back to the early 9th century, a period dominated by the Chola rulers, who encouraged art and literature.
Madhubani painting	Madhubani painting is a style of painting, practiced in the Mithila region of Bihar state. Themes revolve around Hindu Gods and mythology, along with scenes from the royal court and social events like weddings.
Pahari painting	The Pahari painting developed and flourished during 17th to 19th centuries stretching from Jammu to Almora and Garhwal, in the sub-Himalayan India, through Himachal Pradesh.

PRACTICE QUESTIONS

- Q.1** Where is "Pushkar Fair" held?
 (a) Jodhpur (b) Ajmer
 (c) Jaipur (d) Udaipur
- Q.2** Who among the following occupied the supreme position in the Later Vedic pantheon?
 (a) Indra (b) Prajapati
 (c) Agni (d) Varuna
- Q.3** 'Rath Yatra' at Puri is celebrated in honour of
 (a) Lord Rama (b) Lord Shiva
 (c) Lord Jagannath (d) Lord Vishnu
- Q.4** Maithili is primarily spoken in which state?
 (a) Bihar (b) Assam
 (c) West Bengal (d) Meghalaya
- Q.5** Bihu is a folk dance of which state?
 (a) Assam (b) Maharashtra
 (c) Odisha (d) Uttarakhand
- Q.6** The famous "Ganga Sagar Mela", an annual fair is held in which state of India?
 (a) Bihar
 (b) Jharkhand
 (c) Uttar Pradesh
 (d) West Bengal
- Q.7** Which among the following has inscribed Kumbh Mela on the Representative list of Intangible Cultural Heritage of Humanity?
 (a) WHO
 (b) UNCTAD
 (c) ADB
 (d) UNESCO
- Q.8** Who amongst the following is renowned in the field of painting?

- (a) Parveen Sultana
(b) Prof. T.N. Krishnan
(c) Ram Kinkar
(d) Raja Ravi Varma
- Q.9** What do the paintings of Ajanta depict?
(a) Ramayana (b) Mahabharata
(c) Jatakas (d) Panchantantra
- Q.10** In which State is the folk painting 'Madhubani' popular?
(a) West Bengal (b) Odisha
(c) Bihar (d) Assam
- Q.11** The Gandhara Art flourished during the period of
(a) Guptas (b) Mauryas
(c) Satavahanas (d) Kushans
- Q.12** Who was the pioneer of the Bengal School of Art?
(a) Nandlal Bose
(b) B.C. Sanyal
(c) Jamini Roy
(d) Abanindranath Tagore
- Q.13** Rajasthani and Pahari schools of art forms are famous for
(a) Music (b) Dance
(c) Sculpture (d) Painting
- Q.14** The Veda that contains charms and spells to ward off evils and diseases is
(a) Rigveda (b) Atharvaveda
(c) Samaveda (d) Yajurveda
- Q.15** A semi-circular structure with a dome shape roof erected over the sacred relics of Buddha is known as
(a) Stupas (b) Edicts
(c) Pillars (d) Monoliths
- Q.16** The first Satavahana ruler was
(a) Simuka (b) Govinda
(c) Sri Satakarni (d) Nahapana
- Q.17** Which among the following is the popular dance form of Maharashtra's musical theatre?
(a) Lavini (b) Nautanki
(c) Tamasha (d) Gatha
- Q.18** Which of the following is not true of Kanishka?
(a) Kanishka was the founder of Vikrama Era.
(b) He was a patron of Buddhism.
(c) He defeated the Chinese army led by Pan-Yang.
(d) He belonged to the Yuechi tribe.
- Q.19** 'Kuchipudi' dance originated in
(a) Andhra Pradesh (b) Karnataka
(c) Punjab (d) Rajasthan
- Q.20** What was the capital of the early Chalukyas?
(a) Badami (b) Kalyani
(c) Kanchi (d) Vengi
- Q.21** Which of the following places is well-known for the embroidery form of 'Chikankari'?
(a) Hyderabad (b) Jaipur
(c) Bhopal (d) Lucknow
- Q.22** Which is the most ancient musical instrument of India?
(a) Flute (b) Tabla
(c) Veena (d) Sitar
- Q.23** Ashoka sent missionaries to
(a) China and Kashmir
(b) Tibet and Ceylon
(c) Tibet and China
(d) Kashmir and Ceylon
- Q.24** Mallika Sarabhai is associated with which of the followings?
(a) Classical music
(b) Classical dance
(c) Social service
(d) Protection of environment
- Q.25** Who is believed to have created the ragga 'Miyan Ki Malhar'?
(a) Tansen (b) Baiju Bawra
(c) Amir Khusro (d) Swami Haridas
- Q.26** The Social System of the Harappans was
(a) Fairly egalitarian
(b) Slave Labour based
(c) Colour (Varna) based
(d) Caste based

- Q.125** Who was the first woman President of Congress?
 (a) Annie Besant (b) Sarojini Naidu
 (c) Nellie Sengupta (d) Aruna Asaf Ali
- Q.126** Who is generally acknowledged as the pioneer of local self-government in modern India?
 (a) Ripon (b) Mayo
 (c) Lytton (d) Curzon
- Q.127** The 'Mohammadan Anglo-Oriental College' later became the
 (a) Osmania University
 (b) Jamia Milia Muslim University
 (c) Baraktullah University
 (d) Aligarh Muslim University
- Q.128** Who among the following gave the safety valve theory for Indian National Congress?
 (a) Dadabhai Nairoji (b) M N Roy
 (c) Lala Lajpat Rai (d) Motilal Nehru
- Q.129** Who was the author of the Book, The Indian War of Independence, 1857?
 (a) Sir Syed Ahmad Khan
 (b) V.D. Savarkar
 (c) S.R. Sharma
 (d) R.C. Majumdar
- Q.130** The Indian National Congress met first at
 (a) Calcutta (b) Bombay
 (c) Madras (d) Allahabad
- Q.131** The British Prime Minister who convened the First Round Table Conference in London was
 (a) Churchill (b) Ramsay McDonald
 (c) Chamberlain (d) Disraeli
- Q.132** Who among the following did not attend the First Round Table Conference?
 (a) M. K. Gandhi
 (b) Sir Tej Bahadur Sapru
 (c) Dr. Ambedkar
 (d) C. Y. Chintamani

Answer Key Chapter 1 • History & Culture of India

- | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1. (b) | 2. (d) | 3. (c) | 4. (a) | 5. (a) | 6. (d) | 7. (d) | 8. (d) | 9. (c) |
| 10. (c) | 11. (d) | 12. (d) | 13. (d) | 14. (b) | 15. (a) | 16. (a) | 17. (a) | 18. (a) |
| 19. (a) | 20. (a) | 21. (d) | 22. (c) | 23. (b) | 24. (b) | 25. (a) | 26. (a) | 27. (c) |
| 28. (c) | 29. (a) | 30. (a) | 31. (c) | 32. (a) | 33. (d) | 34. (a) | 35. (d) | 36. (b) |
| 37. (d) | 38. (d) | 39. (b) | 40. (c) | 41. (a) | 42. (d) | 43. (a) | 44. (c) | 45. (c) |
| 46. (b) | 47. (a) | 48. (a) | 49. (d) | 50. (d) | 51. (b) | 52. (b) | 53. (a) | 54. (b) |
| 55. (c) | 56. (b) | 57. (c) | 58. (a) | 59. (c) | 60. (b) | 61. (d) | 62. (d) | 63. (c) |
| 64. (b) | 65. (d) | 66. (b) | 67. (d) | 68. (d) | 69. (a) | 70. (c) | 71. (b) | 72. (c) |
| 73. (b) | 74. (d) | 75. (b) | 76. (b) | 77. (c) | 78. (b) | 79. (c) | 80. (d) | 81. (c) |
| 82. (c) | 83. (c) | 84. (b) | 85. (c) | 86. (d) | 87. (c) | 88. (d) | 89. (d) | 90. (d) |
| 91. (d) | 92. (a) | 93. (b) | 94. (d) | 95. (c) | 96. (c) | 97. (c) | 98. (c) | 99. (b) |
| 100. (b) | 101. (a) | 102. (b) | 103. (c) | 104. (d) | 105. (d) | 106. (a) | 107. (a) | 108. (d) |
| 109. (c) | 110. (c) | 111. (a) | 112. (c) | 113. (b) | 114. (a) | 115. (d) | 116. (b) | 117. (a) |
| 118. (c) | 119. (c) | 120. (b) | 121. (a) | 122. (b) | 123. (a) | 124. (b) | 125. (a) | 126. (a) |
| 127. (d) | 128. (c) | 129. (b) | 130. (b) | 131. (b) | 132. (a) | | | |