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ABOUT THE BOOK

This book has been prepared in a collaboration of Agrawal Examcart experts team and Mr. Prateek Shivalik. We have gone through a lot of hard work in bringing out this book series. The team has collected the theory and questions from authentic sources, provided detailed solutions to each question and then converted into the format of a guidebook. The solutions in this book have been written by experts who have vast teaching experience and commendable track record of selecting students. That's why each solution is accurate and easy to understand. Many times the questions in our book are similar to the paper and hence we believe that solving these important questions and theory from this guidebook will definitely help you prepare for your exams and score well.

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Mock Paper

1-12

➤ Mock Paper

1-12

History of Ancient India

1. History and Its Sources

- History is the study of past events in chronological order. History helps us to understand those processes that enabled the early humans to successfully conquer their environment and develop the present day civilizations.
- Division of History: History is generally divided into three time periods - prehistory, proto- history and history.
 - Prehistory:** The prehistoric period is the time when writing had not been invented. Hence there are no written records of this period. Our knowledge of prehistory is based entirely on archaeology. Archaeologists study the physical remains of the past such as pots, jewellery, tools, coins, bones etc. to know about this period.
 - Proto - history:** This is the period for which we do have written records but they are very few and cannot be read. So archaeological sources are the main source of information for this period also. An example for this period is the Indus Valley Civilisation.
 - History:** The time period after the invention of writing is called history. Early writing was done on rocks, pillars, copper plates, clay tablets, palm leaves and on the barks of birch trees. Although much of this evidence has been destroyed over the time, those that remain are a rich source of information.
- Dates in History:** BCE stands for Before the Common Era and CE stands for Common Era. The years expressed in BCE are counted backwards. For example 100 BCE comes before 99 BCE. The years expressed in CE are counted forwards. For example, 99 CE comes before 100 CE.
- Sources of History:** Sources help us to understand our history. These sources are of two types: archaeological sources and literary sources. The literary source includes literature of Vedic, Sanskrit, Pali, Prakrit, and other literature along with other foreign accounts. The archaeological source includes epigraphic, numismatic, and other architectural remains.

2. World Civilisations and the Indus Valley Civilisation

- Indus Civilisation:** The Indus Valley (Harappan) Civilisation represents the first phase of urbanisation in India. This civilisation belonged to the 'Bronze Age'.

This civilisation covers an area of over 1.5 million square kilometres in India and Pakistan. Sutkagen-Dor in the west on the Pakistan– Iran border Shortugai (Afghanistan) in the north Alamgirpur (Uttar Pradesh in India) in the east and Daimabad (Maharashtra in India) in the south are the boundaries within which the Harappan culture has been found. Its main concentration was in the regions of Gujarat, Pakistan, Rajasthan and Haryana.

- Harappa, one of the oldest cities in the subcontinent and on the banks of river Indus, was the first city to be discovered. As it flourished on the banks of river Indus, it was named as "Indus Valley Civilization".
- Harappan culture is divided into various phases i.e. Early Harappan (3000-2600 BCE), Mature Harappan (2600-1900 BCE) and Late Harappan (1900-1700 BCE).
- The Indus valley site of Harappa was first visited by Charles Mason in 1826 CE, and Amri by Alexander Burnes in 1831. Alexander Cunningham, the first surveyor of the Archaeological Survey of India (ASI) visited this site in 1853, 1856 and 1875.
- In 1924 the Director General of ASI, **Sir John Marshall**, found many common features between Harappa and Mohenjo-Daro (First sites to be excavated). He concluded that they were part of a large civilisation. The archaeological site at Mohenjo-Daro was declared as a World Heritage Site by UNESCO in 1980.
- Time Span of Indus Civilisation**
 - Geographical range: South Asia
 - Period:** Bronze Age
 - Time:** 3300 to 1900 BCE (determined using the radiocarbon dating method)
 - Area:** 13 lakh sq km
 - Cities:** 6 big cities
 - Villages:** More than 200
- Important Sites of Harappa Civilization**
 - Harappa** is situated in Sahiwal District, Punjab on the banks of Ravi. It was excavated in 1921.
 - Mohenjo-Daro** is situated in Larkana District of Sind on the bank of Indus. It was excavated in 1922. It is the largest site of this civilisation.
 - Amri** is situated close to Balochistan, on the bank of Indus River. It was excavated in 1935.

- ❖ **Lothal** is situated in Gujarat on Bhogva River near the Gulf of Cambay. It was excavated in 1953. It is known for its dockyard.
- ❖ **Dholavira** is situated in Gujarat in Rann of Kutch. It was excavated in 1985.
- ❖ **Kalibangan** is situated in Rajasthan on the bank of Ghaggar River. It was excavated in 1953.
- ❖ **Manda** is situated on the right bank of Chenab River. It was excavated in 1976-77.
- ❖ **Kotdiji** is situated on the banks of Indus River in Pakistan. It was excavated in 1955 and 1957.
- ❖ **Chanhudaro** is situated in Sindh, Pakistan and was excavated in 1931.
- ❖ **Shortughai** and **Mundigak** sites are situated in Afghanistan.



Do You Know?

- ★ Gola Dhero is an archaeological site belonging to the Indus Valley civilization, situated at the head of the Gulf of Kutch, near Bagasara in Kutch district of Gujarat, India. The site contains a small fortified area of approximately 50 x 50 m with living quarters and manufacturing sites both inside and outside this area..

Unique Features of Harappan Civilisation:

- ❖ Systematic town - planning on the lines of 'grid system'
- ❖ Use of burnt bricks in constructions
- ❖ Underground drainage system (giant water reservoirs in Dholavira)
- ❖ Fortified citadel (exception - Chanhudaro)



Do You Know?

- ★ Sumerians used to call the Indus People **Meluha**. Sumerian text refers to Bahrain as **Dilmun** and Makran Coast as **Makan**.

- It is believed that Merchants were the ruling authority in the Indus civilisation.
- As far as religion is concerned, no temple has been unearthed. The figurine of Mother Goddess (Maitridevi or Shakti) refers to the worship of Yoni (Female Sex Organ). Phallic (Lingam) worship was also prevalent.
- Pashupati Mahadeva or the Lord of Animals or Proto Shiva was the chief male deity. A seal has been found that represents a yogi surrounded by four animals (elephant, tiger, rhino and buffalo) and two deer appear at his feet.



Do You Know?

- ★ Harappans created sculptures, seals, pottery and jewelry from materials such as terracotta, metal and stone.

- ★ **Script:** The script of Indus valley was pictographic. This script has not been deciphered so far. The writing was boustrophedon and written from right to left and from left to right in alternate lines.
- ★ The dead were buried.

3. The Vedic Age (1500-600 BC)

- After the decline of the Indus Valley Civilization around 1200 BC, the land was occupied by the Aryans around 1500 BC. The term Aryan means 'noble'.
- The land occupied by them was referred to as 'Sapta Sindhu' which means 'The Land of Seven Rivers'. The seven rivers included Sindhu (Indus), Vitasta (Jhelum), Asikni (Chenab), Parushni (Ravi), Vipash (Beas), Shutudri (Sutlej) [all in Punjab] and the Sarasvati (Sarsuti) in Rajasthan. Other rivers were Drishadvati (Ghaggar) in Rajasthan, Kubha (Kabul), Suwastu (Swati), Krumu (Kurram) and Gomati (Gomal) [All in Afghanistan].

Original Homeland of Aryans according to Different Scholars

Homeland	Scholar
Arctic Region	Bal Gangadhar Tilak
Tibet	Swami Dayanand Saraswati
Central Asia	Max Muller
Turkistan	Hun Feldt
Bactria	J.C. Rod
Sapta Sindhu	Dr. Avinash Chandra Das and Dr. Sampurnanand
Kashmir & Himalayan Region	Dr. L. D. Kala
Europe	Sir William Jones
Steppes	P. Nehring
Western Siberia	Morgan

Time, Spread and Sources

Geographical range	North India
Period	Iron Age
Time	1500 BC (BCE) – 600 BC (BCE)
Sources	Vedic Literature
Nature of Civilisation	Rural

- It is believed that the Aryans had migrated from Central Asia into the Indian subcontinent in the form of several waves during 2000 BC - 1500 BC. This can be proved by the Boghazkoi Inscription found in Asia Minor, Turkey. This Inscription mentions four vedic gods i.e. Indra, Varuna, Mitra and Nasatyas.

- The Vedic Age has been divided into two periods i.e. Early Vedic (Rigvedic) period (1500-1000 BC) and Later Vedic Period (1000-600 BC).
- **Vedic Literature:** The Vedic Literature has been classified into two categories i.e. Shrutis and Smritis.
 - ❖ **Shruti:** Vedic Literature is known as “Shruti” as it has been handed down from generation to generation by word of mouth. Please note that the term ‘Shruti’ means “To Hear”. The Shrutis comprise the four Vedas, the Brahmanas, the Aranyakas and the Upanishads.
- **Vedas:** These are called Apaurusheya (not created by man but God - gifted) and Nitya (existing in all eternity). There are four Vedas: Rig Veda, Sama Veda, Yajur Veda and Atharva Veda.
- The first three Vedas (Rig Veda, Sama Veda and Yajur Veda) are collectively known as Vedatrayi (Trio of Vedas).
 - ❖ **Rig Veda:** The Rig Veda is a Collection of hymns (lyrics). It is the oldest text in the world. It is also known as 'the first testament of mankind'. It contains 1028 hymns which have been divided into 10 mandalas.
 - ❖ Six mandalas (From 2nd to 7th mandalas) are called Gotra/Vamsha Mandalas (Kula Granth). It is believed that the 1st and 10th mandalas were added later. Purusha Sukta, which contains the information about four varnas i.e. Brahmana , Kshatriya , Vaishya and Shudra, are in the 10th mandal. The hymns of Rig Veda were recited by Hotri.
 - ❖ In Rig Veda, Himalaya and Hindukush mountains have been referred to as Himvant and Munjavant respectively.
 - ❖ Rig Veda has the mention of 40 rivers and 21 rivers have been mentioned in the Nadi Sukta. It mentions the Ganges in the East and the Kubha in the West.
 - ❖ As per Rig Veda, Sindhu was the most mentioned river while Saraswati was the most pious river. River Ganges has been mentioned once while river Yamuna has been mentioned thrice.
 - ❖ **Sama Veda:** It is a book of chants and is associated with music. It has 1549 hymns and all hymns (excluding 75) were taken from the Rig Veda. The hymns of the Sama Veda were recited by Udgatri.



Do You Know?

- ★ The Shvetashvatra Upanishad is embedded in Yajur Veda.
- ★ **Yajur Veda:** This is a book of sacrificial prayers. The hymns of the Yajur Veda were recited by Adhvaryus. It has two parts i.e. Krishna Yajur Veda (Entirely Verse) and Shukla Yajur Veda (Both Verse and Prose).

★ The Atharva Veda (book of magical formulae) , the fourth and the last one , contains charms and spells to ward off evils and diseases . For a very long time it was not included in the category of the Vedas .

- **Upanishads:** The Upanishads are philosophical texts . They are generally called Vedanta , as they came towards the end of the Veda . There are 108 Upanishadas . Brihadaranyaka is the oldest Upanishada .
 - ❖ Smriti is a body of texts containing teachings on religion such as Ithihasas, Puranas, Tantras and Agamas. These are not eternal. They are constantly revised. The term 'Smriti' means definite and written literature. It comprises of 06 world i.e. Vedangas/ Sutras, Smrtitis Dharmashastras, Mahakavyas (Epic), Puranas, Upvedas and Shad-Darshanas.
- **Mahakavyas:** There are mainly two Mahakavyas (Epics):
 - ❖ **The Ramayana or Adi Kavya** was authored by Valmiki. It is the oldest epic in the world. It consists of 24,000 shlokas i.e. verses (Originally 6,000 , Later - 12,000 , Finally - 24,000) in 7 Kandas. 1st and 7th Kandas were the latest additions.
 - ❖ **The Mahabharata** was authored by Ved Vyasa. It is the longest epic in the world. At present , it consists of 1,00,000 slokas i.e. verses and 18 Parvas with Harivamsa as a supplement. The Bhagavad Gita is extracted from Bihshma Parvan of Mahabharata. Shanti Parva is the largest parva (chapter) of the Mahabharata. [Originally it had 8,800 shlokas and was known as Jay Samhita. Later it had 24,000 slokas and was known as Chaturvinshati Sahastri Samhita / Bharata. Finally, it had 1,00,000 and was known as Shatasahastri Samhita / Maha Bharata.
- **Puranas:** There are 18 famous Puranas. The **Matsya Purana** is the oldest Puranic text. The other important Puranas are the Bhagavata Purana, the Vishnu Purana and the Vayu Purana. They describe genealogies of various royal dynasties .

4. Mahajanapada Period (600 BC-325 BC)

- During the sixth Century BC (BCE) many territorial states emerged. This Led to the transformation of socio – economic and political life of the people in the Gangetic plains. A new intellectual awakening began to develop in northern India. Mahavira and Gautama Buddha represented this new awakening.
- The capital cities of the mahajanapadas and some other cities, which flourished because of prospering trade once again brought the age of urbanisation in India. It is known as the ‘Second Urbanisation’.
- **These sixteen Mahajanpads (established in Iron age) were as follows:**
 - ❖ **Magadha (Patna, Gaya and Nalanda districts):** The first capital was Rajagriha and the later capital was Pataliputra.

- ❖ **Anga and Vanga (Munger and Bhagalpur):** The capital was Champa. It was a prosperous business centre.
- ❖ **Malla (Deoria, Basti, Gorakhpur region):** The capital was Kushinagar. It was the seat of many other smaller kingdoms. Their main religion was Buddhism.
- ❖ **Vatsa (Allahabad and Mirzapur):** The capital was Kaushambi. The most important ruler of this kingdom was King Udayan.
- ❖ **Kashi (Benaras):** The capital was Varanasi. Though many battles were fought against the Kosala kingdom, eventually Kashi was merged with the Kosala kingdom.
- ❖ Kosala (Ayodhya)
- ❖ Vajji (Muzaffarpur and Vaishali)
- ❖ Kuru (Thaneswar, Meerut and present-day Delhi)
- ❖ Panchala (Western Uttar Pradesh)
- ❖ Matsya kingdom (Alwar, Bharatpur and Jaipur)
- ❖ Ashmaka (Between Narmada and Godavari)
- ❖ Gandhara (Peshawar and Rawalpindi)
- ❖ Kamboj (Hazara district of Pakistan, North-East Kashmir)
- ❖ Avanti (Malwa)
- ❖ Chedi (Bundelkhand)
- ❖ Shurasena (Braj Mandal)

5. Jainism and Buddhism

- The Sixth Century BC (BCE) is regarded as an important period in the history of ancient India. A new civilisation began to develop in northern India, with the revival of trade and urbanisation during the sixth century BC (BCE). In this period of major political and social changes in north India, Buddha and Mahavira were born. In the century following their death, Buddhism and Jainism took root as major religions in India.
- **Jainism:** The word Jain derives from the Sanskrit word “Jina”, which means conquering self and the external world. Jainism is one of the world’s oldest living religions. Jainism grounds itself in 24 Tirthankaras.
- A ‘Tirthankara’, is the one who revealed religious truth at different times. The first Tirthankara was Rishabha and the last one was Mahavira. Jainism gained prominence under the aegis of Mahavira, during the sixth century BC (BCE).



Do You Know?

- ★ Parshvanath was the 23rd Tirthankara of the Jains.
- ★ The last and 24th Tirthankara of the Jains was Vardhamana Mahavira.

- ★ Vardhamana Mahavira was born in 599 BC (BCE) at Kundagrama near Vaishali. His mother was Trishala, a Lichchavi princess. He spent his early life as a prince and was married to a princess named Yashoda. The couple had a daughter.
- ★ At the age of thirty, he left his home and became an ascetic. For over twelve years, Mahavira wandered from place to place, subjecting himself to severe penance and self-mortification.
- ★ He was a kshatriya prince of the Lichchavis, a group that was part of the Vajji sangha. At the age of 30, he left home and went to live in a forest
- ★ For over twelve years, Mahavira wandered from place to place, subjecting himself to severe penance and self-mortification.
- ★ In the thirteenth year of his asceticism, he acquired the highest knowledge or omniscience (the ability to know everything or be infinitely wise) or supreme knowledge and came to be known as Jaina (the conqueror), Mahavira (great hero) and Kevala. Thereafter, he became Jina meaning ‘one who conquered worldly pleasure and attachment’.
- ★ He taught a simple doctrine: men and women who wished to know the truth must leave their homes. They must follow very strictly the rules of ahimsa, which means not hurting or killing living beings.
- ★ Followers of Mahavira, who were known as Jainas, had to lead very simple lives.
- ★ Mahavira travelled extensively as a preacher in the kingdoms of Magadha, Videha and Anga. Magadha rulers Bimbisara and Ajatashatru were influenced by his teachings.
- ★ After 30 years of preaching, Mahavira died at Pawapuri in 527 BC (BCE) at the age of seventy two.

- **Tri-rathnas or Three Jewels:** Mahavira exhorted the three – fold path for the attainment of moksha (Liberation from the cycle of birth and death) and for the liberation from Karma. They are:
 - ❖ **Right Faith (Samyak Darshan):** Belief in the teachings and wisdom of Mahavira.
 - ❖ **Right Knowledge (Samyak Jnana):** Belief in the teachings and wisdom of Mahavira.
 - ❖ **Right action (Samyak Charitra):** It refers to the Mahavira’s observance of the five great vows i.e. Ahimsa, Honesty, Kindness, Truthfulness and Not coveting or desiring things belonging to others.
- **Jain Code of Conduct/Five Doctrines of Jainism:** Mahavira asked his followers to live a virtuous life. In order to live a life filled with sound morals, he preached five major principles to follow. They are:
 - ❖ **Ahimsa** - not to injure any living beings
 - ❖ **Satya** - to speak truth

- ❖ **Asteya** - not to steal
- ❖ **Aparigraha** - not to own property
- ❖ **Brahmacharya** - Celibacy



Do You Know?

- ★ The concept of Anuvrata was advocated by Jainism. The five cardinal principles of Jainism, if followed by a monk, is called Mahavrata and if observed by a lay follower, then it is called Anuvrata.
 - ★ Gautama Swami, a chief disciple of Mahavira, compiled the teachings of Mahavira, called Agama siddhanta.
 - ★ The statue of Bahubali (known as Gomateswara, 57 feet) at Shravanabelagola in Karnataka is the tallest Jain statue ever carved out in India.
 - ★ Only the fifth doctrine was added by Mahavira. The others were taken from his previous teachers.
 - ★ According to Jainism, the universe is a creation of six non-destructible elements:
 - Jeeva (Soul)
 - Ajeeva (Physical matter)
 - Dharma
 - Adharma
 - Kal
 - Akash
 - ★ They believed in the plurality of souls.
 - ★ Mithila was the home of three scholar sages - Gargi, Kapila and Maitreya.
 - ★ The city of Mithila is identified as modern day Janakpur in Dhanusa district of Nepal.
 - ★ Maitreya is a Bodhisattva, who according to the Buddhist texts, will be the next incarnation of Gautam Buddha.
- **Sects/Schools of Jainism:** Jain order has been divided into two major sects: Digambara and Shwetambara. The division occurred mainly due to famine in Magadha which compelled a group led by Bhadrabahu to move South India.
 - During the 12 years famine, the group in South India stuck to the strict practices while the group in Magadha adopted a more lax attitude and started wearing white clothes.
 - After the end of famine, when the Southern group came back to Magadha, the changed practices led to the division of Jainism into two sects.
 - ❖ **Digambara:** Monks of this sect believe in complete nudity. Male monks do not wear clothes while female monks wear unstitched plain white sarees. Follow all five vows (Satya, Ahimsa, Asteya, Aparigraha and Brahmacharya). Believe women cannot achieve liberation. Bhadrabahu was an exponent of this sect.
 - ❖ **Shwetambara:** Monks wear white clothes. Follow only 4 vows (except brahmacharya). Believe women can achieve liberation. Sthulabhadrā was an exponent of this sect.
 - The following are the main reasons for the wide acceptance of Jainism in India :
 - ❖ Use of people's language.
 - ❖ Intelligible teachings.
 - ❖ Support from rulers and traders.
 - ❖ Perseverance of Jain monks.
 - **Jain Councils:**
 - ❖ **First Jain Council:**
 - It was held at Patliputra in the 3rd Century B.C. and was presided over by Sthulbhadrā.
 - The compilation of 12 Angas was done to replace Purvas.
 - ❖ **Second Jain Council:**
 - It was held at Vallabhi(Gujarat) in 512 A.D. and was presided over by Devardhi Kshmasramana.
 - It led to the final Compilations of 12 Angas and 12 Upangas.
 - **Decline of Jainism:** The lack of royal patronage, its severity, factionalism and spread of Buddhism led to the decline of Jainism in India.
 - **Buddhism:** Gautama Buddha was the son of Suddhodana, the chief of a Kshatriya clan of the Sakyas of Kapilavastu in present-day Nepal. His given name was Siddhartha. As he belonged to the Sakya clan, he was also known as 'Sakya Muni'.
 - He was born in 540 BC in Lumbini Garden, near Kapilavastu. His mother, Mayadevi (Mahamaya), died after a few days of his birth and he was brought up by his step-mother Gautami. In order to divert his attention towards worldly affairs, his father got him married at the age of sixteen to a princess called Yashodhara. He led a happy married life for some time and had a son by name Rahul.
 - He wandered for several years, meeting and holding discussions with other thinkers
 - He became ascetic after "Four Great Sights". Four Great Sights At the age of 29, Siddhartha saw four sorrowful sights. They were:
 - ❖ An uncared old man in rags with his bent back.
 - ❖ A sick man suffering from an incurable disease.
 - ❖ A man's corpse being carried to the burial ground by weeping relatives.
 - ❖ An ascetic
 - Siddhartha was deeply moved by these sights. He also saw an ascetic who had renounced the world and found no

sign of sorrow. These 'Four Great Sights' prompted him to renounce the world and search for the cause of suffering.

- In 512 BC, he left his palace and went into the forest in search of truth. In the course of his wanderings, he sat under a peepal tree for several days until he attained enlightenment.
- The place where he attained enlightenment, the Mahabodhi temple, still exists in Bodh Gaya (Bihar). After his enlightenment, Buddha decided to impart his knowledge to the people.
- He went to Varanasi and gave his first sermon at Sarnath. He preached in the kingdoms of Magadha and Kosala. A large number of people became his followers including his own family. After forty five years of preaching, he breathed his last in 483 BC (BCE) at Kushinagar (near Gorakhpur in Uttar Pradesh) at the age of eighty.
- **Buddha's Four Noble Truths**
 - ❖ **Dukha (The truth of suffering):** As per Buddhism, everything is suffering (Sabbam Dukham). It refers to the potential to experience pain and not only the actual pain and sorrow experienced by an individual.
 - ❖ **Samudaya (The truth of the cause of suffering):** Trishna (desire) is the main cause of suffering. Every suffering has a reason and it is a part and parcel of living.
 - ❖ **Nirodha (The truth of the end of suffering):** the pain/sorrow can be ended by the attainment of Nibbana/Nirvana.
 - ❖ **Ashtangika-Marga (The truth of the path leading to the end of suffering):** the end to the suffering is contained in the eightfold path.
- **Eight-Fold Paths:** It consists of various interconnected activities related to knowledge, conduct, and meditative practices.
 - ❖ Right view (Samma Ditthi)
 - ❖ Right intention (Samma Sāṅkappa)
 - ❖ Right speech (Samma Vecca)
 - ❖ Right action (Samma Kammanta)
 - ❖ Right livelihood (Samma Ajiva)
 - ❖ Right mindfulness (Samma Sati)
 - ❖ Right effort (Samma Vyayama)
 - ❖ Right concentration (Samma Samadhi)
- **The Wheel of life:** It represents the Buddhist view of the world.



Do You Know?

- ★ This event is known as 'Dhamma Chakka Pavattana' meaning 'turning the wheel of dharma'. This event was held at Sarnath,
- ★ Buddhist Sangha: Buddha laid foundation for a missionary organisation called Sangha, meaning

'association' for the propagation of his faith. The members were called bhikkhus (monks). They led a life of austerity.

- ★ **Chaitya** – A Buddhist shrine or a meditation hall.
 - ★ **Viharas** – Monasteries/living quarters for monks.
 - ★ **Stupas** – Built over the remains of Buddha's body, they are monuments of great artistic value.
- **The Split in Buddhism:** During the reign of Kanishka, the Buddhist monk Nagarjuna initiated reforms in the way Buddhism was being followed. As a result, Buddhism was split into two as Hinayana and Mahayana.
 - ❖ **The Hinayana (Lesser Vehicle):** It was the original creed preached by Buddha. The followers of this form regarded Buddha as their guru and did not worship him as God. They denied idol worship and continued with the people's language, Pali.
 - ❖ **Mahayana (Greater Vehicle):** In this sect, Buddha was worshipped as God and Bodhisattva as his previous avatar. The followers made images and statues of Buddha and Bodhisattva and offered prayers, and recited hymns (mantras) in their praise. Later, they wrote their religious books in Sanskrit. This form of Buddhism was patronised by Kanishka.
 - **Theravada:** It is the most ancient branch of extant Buddhism today. It remains closest to the original teachings of the Buddha. Theravada Buddhism developed in Sri Lanka and subsequently spread to the rest of South-East Asia. It is the dominant form of religion in Cambodia, Laos, Myanmar, Sri Lanka, and Thailand.
 - **Vajrayana:** Vajrayana means "The Vehicle of the Thunderbolt", also known as tantric Buddhism. This Buddhist school developed in India around 900 CE. It is grounded on esoteric elements and a very complex set of rituals compared with the rest of the Buddhist schools.
 - **Zen:** It is a school of Mahayana Buddhism that originated in China during the Tang dynasty as the Chan school of Chinese Buddhism in and later developed into various schools. It spread to Japan in the 7th century C.E. Meditation is the most distinctive feature of this Buddhist tradition.
 - **Causes for the Spread of Buddhism:**
 - ❖ Simplicity of the teachings of Buddha in the local language appealed to people.
 - ❖ Buddhism rejected elaborate religious customs whereas the practice of orthodox Vedic religion insisted on expensive rituals and sacrifices.
 - ❖ Buddha's emphasis was on observance of Dhamma.
 - ❖ Buddhist Sanghas played an important role in spreading the messages of Buddha.

Buddhist Councils

Order	Place	Patron king
First	Rajgriha	Ajatshatru
Second	Vaishali	Kalashoka
Third	Patliputra	Ashoka
Fourth	Kashmir	Kanishka

- **Tripitakas:** The Vinaya Pitaka consists of rules of conduct and discipline applicable to the monastic life of the monks and nuns.
- The Sutta Pitaka consists of the main teaching or Dhamma of Buddha. It is divided into five Nikayas or collections:
 - ❖ Digha Nikaya
 - ❖ Majjhima Nikaya
 - ❖ Samyutta Nikaya
 - ❖ Anguttara Nikaya
 - ❖ Khuddaka Nikaya
- The Abhidhamma Pitaka is a philosophical analysis and systematisation of the teaching and the scholarly activity of the monks.
- Other important Buddhist texts include Divyavadana, Dipavamsa, Mahavamsa, Milind Panha etc.
- Vamsathapakasini was the last Buddhist text written in India. It gives us information about the origin of the Mauryas.
- Silappadikaram and Manimekalai are books related to Buddhism, found in Tamil Literature. These are written by Ilango Adigal, a buddhist monk.

6. Rise of Magadha

- The political history of India from the 6th century BC onwards is the history of struggle between four states—Magadha, Kosala, Vatsa and Avanti—for supremacy.
- The Magadha kingdom eventually became the most powerful and was able to establish an empire.
- **Causes of Magadha's success:**
 - ❖ Magadha benefited from a favourable geographic location during the era of iron because Rajgir, the first city of Magadha, was close to the richest iron mines, which could be exploited to produce weapons.
 - ❖ Magadha was located in the centre of the Gangetic plain. After the jungles were removed, the alluvium proved to be incredibly fruitful, resulting in an abundance of food.
 - ❖ Magadha benefited specifically from a favourable military structure. Even though the Indian states were well accustomed to using horses and chariots, it was Magadha that employed elephants extensively for the first time in a fight against neighbours.

● Haryanka Dynasty (544 BC-412 BC):

- ❖ **Bimbisara/Shronika (544 BC-492 BC):** He was the founder of the Haryanka dynasty. Magadha rose to prominence under Bimbisara's direction.
- ❖ He lived at the same time as Gautama Buddha. In order to further his expansionist policy, he married the princesses of Kosala (Kosaladevi/Maha Kosala/sister of Kosala monarch Prasenjit), Lichchhavi (Chellana-sister of Lichchhavi Head Chetaka), and Madra (KHEMA-daughter of Madra monarch).
- ❖ In exchange for his marriage to the sister of King Prasenjit of Kosala, he received a part of Kashi as dowry.
- ❖ He conquered Anga. When Avanti King Pradyota became ill with jaundice, he sent a royal physician, Jivaka, to Ujjain.
- ❖ He was known as Seniya. He was the first Indian king who had a regular and standing army.
- ❖ He built the city of New Rajagriha.
- ❖ **Ajatashatru/Kunika (492 BC - 460 BC):** Bimbisara was succeeded by his son Ajatashatru. After killing his father, Ajatashatru ascended to the throne.
- ❖ Ajatashatru adopted a more assertive approach. By assaulting his maternal uncle Prasenjit, the king of Kosala, he took full control over Kashi and shattered the earlier cordial ties.
- ❖ The next target of Ajatashatru's assault was the Vajji federation. According to tradition, this conflict lasted for 16 years, and the only way he was able to vanquish the Vajji was via trickery, by spreading the seeds of discontent among the Vajji people.
- ❖ The three things who played important role to defeat the Vajji— (i) Sunidha and Vatsakar-Ajatashatru's diplomatic ministers, who sowed the seeds of discord amongst Vajjis, (ii) Rathamusala—a kind of chariot to which a mace was attached (iii) Mahashila Katak war engine which catapulted big stones.
- ❖ By acquiring Kashi and Vaishali (the capital of Vajji), Magadha became the dominant territorial force in the Ganges Valley.
- ❖ He constructed the Rajagriha fort and the Jaladurga watchtower in the village of Patali on the banks of the Ganges.
- ❖ **Udayin (460 BC-440 BC):** Ajatashatru was succeeded by his son Udayin. His reign is significant because he moved the capital from Rajagriha to Patliputra and built the city of Patliputra at the meeting point of the Son and Ganges rivers. Anuruddha, Munda, and Naga-Dasak, all of whom were incapable of leading, succeeded Udayin.

- **Shishunaga Dynasty (412 BC-344 BC):** Nag-Dasak was unworthy to rule. So the people got disgusted and elected Shishunaga as the King, the minister of the last king. The most important achievement of Shishunaga was the destruction of the Pradyota dynasty of Avanti. As a result, the conflict between Magadha and Avanti, which had lasted 100 years, was put to a stop. Avanti was afterwards included into the Magadha dynasty.
- Kalashoka (Kakavarna) succeeded Shishunaga. His reign was significant because at Vaishali (383 BC), he called the Second Buddhist Council.
- **Nanda Dynasty (344 BC-323 BC):** Mahapadma overthrew the Shishunaga dynasty and founded the Nandas, a new line of kings. Mahapadma is referred to in both the Puranas and the Pali writings as Ugrasena, or Owner of a Great Army, and Sarvakshatrantak, or Uprooter of All Kshatriyas.
- Mahapadma Ekra. is referred to in the Puranas as the lone king. All of the dynasties that ruled during the Shisungas period appear to have been overthrown by him. He is frequently referred to as "India's first empire builder."
- His eight sons succeeded Mahapadma. The final one was Dhanananda. The Agrammes or Xandrames of the Greek writings and the last king Dhanananda may be the same person. Alexander invaded north-west India in 326 BC, during the rule of Dhanananda.
- Greek author Curtius claimed that Dhanananda was in charge of an army that included 3,000 elephants, 2,000 chariots, 20,000 cavalry, and 200,000 soldiers. Alexander's march to the Gangetic Valley was halted by Dhanananda's strength, which also terrorised Alexander.
- Around 322–21 BC, the Nanda dynasty came to an end, and Chandragupta Maurya established the Maurya dynasty.
- **Foreign Invasions:**
 - ❖ Iranian Invasion- Darius's Invasion (518 BC)
 - ❖ Macedonian Invasion-Alexander's Invasion (326 BC)
- In 326 BC, Alexander invaded India, after crossing the river Indus he advanced towards Taxila. He then challenged king Porus, ruler of the kingdom between the rivers Jhelum and Chenab.
- The Indians were defeated in the fierce battle (Battle of Hydaspes). Alexander captured Porus and, like the other local rulers he had defeated, allowed him to continue to govern his territory.
- Alexander remained in India for 19 months (326-325 B.C.), which were full of fighting in July 325 BC Alexander and his army returned westward for home. He reached Babylon in 323 BC and died at the age of 33 years.

7. Maurya Period (322 BC-185 BC)

- **Capital:** Pataliputra (present at Patna, Bihar)
- **Government:** Monarchy
- **Historical era:** c. 322 BC (BCE) – 187 BC (BCE)
- **Important Kings:** Chandragupta, Bindusara, Ashoka
- Mauryan Kings
 - ❖ **Chandragupta Maurya:** The Mauryan Empire was the first largest empire in India. Chandragupta Maurya established the empire in Magadha.
 - ❖ Vishnugupta, who was later known as Chanakya or Kautilya, fell out with the Nanda king and vowed to dethrone him. Chandragupta, perhaps inspired by Alexander of Macedonia, was raising an army and looking for opportunities to establish a kingdom of his own.
 - ❖ On hearing the news of Alexander's death, Chandragupta stirred up the people and with their help drove away the Greek garrison that Alexander had left at Taxila. Then he and his allies marched to Pataliputra and defeated the Nanda king in 321 BC (BCE). Thus began the reign of the Mauryan dynasty.
 - ❖ During Chandragupta's reign, Seleucus, the general of Alexander, who had control over countries from Asia Minor to India, crossed the Indus only to be defeated by Chandragupta. Seleucus's envoy, Megasthenes, is said to have remained in India and his account titled Indica is a useful record about Mauryan polity and society.
 - ❖ **Bindusara:** His real name was Simhasena. He was the son of Chandragupta Maurya. He is also known as Amitrochates (destroyer of foes) by the Greek scholars while the Mahabhasya refers to him as Amitraghata (killer of enemies).
 - ❖ Bindusara was clearly a capable ruler and continued his father's tradition of close interaction with the Greek states of West Asia. He is believed to have conquered the land between the two seas i.e., the Arabian Sea and the Bay of Bengal. He continued to be advised by Chanakya and other capable ministers. It is believed that Bindusara joined the Ajivika sect.
 - ❖ His sons were appointed as viceroys of the different provinces of the empire. Bindusara ruled for 25 years, and he must have died in 272 BCE. Ashoka was not his chosen successor, and the fact that he came to the throne only four years later in 268 BCE would indicate that there was a struggle between the sons of Bindusara for the succession.
 - ❖ During his rule, Bindusara succeeded in extending the Mauryan empire upto Karnataka. At the time of his death, a large part of the subcontinent had come under Mauryan suzerainty. He appointed his son Ashoka

as a governor of Ujjain. After his death, Ashoka ascended the throne of Magadha.

- ❖ **Ashoka:** Ashoka, was one of the greatest rulers of history ruled-empire founded by his grandfather, Chandragupta Maurya over 2300 years ago. He was supported by a wise man named Chanakya or Kautilya.
- ❖ Many of Chanakya's ideas were written down in a book called the Arthashastra. Ashoka was the first ruler who tried to convey his message to the people through inscriptions. These inscriptions were in Prakrit and written in the Brahmi script.
- ❖ He was known as 'Devanam Piya' meaning 'beloved of the Gods'. **Kalinga War:** Kalinga was the ancient name of coastal Orissa. Ashoka fought a war to conquer Kalinga in 261 BC. He was horrified when he saw the violence and bloodshed and so decided not to fight any more wars.
- ❖ He is the only king in the history of the world who gave up conquest after winning a war. The horror of war was described by the king himself in the Rock Edict XIII.
- ❖ Bindusara wanted his son Susima to succeed him. With the help of a minister named Radhagupta and after killing 99 brothers, Ashoka (son of Bindusara) acquired the throne.
- ❖ Ashoka had been the viceroy of Taxila when he put down a revolt against the local officials by the people of Taxila, and was later the viceroy of Ujjain, the capital of Avanti, a major city and commercial centre.
- ❖ Ashoka was one of the greatest kings of all times, and is regarded as the first ruler to maintain direct contact with his people through his inscriptions. The other names of the emperor include Buddhaskya (in the Maski edict), Dharmasoka (Sarnath inscription), Devanampiya (meaning beloved of the gods) and Piyadassi (meaning of pleasing appearance) given in the Sri Lankan Buddhist chronicles Dipavamsa and Mahavamsa.
- ❖ **Ashoka's Dhamma:** Dhamma' is the Prakrit word for the Sanskrit term 'Dharma'. The meaning of Dhamma is explained in Ashoka's – Pillar Edict II. Dhamma did not involve worship of a god, or performance of a sacrifice. Ashoka had a duty to instruct his subjects and was also inspired by the teachings of the Buddha.
- ❖ Ashoka's Dhamma contained the noblest ideas of humanism, forming the essence of all religions. He laid stress on Compassion, Charity, Purity, Saintliness, Self-control, Truthfulness, Obedience and respect for parents, preceptors and elders.
- ❖ He appointed officials, known as the "**Dhamma Mahamatta** ", who went from place to place

teaching people about dhamma. Ashoka sent his son Mahinda and Sanghamitta to Sri Lanka to propagate Buddhism. He also sent missionaries to West Asia, Egypt, and Eastern Europe to spread the message of Dhamma.

- ❖ Please note that Ashoka held the third Buddhist Council at his capital Pataliputra.



Do You Know?

- ★ Lion Capital of Ashoka: The Emblem of the Indian Republic has been adopted from the Lion Capital of one of Ashoka's pillars located at Sarnath. The wheel from the circular base, the Ashoka Chakra is a part of the National Flag.

Name of the provinces	Capital name
Uttarapatha (Northern)	Taxila
Avanti Rashtra (Western)	Ujjain
Prachi (Eastern and Central)	Patliputra
Kalinga (Eastern)	Toshali
Dakshinapatha(Southern)	Suvarnagiri

Officers of the Maurya Empire

Name	Function
Mantrin	Chief Minister
Mantriparishad Adhyaksha	Head of Council of Ministers
Purohita	Chief Priest
Senapati	Commander-in-chief
Yuvaraj	Crown Prince
Samaharta	Revenue collector
Yukta	Subordinate revenue officer
Shulkadhyaksha	Officer-in-charge of royal income
Prashasti	Prison head
Sannidata	Treasury head
Koshadhyaksha	Treasury officer
Koshthagaradhyaksha	Royal treasury manager
Nayaka	City Security chief
Vyabharika	Chief Judge
Karmantika	Head of Industries & Factories
Dandapala	Head of Police
Durgapala	Head of Royal Fort
Annapala	Head of Food grains Department
Rajjukas	Land measurer
Pradeshika	District administrator
Akaradhyaksha	Mining Officer
Lauhadyaksha	Metallurgy Officer
Lakshanadhyaksha	Coin minting
Lavanadhyaksha	Officer of salt department

Name	Function
Swarnadhyaksha	Officer of gold department
Ayudhadhyaksha	Weapon manufacturing & defence department.
Kunyadhyaksha	Officer of forest.
Panyadhyaksha	Office of commerce department
Manadhyaksha	Office of time & place determining
Sunadhyaksha	Slaughter-house officer
Mudradhyaksha	Royal symbol, coin etc.
Dyutadhyaksha	Gambling department
Naukadhyaksha	Shipping department officer.
Pattanadhyaksha	Officer of Port.

8. Post-Mauryan India

- The break-up of the Mauryan Empire resulted in the invasions of Shakas, Scythians, Parthians, Indo-Greeks or Bactrian Greeks and Kushanas from the north-west. In the south, Satavahanas became independent after Asoka's death. There were Sungas and Kanvas in the north before the emergence of the Gupta dynasty. Chedis (Kalinga) declared their independence.
- It has to be noted here that, though Magadha ceased to be the premier state of India, it continued to be a great centre of Buddhist culture.
- Sources of Post Mauryan History:
 - ❖ **Archaeological Sources:**
- **Inscriptions**
 - ❖ Ayodhya Inscription of Dana Deva
 - ❖ Persepolis, Nakshi Rustom Inscriptions
 - ❖ Moga (Taxila copper plate)
 - ❖ Junagadh/Girnar Inscription
 - ❖ Nasik Prasasti
 - ❖ Inscription of Darius I
- **Coins:**
 - ❖ Coins of Satavahanas
 - ❖ Coins of Kadphises II
 - ❖ Roman coins
 - ❖ **Literary Sources:**
- Puranas
- Gargi Samhita
- Harshacharita of Banabhatta
- Mahabhasya of Patanjali
- Brihatkatha of Gunadhya
- Madhyamika Sutra of Nagarjuna

- Buddhacharita of Asvaghosha (Court poet of Kanishka)
- Malavikagnimitram of Kalidasa
 - ❖ **Foreign Accounts:**
- **Hiuen Tsang**, the Chinese Buddhist monk and traveller
- **The Sungas in the North:** The last Mauryan emperor, Brihadratha, was assassinated by his own general, Pushyamitra Sunga, who established his Sunga dynasty in Magadha. Pushyamitra made Pataliputra as his capital.
- The important rulers of Shunga Dynasty were:
 - ❖ Pushyamitra Shunga (185-148 BC)
 - ❖ Agnimitra (148-141 BC)
 - ❖ Bhagavata (114 - 82 BC)
 - ❖ Devbhuti (82-72 BC)
- **The Kanvas in the North:** The Kanva dynasty produced four kings and their rule lasted only for 45 years. The history of Magadha after the fall of the Kanvas is devoid of any significance until the emergence of the Gupta dynasty. The Kanva rulers were:
 - ❖ Vasudeva
 - ❖ Bhumi Mitra
 - ❖ Narayana
 - ❖ Susarman
- **Satavahanas in the South:** The Kushanas in the north and the Satavahanas (Andhras) in the south flourished for about 300 years and 450 years, respectively. Simuka, the founder of the Satavahana dynasty, is said to have ruled for twenty-three years.



Do You Know?

- ★ Govtamiputra Satakarni was the greatest satavahana ruler.
 - ★ Satavahanas were known as the lords of Dakshinapatha.
- **Indo-Greeks, Indo-Parthians, Shakas and Kushanas**
 - ❖ **Indo-Greeks and Indo-Parthians:** After the conquest of north-western India and the Punjab region, Alexander the Great left the conquered territories under provincial governors. Two of its eastern satrapies, Bactria and Parthia, revolted under their Greek Governors and declared their independence.
 - ❖ The Satrap of Bactria became independent under the leadership of Diodotus I and Parthia under Arsaces. After the decline of the Mauryan Empire, the Greek rulers of Bactria and Parthia started encroaching into the northwestern border lands of India.
 - ❖ The Bactrian and Parthian settlers gradually inter-married and inter-mixed with the indigenous population. This facilitated the establishment of Indo-Greek and Indo-Parthian colonies along the north-western part of India.
 - ❖ Contributions of Indo-Greeks

- **Coinage:** Indo-Greek rulers introduced a die system and produced properly shaped coins with inscription, symbols and engraved figures on them. Indians learnt this art from them.
- **Sculpture:** The Gandhara School of Indian Art is heavily indebted to Greek influence. The Greeks were good cave builders. The Mahayana Buddhists learnt the art of carving out caves from them and became skilled in rock-cut architecture.
 - ❖ **The Shakas:** The Indo-Greek rule in India was ended by the Shakas. Shakas as nomads came in huge numbers and spread all over northern and western India. The Shakas were against the tribe of Turki nomads.
 - ❖ Shakas were Scythians, nomadic ancient Iranians, and known as Shakas in Sanskrit. Saka rule was founded by Maos or Mogain in the Gandhara region and his capital was 'Sirkap'. His name is mentioned in the Mora inscription. His coins bear images of Buddha and Siva.
 - ❖ Rudradaman was the most important and famous king of Shakas. His Junagadh/Girnar inscription was the first inscription in chaste Sanskrit. In India, the Shakas were assimilated into Indian society. They began to adopt Indian names and practise Indian religious beliefs.
 - ❖ The Shakas appointed kshatrapas or satraps as provincial governors to administer their territories.
 - ❖ **The Parthians:** The Parthians were of Iranian origin and because of strong cultural connection with the Shakas, these groups were referred to in the Indian sources as Shaka-Pahlava.
 - ❖ The rule of Shakas and Parthians was simultaneous in different pockets of north western and northern India. They ruled through Kshatrapas (Governors) and Maha Kshatrapas (Subordinate Rulers).
 - ❖ The important inscription indicating the Parthian rule in the northwestern area of Pakistan is the famous Takht-i-Bahi inscription recovered from Mardan near Peshawar.
 - ❖ The inscription, dated in 45 AD, refers to Gondophernes or Gondophares as a Parthian ruler. Some literary sources associate him with St. Thomas, who is said to have converted both, the king and his brother, to Christianity.
 - ❖ **The Kushanas:** The Kushanas formed a section of the yueh-chi tribes, who inhabited northwestern China in the remote past. In the first century BC(BCE), the yueh-chi tribes were composed of five major sections, of which the Kushanas attained political ascendancy over others.
 - ❖ By the beginning of Christian era, all the yueh-chi tribes had acknowledged the supremacy of the

Kushanas; they had shed their nomadic habits and settled down in the Bactrian and Parthian lands, adjacent to the north-western border of India.

- ❖ The Kushanas overran Bactria and Parthia and gradually established themselves in northern India. Their concentration was mostly in the Punjab, Rajputana and Kathiawar. Kushana rulers were Buddhists. Takshashila and Mathura continued to be great centres of Buddhist learning, attracting students from China and western Asia.
- ❖ Kanishka was the greatest of all the Kushana emperors. He assumed sovereignty in 78 AD and proclaimed his rule by the foundation of a new era, which later became the Shaka era. The Kushana capital initially was Kabul. Later, it was shifted to Peshavar or Purushapura.

9. Gupta Dynasty

- Gupta Empire was founded by Sri Gupta and it was succeeded by his son, Ghatotkacha. This dynasty rose to fame with rulers like Chandragupta-I, Samudragupta, etc. Details of some important Gupta Empire kings are given below:
 - ❖ **Sri Gupta:** The founder of the Gupta dynasty was Sri Gupta. He was succeeded by Ghatotkacha. These two were called Maharajas.
 - ❖ **Chandragupta I (320 – 330 A.D.):** Chandragupta I and he was the first to be called Maharajadhiraja (the great king of kings). He strengthened his position by a matrimonial alliance with the Licchavis. He married Kumaradevi, a princess of that family.
 - ❖ The Mehrauli Iron Pillar inscription mentions his extensive conquests. Chandragupta I is considered to be the founder of the Gupta era which starts with his accession in A.D. 320.
 - ❖ **Samudragupta (330-380 A.D.):** Samudragupta was probably the greatest of the rulers of the Gupta dynasty. The Allahabad Pillar inscriptions provide a detailed account of Samudragupta's reign. Samudragupta marched against the South Indian monarchs.
 - ❖ He performed the asvamedha sacrifice. Samudragupta issued gold and silver coins with the legend 'restorer of the asvamedha'. Because of his military achievements Samudragupta was hailed as 'Indian Napoleon'.
 - ❖ **Chandragupta II (380-415 A.D.):** Samudragupta was succeeded by his son Chandragupta-II Vikramaditya. Through matrimonial alliances, Chandragupta-II strengthened his political power. Chandragupta-II married Kuberanaga, she was a Naga princess of central India.

- ❖ The greatest military achievements of Chandragupta II was his war against the Shaka satraps of western India. After his victory, he performed the horse sacrifice and assumed the title Sakari, meaning, 'destroyer of Shakas'. He also called himself 'Vikramaditya'.
- ❖ Ujjain was an important commercial city and was the alternative capital of the Guptas. The great wealth of the Gupta Empire was manifest in the variety of gold coins. Famous Chinese pilgrim, Fahien visited India during the reign of Chandragupta-II. Fahien provided valuable information on the religious, social and economic condition of the Gupta empire.
- ❖ **Kumaragupta:** Kumaragupta was the son and successor of Chandragupta-II. A number of coins were issued and his inscriptions are found all over the Gupta empire. Kumaragupta also performed an asvamedha sacrifice. Kumaragupta laid the foundation of the Nalanda University (5th AD) which emerged as an institution of international reputation. Powerful wealthy tribe called the 'Pushyamitras' defeated the Gupta army at the end of his reign.
- ❖ **Skandagupta:** A branch of the Huns from Central Asia made attempts to cross the Hindu Kush mountains and invade India. Skandagupta who really faced the Hun invasion. He fought successfully against the Huns and saved the empire.

10. Post-Gupta Period

- Political situation became complex with the passing away of the Guptas and the demise of the Vakataka rulers. Vassals of the Guptas became independent in the North.
- In the Deccan and far South too, multiplicity of powers was witnessed.
- The political scene in India from the decline of the Guptas until the rise of Harsha was bewildering. Large scale displacement of peoples continued for some time. Small kingdoms vied with each other for the heritage of Guptas. Northern India was divided into four kingdoms of later Guptas of Magadha, the Maukharis, the Pushyabhutis and the Maitrakas. The Maukharis first held the region of western U.P. around Kanauj. Gradually they ousted the later Guptas and made them move to Malwa.

Ruling Dynasties

North India	South India
The Maitrakas	Ikshvakus
The Maukharis	Chalukyas of Badami
The Gaudas	Pallavas of Kanchi
The Hunas	The Kadamba Kingdom
Pushyabhutis of Thanesar	The Kalabhras

- **The Pushyabhuti Dynasty:** The Pushyabhuti or Vardhana dynasty was founded at Thanesar (Kurukshetra district) by Pushyabhuti probably towards the beginning of the 6th century. Pushyabhuti were the feudatories of the Guptas but had assumed independence after the Hun invasions.
- The first important ruler of the dynasty was Prabhakara Vardhana (580-605 AD). Prabhakara Vardhana was succeeded by his eldest son Rajyavardhana (605-606 AD) Rajyavardhana was killed by Shashanka in 606 AD.
- Harshavardhana was born in 590 AD to King Prabhakara Vardhana of Sthaneshvara (Thanesar, Haryana). He belonged to the Pushyabhuti also called the Vardhana dynasty. He was a Hindu who later embraced Mahayana Buddhism. He was married to Durgavati.
- He had a daughter and two sons. His daughter married a king of Vallabhi whereas his sons were killed by his own minister. King Harshavardhana's deeds were praised by Chinese Buddhist traveller Xuanzang in his writings.
- After Prabhakara Vardhana died, his elder son Rajyavardhana ascended to the throne of Thanesar. Harsha had a sister, Rajyashri who was married to king Grahavarman of Kannauj. Sasanka, the Gauda king, killed Grahavarman and kept Rajyashri prisoner.
- This prompted Rajyavardhana to fight against Sasanka. But Sasanka killed Rajyavardhana. This led the 16-year old Harshavardhana to ascend the throne of Thanesar in 606 AD. He vowed to avenge his brother's murder and also rescue his sister.
- For this, he forged an alliance with Bhaskaravarman, the Kamarupa king. Harsha and Bhaskaravarman marched against Sasanka. Ultimately, Sasanka left for Bengal and Harsha became the king of Kannauj also.
- **Empire of Harsha:** King Harshvardhana's Empire On acquiring Kannauj, Harsha united the two kingdoms of Thanesar and Kannauj. He moved his capital to Kannauj. After the fall of the Guptas, North India was divided into many small kingdoms. Harsha was able to unite many of them under his command.
- He had under his control of Punjab and central India. After Sasanka's death, he annexed Bengal, Bihar and Odisha. He also defeated the Vallabhi king in Gujarat. (The Vallabhi king and Harsha came to a truce by a marriage between Harsha's daughter and the Vallabhi king Dhruvabhata.)
- However, Harsha's plans to conquer lands to the south were hampered when the Chalukya king, Pulakesin II defeated Harsha in 618-619 A.D. This sealed Harsha's southern territorial limit as the Narmada River.
- Even the feudatories were under the tight command of Harsha. Harsha's reign marked the beginning of feudalism in India. Hiuen Tsang visited India during Harsha's reign. He has given a very favourable account of king Harsha and his empire. He praises his generosity and justice.

- Harsha was a great patron of the arts. He himself was an accomplished writer. He is credited with the Sanskrit works *Ratnavali*, *Priyadarshika* and *Nagananda*. Banabhatta was his court poet and he composed the *Harshacharita* which gives an account of Harsha's life and deeds.
- Harsha generously supported Nalanda University. He had a good tax structure. 1/4th of all the taxes collected were used for charity and for cultural purposes.
- Harsha was a competent military conqueror and an able administrator. Harsha was the last king to rule over a vast empire in India before the invasions by the Muslims.
- **Harsha's death:** Harsha died in 647 AD after ruling for 41 years. Since he died without any heirs, his empire disintegrated very soon after his death.



Do You Know?

- ★ Maharishi Kanada suggested that all matter is composed of very small particles. He named these small particles *paramanu*, as these were indivisible according to him. This *paramanu* exhibited two states: rest-state of motion and state of absolute rest.
- ★ The *parashu* named *Vidyudabhi* is the weapon of the god Shiva who gave it to Parashurama, the sixth avatar of Vishnu, whose name means "Rama with the axe" and also taught him its mastery.
- ★ Aryabhata and Kalidasa adorned the court of Gupta ruler Chandragupta II, who was also known as Chandragupta Vikramaditya.
- ★ Aihole in Karnataka state was the first capital of Chalukyas where they built numerous temples dating back to the 6th century CE. Later the capital was changed to Badami by Pulakeshin I in 543.
- ★ The last prominent Chandella ruler was Parmardi-deva or Parmal is still popular due to the heroic deeds of his two Generals 'Alha' and 'Udal' who won many battles.
- ★ Ashwatthama or Drauni was the son of guru Drona and Kripa (sister of Kripacharya).
- ★ Lahore in ancient times was called Lavapuri, City of Lava in Sanskrit and was founded by Prince Lava, the son of Sita and Ram.

Other Important Facts

- ❖ In ancient India, the leader of the Merchant caravans was called *Sarthavaha*.
- ❖ *Chopad* (also known as *Chaupar* or *Chausar*) was an ancient Indian board game.
- ❖ *Dilwara Jain Temples* is one of the finest Jain temples known in the world for its extraordinary architecture and marvellous marble stone carvings and are located at Mount Abu.
- ❖ The gigantic statue of Gautam Buddha discovered at *Sultanganj* (Near *Bhagalpur* in Bihar) has been dated

to the Gupta period (500-700 AD). *Ajatashatru* sent his chief minister "*Vassakara*" to Buddha to ask him why the *Vaishali* should be so invincible.

- For that Buddha gave 7 reasons, including
 - Their behaviour of disciplined
 - Respect for elders
 - Their Respect for women
 - *Vajjis* are always punctual to meetings
 - They do not marry their daughters forcefully
 - They give spiritual protection to the *Arhats*
 - The principal reason was the *Chaityas* (altar), which was inside the town
- ❖ During the *Janapada* period, the word *visha* meaning was the Ordinary People.
- ❖ *Heliodorus* was an Indo-Greek ambassador sent to the court of King *Bhagabhadra* by *Antialcidas* (Indo-Greek King of *Taxila*) in 113 BCE.
- ❖ The references of *Megathenes* throw light on the social and political condition of the Mauryan period. According to him, the Indian society was divided into 7 castes which were philosopher, farmer, shepherd, trader, warrior, overseer and councillor.
- ❖ *Vindhyashakti* was the founder of *Vakataka* dynasty in the third century.
- ❖ *Gautamiputra Satakarni* was a ruler of *Satavahana* dynasty.
- ❖ *Chandragupta-I* got *Pataliputra* in dowry from the *Licchavis*.
- ❖ The gold coin issued by Emperor *Samudragupta* (335/350 – 370/380 CE) of the Gupta dynasty shows him playing the *vina*, an Indian stringed instrument resembling the lyre or lute.
- ❖ The *Bhitargaon Temple* is a terraced brick building fronted with a terracotta panel. Built in the 5th century during the Gupta period, it is the oldest remaining brick/terracotta Hindu shrine with a roof and a high *shikhara*, though its upper chamber did sustain some damage in the 18th century.
- ❖ The *Sharabhapuriya* dynasty ruled parts of present-day *Chhattisgarh* and *Odisha* in India, during the 5th and 6th centuries.
- ❖ *Bylakuppe Monastery* famously known as *Namdroling Nyingmapa Monastery* or *Golden Temple* is situated in *Mysore, Karnataka*.
- ❖ *Didda*, also known as *The Catherine of Kashmir*, was the ruler of Kashmir from 980 CE to 1003 CE.
- ❖ *Adichanallur* is an archaeological site in *Thoothukudi* district in *Tamil Nadu, India*.

Important Questions

1. The.....is a collection of 1,028 hymns divided into 10 mandalas.
(A) Yajurveda (B) Atharvaveda
(C) Rigeveda (D) Samaveda
2. The study of inscriptions is called?
(A) Ethnographi (B) Numismatic
(C) Archaeology (D) Epigraphy
3. In which district of Haryana is Banawali on archaeological site belonging to the Hindu Valley Civilization period?
(A) Sirsa (B) Kurukshetra
(C) Fatehabad (D) Jind
4. Which Indian's name was associated with the discovery of Mohenjo Daro?
(A) RD Banerjee (B) RD Chatterjee
(C) WC Banerjee (D) SN Banerjee
5. Which of the following material was used during Harappan Civilization ?
I. Plastic
II. Teracotta
III. Ruber
(A) I and II (B) II and III
(C) Only III (D) Only II
6. In which Veda is the Shvetashvatara Upanishad embedded?
(A) Atharva Veda (B) Rigvedada
(C) Samveda (D) Yajurveda
7. Which of the following Vedas is known as the 'Veda of Songs and Music'?
(A) Yajur (B) Saam
(C) Atharva (D) Rig
8. Theory of Tripitaka Scriptures (Canon of Scriptures) is a word for
(A) Hindu
(B) Both Hindu and Buddhist
(C) Buddhist
(D) Jannism
9. What are Mahayana and Hinayana ?
(A) 'Mahayana' means 'Great Vehicle'. 'Hinayana' means 'small vehicle' or 'lesser vehicle'.
(B) Do Makh Sadaya of Hinduism.
(C) Name of two great shows.
(D) Name of the papers written by the great children.
10. Who among the following gave the concept of 'Anuvrat'?
(A) Hinayana Buddhism
(B) Mahayana Buddhism
(C) Islam
(D) Jainism
11. Sixteen great powers (Mahajanpadas) existed in which century?
(A) 3rd and early 4th centuries BC.
(B) 8th and early 9th centuries BC.
(C) 7th and early 6th centuries BC.
(D) 1st and early 2nd centuries BC.
12. Who was the ruler of the kingdom between the rivers Jhelum and Chenab?
(A) Darius III
(B) Alexander the Great
(C) King Porus
(D) Chandragupta Maurya
13. Which of the following statement is correct?
I. Megasthenes was an ambassador of Seleucus Nicator.
II. Ashok was the first ruler who tried to give his message to the people through inscriptions.
(A) Only II (B) Both I and II
(C) Only I (D) Neither I nor II
14. Rulers of which of the following dynasty were known as Lords of the Dakshinapatha ?
(A) Pandyas (B) Satavahanas
(C) Cheras (D) Cholas
15. In the Mauryan administration, what was the role of 'Karmantika'?
(A) Head of Industries and factories
(B) Chief of Home defence
(C) Treasury Chief
(D) Commander in Chief
16. Which Gupta king is known as 'Vikramaditya' ?
(A) Chandragupta II
(B) Skandagupta
(C) Kumargupta
(D) Samudragupta
17. Rajaraja I was the ruler of ____ dynasty.
(A) Chandella (B) Chola
(C) Chalukyas (D) Pallava
18. The famous warriors named Alha and Udal served the ruling house of:
(A) Tomars (B) Parmaras
(C) Chandelas (D) Chahamanas
19. Where was the manuscript usually written?
(A) Mountains (B) Paper
(C) Palm Leaf (D) Stone
20. Parshvanatha was.....Jain Thirthankar :
(A) Tenth (B) Twenty Third
(C) Twenty fourth (D) First
21. During the Janapada period, the word visha meaning was.....
(A) Ordinary People
(B) Enemy
(C) Royal Official
(D) Priest
22. What was the name of the general of Alexander who was defeated by Chandragupta Maurya after Alexander's death ?
(A) Ptolemy
(B) Seleucus Nicator
(C) Antigonous
(D) Cassandra
23. According to Megasthenes, society was divided into castes in the reign of Chandragupta Maurya ?
(A) 6 (B) 4
(C) 5 (D) 7
24. Capital of East Indian Province of Maurya Empire was in
(A) Suvarnagiri (B) Takshila
(C) Tosali (D) Ujjain

Answer Key

1. (C) 2. (D) 3. (C) 4. (A) 5. (D)
6. (D) 7. (B) 8. (C) 9. (C) 10. (A)
11. (D) 12. (A) 13. (C) 14. (B) 15. (B)
16. (A) 17. (A) 18. (B) 19. (C) 20. (C)
21. (B) 22. (A) 23. (B) 24. (D)

Chapter 1

English Alphabet test

In this chapter, the questions based on English alphabet (A-Z) are asked. First, the candidate should remember the position of all 26 letters of the English alphabet and various facts related to it.

Some Imp. Points related to english alphabets

There are two types of Letters :

- **VOWELS** : A E I O U (5 vowels in the English Alphabet)
- **CONSONANTS** : B C D F G H J K L M N P Q R S T V W X Y Z (21 consonants in the English Alphabet)

● Half

There are two types of halves :

- I. **1st HALF** : A B C D E F G H I J K L M (There are a total of 13 letters in the 1st half. Hence, letters 1 to 13 are in the 1st half)
- II. **2nd HALF** : N O P Q R S T U V W X Y Z (There are a total of 13 letters in the 2nd half. Hence, letters 14 to 26 are in the 2nd half)

● Position

In the English alphabet, each letter has its corresponding position, such positions of letters are of two types :

- I. **Forward order letter position** : In such order, one starts counting from A and goes towards Z. Let us see,

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

- II. **Backward order letter position** : In backward order position, counting is started from Z and is ended at A.

Z	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A
26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Short Trick

From left →	E	J	O	T	Y			
	5	10	15	20	25			
	C	F	I	L	O	R	U	X
	3	6	9	12	15	18	21	24
From right →	B	G	L	Q	V			
	25	20	15	10	5			

In the English alphabet, there is a difference of four letters between each letter of 'EJOTY' and 'BGLQV'. We use EJOTY to find the position of letters from left and use BGLOV to find the position of letters from right.

It is little difficult to find out the position of letter from right to left. So, if you have to find the position of letter from right then use :

$$27 - (\text{Position of letter from Right}) = \text{Position of letter from Left.}$$

- Ex. What will be the 23rd letter from right ?
- $(27 - 23) = 4$ (D is 4th from the left and 23rd from the right).
- In English alphabet, a letter is said to be the opposite of another letter *e.g.*, opposite letter of A is Z, B is Y, C is X and so on. Sum of their positional values is always equal to 27.
- e.g.*, We find the opposite letter of E and the position of E is 5 in an English alphabet, then
- Opposite letter of E = $(27 - 5) = 22$ (V).
- V is the opposite letter of E.

1. To know Before Solving the Question Related to Alphabts

- (i) **From our left** : It means 'from our left to right' or we can say..... A to Z.
- (ii) **From our right** : It means 'from our right to left' or we can say Z to A.
- (iii) **Just left** : It means just before *e.g.*, F is the letter just left of G.
- (iv) **Just right** : It means just after *e.g.*, Q is the letter just right of P.
- (v) **To the left or right** : It means by skipping the original letter and then counting left or right of that letter, *e.g.*, I is 5th letter to the right of D or M is 3rd letter to the left of P.
- (vi) **From left or right** : It means by taking the original letter and then counting left or right of that letter, *e.g.*, H is 5th letter from the right of D or N is 3rd letter from the left of P.

Importants Points related to Alphabet's Position

- (i) If position of both the letters are in same direction **then the positions of both the letters have to be subtracted**, and find the position of letters from starting. *e.g.*,
- (ii) *e.g.*, 7th letter to the right of 12th letter from your right will be the 5th letter from the right.
- (iii) If position of both the letters are in diff. direction **If then the positions of both the letters have to be added**. and find the position of letter from starting *e.g.*, the 7th letter to the left of 9th letter from your right will be the 16th letter from the right.

2. Types of Questions

Various types of questions are asked from this chapter.

● Place of a Letter

I. In the English alphabet

Ex. Find the 10th letter to the left of 21st letter from left.

- (A) J (B) K
(C) L (D) M

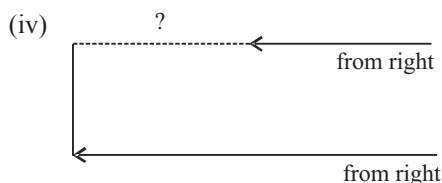
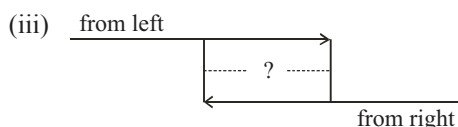
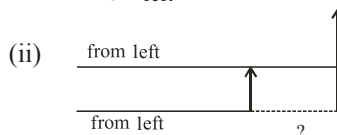
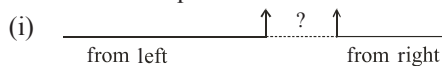
Sol. (B)

10th letter to the left of 21st letter from left is K. Hence, option (B) will be the correct answer.

3. Middle Letter

I. Number of letters in the middle of two letters

In these types of questions asked to calculate the total number of letters between any two specified letters as directed in the questions.



Ex. In the English alphabet, how many letters are there between 9th from left and 7th from right ?

- (A) 8 (B) 9
(C) 10 (D) 11

Sol. (C)

9 letters from left and 7 letters from right.

$$\begin{aligned} \text{Then, total letters} &= 9 + 7 \\ &= 16 \end{aligned}$$

Total number of letters in the English alphabet = 26

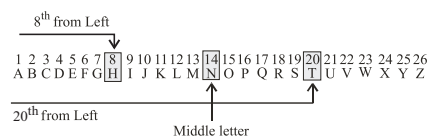
$$\begin{aligned} 26 - 16 &= 10 \\ \text{Required number of letters} &= 10 \end{aligned}$$

II. Middle letter between two letters

Ex. Which letter is in the middle of 8th letter from left and 20th letter from left in the English alphabet.

- (A) M (B) N
(C) P (D) R

Sol. (B)



8th letter from left is H and 20th letter from left is T. Then, letter N is exactly in the middle of the letters H and T.

Important Points

- If we find the position of a letter from left to right or from right to left, we subtract the position of a letter from 27.
- Middle letter = $\frac{\text{Left} + \text{Left}}{2}$ or $\frac{\text{Right} + \text{Right}}{2}$
- Number of letters between two letters
 - (i) $26 - [\text{Left} + \text{Right}] = \text{Number of letters}$
 - (ii) $[\text{Left} - \text{Left}] - 1 = \text{Number of letters}$
 - (iii) $[\text{Right} - \text{Right}] - 1 = \text{Number of letters}$
- (i) In the English alphabet, m^{th} letter from your left and then towards n^{th} to the left of that letter = $(m - n)^{\text{th}}$ letter from left.
- (ii) In the English alphabet, m^{th} letter from your left then towards n^{th} letter to the right of that letter = $(m + n)^{\text{th}}$ from left.
- (iii) In the English alphabet, m^{th} letter from your right then towards n^{th} letter to the right of that letter = $(m - n)^{\text{th}}$ from right.
- (iv) In the English alphabet, m^{th} letter from your right then towards n^{th} letter to the left of that letter = $(m + n)^{\text{th}}$ from right.

4. Problems Based on Letter-pair

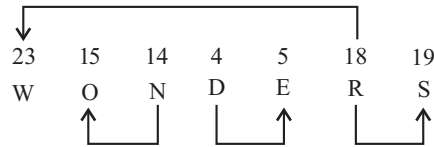
Some Important Points about Letter-pair

- Both ways are possible *i.e.*, from left to right and from right to left, forward or backward order.
- A word may have more than one letter pair.
- After making one pair from a letter, a letter in a word can make more than one letter pair.

Ex. How many such pairs of letters are there in the word 'WONDERS' each of which has as many letters between them as in English alphabet ?

- (A) Two
(B) Three
(C) One
(D) More than three

Sol. (D)



In the word 'WONDERS', there are four pairs :
NO, DE, RS, RW Which have as many letters between them as in the English alphabet.

5. Letters Problem

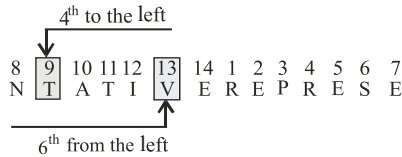
(I) Changing the letters of a word

Ex. If in the word 'REPRESENTATIVE' 1st and 8th letters are interchanged, 2nd and 9th letters are interchanged and this interchange goes on in the same manner, then find the 4th letter to the left of the 6th letter from your left end in the new arrangement ?

- (A) E (B) A
(C) P (D) T

Sol. (D) 1 2 3 4 5 6 7 8 9 10 11 12 13 14
R E P R E S E N T A T I V E

After changing letters—



In the new arrangement, 6th letter from left is V and 4th letter to the left of V is T.

6. Arranging the Words According to a Dictionary

- Arranging the words in alphabetical order implies 'to arrange them in the order as they appear in a dictionary'.

Ex. If the following words are arranged in alphabetical

order, which word will come in 4th place ?

- (A) Propense (B) Prophet
(C) Prong (D) Propine

Sol. (D) Pro^pense
Pro^phet
Proⁿg
Pro^pine

Letters P, R, and O are same in all words. After P, R and O, there are different

letters. When these letters are arranged in alphabetical order, the letter 'N' comes first followed by 'P'. Letter 'P' is same in three words. Now, all words are arranged in alphabetical order.

Order is :

Proⁿg > Pro^pense > Pro^phet > Pro^pine

According to the English dictionary, Propine will come at 4th place.

7. Word formation by Unscrambling letters

- In this type of question, a set of English letters is given in a jumbled order. The candidate is required to arrange these letters to form a meaningful word.

Ex. Unscramble the letters in the given words and find the odd one out.

- (A) EIWNTR (B) UMRSME
(C) PIGRSN (D) LCUOD

Sol. (D) Rearrange the letters of the given words are :

- (A) WINTER (B) SUMMER
(C) SPRING (D) CLOUD

Clearly, all except 'CLOUD' are names of seasons.

Hence, the answer is (D).

Important Questions

Direction (Q. No. 1 and 2)

Arrange the following words as per order in the English dictionary :

1. Chemistry 2. Chamber
3. Cheap 4. Cheerful
(A) 2, 3, 4, 1 (B) 2, 1, 3, 4
(C) 3, 4, 2, 1 (D) 2, 4, 3, 1
1. Billian 2. Bifurcate
3. Bilateral 4. Bilirubin
(A) 2, 1, 3, 4 (B) 4, 3, 2, 1
(C) 2, 3, 4, 1 (D) 2, 3, 1, 4

Direction (Q. No. 3 to 5)

In each of the following questions, find out which of the letter series follows the given rule :

3. The group of letters should not contain more than two vowels.

- (A) BDEJOLY (B) JKAPIXU
(C) PRAQEOS (D) ZILERAM

4. Number of letters skipped between the adjacent letters in the series decreases by one.

- (A) BGKNPR (B) CINRTU
(C) EJNIQST (D) LQUXAP

5. Number of letters skipped in between the adjacent letters in the series is in the order of 1², 2², 3².

- (A) CEJT (B) EGLO
(C) EGLP (D) RTWZ

Direction (Q. No. 6 to 9)

Each of the following question is based on given letter series. :

6. In the English alphabet, which letter will be 16th to the left of the 6th from left ?

- (A) O (B) P
(C) V (D) R

7. In the English alphabet, which letter is 6th to the right of M ?

- (A) G (B) S
(C) D (D) R

8. In the English alphabet, which letter will be in the middle of 8th and 22nd letter from left ?

- (A) T (B) O
(C) R (D) S

9. In the English alphabet, which letter is 10th to the left of the 19th letter to the right of the 7th from left end ?

- (A) K (B) L
(C) P (D) R

10. If 1st half of the alphabet is written in reverse order, then answer the following questions given below :
Which letter will be 3rd to the left of the 15th letter from left ?
(A) R (B) L
(C) B (D) D
11. How many such pairs of letters are there in the word 'ENTHUSIASTIC' which have as many letters between them in the word as there are between them in the English alphabet ?
(A) Two (B) Three
(C) Four (D) More than four
12. How many such pairs of letters are there in the word 'IMPORTANCE' which have as many letters between them in the word as they have between them in the English alphabet ?
(A) One (B) Two
(C) Three (D) More than three

Solutions

1. (A) According to the English dictionary,

2. Chamber 3. Cheap

4. Cheerful 1. Chemistry .

Option (A) is right.

4. (C) $\overbrace{\text{E F G H I J}}^4 \overbrace{\text{K L M N}}^3 \overbrace{\text{O P Q}}^2 \overbrace{\text{R S T}}^1$

Option (C) is right.

5. (A) A B $\overbrace{\text{C D E F}}^{(1)=(1)^2}$ $\overbrace{\text{G H I J}}^{4=(2)^2}$ $\overbrace{\text{K L M N O P Q R S T}}^{9=(3)^2}$

Option (A) is right.

6. (B) $\frac{L}{6} - \frac{L}{16} \Rightarrow \frac{L}{-10}$

$26 - 10 \Rightarrow 16$

P is 16th letter from the left.

Note : To remove the sign (-), we subtract from 26.

7. (B) A B C D E F G H I J K L $\overbrace{\text{M N O P Q R S T}}^{6^{\text{th}} \text{ to the right}}$ U V W X Y Z

S is 6th letter to the right of M.

Trick : (M is 13th from the left)

$$\frac{L}{13} + \frac{R}{6} \Rightarrow \frac{L}{19}$$

S is 19th letter from the left.

8. (B) A B C D E F G $\overbrace{\text{H I J K L M N O}}^{22^{\text{nd}} \text{ from the left}}$ P Q R S T U $\overbrace{\text{V W X Y Z}}^{\text{Middle Letter}}$

8th from the left

Middle Letter

H is 8th letter from the left and V is 22nd letter from the left. O is located in the middle H and V.

$$\text{Trick : } \frac{L}{8} + \frac{L}{22} \Rightarrow \frac{L}{30} \Rightarrow \frac{L}{15}$$

O is 15th letter from the left.

2. (C) According to the English dictionary,

2. Bifurcate 3. Biiateral

4. Biiirubin 1. Biilian

Option (C) is right.

3. (A) 'BDEJOLY' has only two vowels E and O.

Option (A) is right.

9. (C) $\overbrace{\text{A B C D E F G H I J K L M N O P Q R S T U V W X Y Z}}^{19^{\text{th}} \text{ to the right}}$
7th from the left 10th to the left

G is 7th letter from the left and Z is 19th to the right of G and P is 10th to the left of Z.

$$\text{Trick : } \left(\frac{L}{7} + \frac{R}{19} \right) \frac{L}{10} \Rightarrow \frac{L}{26} - \frac{L}{10} \Rightarrow \frac{L}{16}$$

P is 16th letter from the left.

10. (C)

$\overbrace{\text{1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26}}^{3^{\text{rd}} \text{ from the left}}$
MLK J I H G F E D C B A N $\overbrace{\text{O P Q R S T U V W X Y Z}}^{15^{\text{th}} \text{ from the left}}$

O is 15th letter from the left and 3rd letter to the left of O is B.

$$\text{Trick : } \frac{L}{15} - \frac{L}{3} \Rightarrow \frac{L}{12}$$

$$14 - 12 \Rightarrow 2 \text{ [B]}$$

11. (B) $\overbrace{\text{E N T H U S I A S T I C}}^{3^{\text{rd}} \text{ from the left}}$

There are three pairs EH, IN and ST.

12. (D) $\overbrace{\text{9 13 16 15 18 20 1 14 3 5}}^{\text{Middle Letter}}$
I M P O R T A N C E

There are 5 pairs MO, OP, PR, AC and EM.



Chapter 1

Number System

1. Important Terminology

1.1 Digits : 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 are defined as digits in Mathematics. We can create many numbers by using these digits. For example : 10, 123, 456, 789 etc.

1.2 Number System : There are mainly two types defined in the number system. These are :

I. Decimal Number System : It contains 0 to 9 digits. That's why it is called *decimal number system*. In this system, the numbers is read and written in two ways : Indian number system and International number system.

In the Indian number system or Hindi-Arabic system, the numbers are read and written as per their place values. These numbers are read as per the following table.

Periods	Crores		Lakhs		Thousands		Ones		
Value	10,00,00,000 (Ten Crores)	1,00,00,000 (Crore)	10,00,000 (Ten Lakhs)	1,00,000 (Lakh)	10,000 (Ten Thousands)	1,000 (Thousand)	100 (Hundred)	10 (Ten)	1 (One)
	10^8	10^7	10^6	10^5	10^4	10^3	10^2	10^1	10^0

Ex. : Number 51,45,42,786 can be read as Fifty-one Crores Forty-five Lakhs Forty-two Thousands Seven Hundred and Eighty-six. It is also called number name.

Unit Conversions :

- 1 tens = 10 units
- 1 Hundred = 10 tens = 100 units
- 1 Thousand = 10 Hundreds = 100 tens = 1000 units
- 1 Lakh = 10 Thousands = 100 Hundreds = 1000 tens
- 1 Crore = 10 Lakhs = 100 Thousands = 1000 Hundreds

In International number system, the numbers are read and written as per the following table.

Periods	Millions			Thousands			Ones		
Value	100,000,000 (Hundred Millions)	10,000,000 (Ten Millions)	10,00,000 (Millions)	100,000 (Hundred Thousand)	10,000 (Ten Thousand)	1,000 (Thousand)	100 (Hundred)	10 (Ten)	1 (One)
	10^8	10^7	10^6	10^5	10^4	10^3	10^2	10^1	10^0

Ex. : Number 14,542,786 can be read as Fourteen Millions Five Hundred Forty-two Thousand Seven Hundred Eighty-six.

II. Roman Number System : In this system, numbers are represented by Latin alphabets. The Roman numerals used in, are based on seven symbols or letters.

Roman System	I	V	X	L	C	D	M
Hindu Arabic System	1	5	10	50	100	500	1000

Ex. : 25 can be written as XXV and 101 as CI.

Note

- A letter repeats its value many times (XXX = 30, CC = 200, etc.). A letter can only be repeated three times.
- If one or more letters are placed after another letter of greater value, add that amount.
For example,
VII = 7 (5 + 1 + 1); LXI = 61 (50 + 10 + 1); MCC = 1200 (1000 + 100 + 100)
- If a letter is placed before another letter of greater value, subtract that amount.
For example,
IV = 4 (5 - 1); XIV = 14 (10 + 5 - 1); CM = 900 (1000 - 100)
- Only subtract powers of ten (I, X, or C, but not V or L).
- Only subtract one number from another.
- Do not subtract a number from one that is more than 10 times greater (that is, you can subtract 1 from 10 [IX] but not 1 from 20 : there is no such number as IXX.)
- A bar placed on top of a letter or string of letters increases the numeral's value by 1,000 times.
For example, XII = 12 whether $\overline{\text{XII}}$ = 12000.

2. Digits of Number

- **Units :** Digit 0 to 9 are called Unit digits. The smallest and the largest number of 1-digit are 0 and 9 respectively.
- **Tens :** The numbers from 10 to 99 are called ten numbers. The smallest and the largest number of 2-digits are 10 and 99 respectively.
- **Hundreds :** The numbers from 100 to 999 are called hundred numbers. The smallest and the largest number of 3-digits are 100 and 999 respectively.

- **Thousands** : The numbers from 1,000 to 9,999 are called thousand numbers. The smallest and the largest number of 4-digits are 1000 and 9999 respectively.
- **Ten thousands** : The numbers from 10,000 to 99,999 are called ten thousand numbers. The smallest and the largest number of 5-digits are 10,000 and 99,999 respectively.
- **Lakhs** : The numbers from 1,00,000 to 9,99,999 are called lakh numbers. The smallest and the largest number of 6-digits are 1,00,000 and 9,99,999 respectively.
- **Ten Lakhs** : The numbers from 10,00,000 to 99,99,999 are called ten lakh numbers. The smallest and the largest number of 7-digits are 10,00,000 and 99,99,999 respectively.
- **Crores** : The numbers from 1,00,00,000 to 9,99,99,999 are called crore numbers. The smallest and the largest number of 8-digits are 1,00,00,000 and 9,99,99,999 respectively.

3. Value of Digits

- **Place Value**—Place value helps us determine the value of numbers. Our (base-10) number system contains numerals or digits only from 0 to 9, but we often need to use numbers greater than 9. We show numbers greater than 9 by using place value. Place value refers to the value of each digit in a number.
Ex. : In a number 489765, place value of 7 will be 7×100 units, *i.e.*, 700. Similarly, the place value of 8 will be $8 \times 10,000 = 80,000$.
- **Face Value**—The actual value of a digit in a number is the digit itself. The place value of the digit is ignored in the number.
Ex. : In a number 59,438, the face value of 4 is 4, face value of 9 is 9 etc.

Note

If x and y be the tens digit and unit digit respectively, then the 2-digit number formed by these digits will be $10x + y$.

4. Comparison of Numbers

- **When both numbers have unequal number of digits**
The number having more digits is greater. It means
..... 5-digit number > 4-digit number > 3-digit number
Ex. : Find out which is greater 5429683 or 65245893 ?
Sol. : Since, the first number 5429683 is of 7-digit number whether the second number 65245893 is of 8-digit. Therefore, the second number is greater than the first number.
- **When both numbers have equal number of digits**
In case of the equal number of digits, we have to check the place value of the left-most digit of both numbers. If the digits of both numbers are also equal, then we move to its next digit placed on the right side and repeat the process until we get the desired result.

Ex. : Arrange the following numbers in ascending order.
5403100, 5460860, 5458087, 5420378

Sol. : At first, we check the place value of the leftmost digit of each number. Then repeat the same process until we get the answer. Here, in each number, two leftmost digits are equal. After that, we check ten thousand place values and then arrange the digits in ascending order. Hence, we get
5403100 < 5420378 < 5458087 < 5460860

5. Classification of Numbers

There are several types of numbers exist in the number system for different purposes. These numbers are classified into different groups according to their properties. These are :

- **Natural Numbers** : Counting numbers starting from 1, 2, 3..., etc. are called natural numbers. It is represented by capital letter **N**. Its set is shown as

$$N = \{1, 2, 3, 4, 5, \dots\}$$

- **Whole Numbers** : All natural numbers along with 0 is known as whole numbers. It is represented by capital letter **W**. Its set is shown as

$$W = \{0, 1, 2, 3, 4, \dots\}$$

- **Even and Odd Numbers** : A number is even if it is a multiple of two, and is odd otherwise. Even numbers are denoted by capital letter **E** and odd numbers are denoted by capital letter **O**.

$$E = \{2, 4, 6, 8, \dots\} \text{ and } O = \{1, 3, 5, 7, \dots\}$$

- **Integers** : Positive and negative counting numbers, as well as zero are called integers. Integers are denoted by capital letter **Z**.

$$Z = \{\dots -3, -2, -1, 0, 1, 2, 3, \dots\}$$

- **Prime Numbers** : An integer with exactly two positive divisors : itself and 1, is called prime number. For example : 2, 3, 5, 7, 11, 13...etc. are few prime numbers. 2 is the smallest prime number.

- **Composite Numbers** : All those numbers greater than 1 that are not prime are called composite numbers. For example : 4, 6, 8, 9, 10 etc. are few composite numbers.

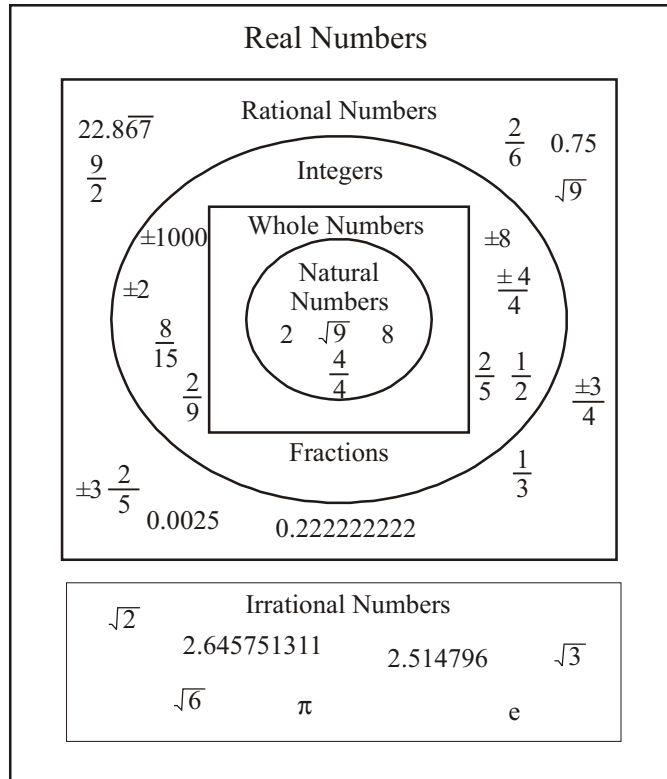
- **Rational Numbers** : Numbers that can be expressed as a ratio of an integer to a non-zero integer. Rational numbers are denoted by capital letter **Q**. All integers are rational, but the converse is not true.

$$Q = \left\{ \dots \frac{2}{3}, -1, 0, \frac{1}{4}, \dots \right\}$$

- **Irrational Numbers** : All the real numbers that are not rational are called irrational numbers. Irrational numbers are denoted by **I**.

$$I = \left\{ \dots \frac{2}{3}, \sqrt{2}, \sqrt{3}, \dots \right\}$$

- **Real Numbers**—They can be positive, negative or zero. All rational numbers are real, but the converse is not true.



6. Approximate Values of Numbers

Place values are considered to be the base to find approximation values in numbers. Approximation value of few place values is determined by the following methods.

- **Approximate value nearest tens place**—If the number at units place is less than 5 then it is rounded of zero otherwise add 1 to the tens place and keeps unit place as zero.
Ex. : 73 can be rounded off to 70, 156 can be rounded off to 160 and 4265 can be rounded off to 4270.
- **Approximate value nearest hundred place**—If the number at tens place is less than 5 then it is rounded of zero otherwise add 1 to the hundred place and keeps tens place and unit place as zero.
Ex. : 510 can be rounded off to 500, 9573 can be rounded off to 9600 and 53650 can be rounded off to 53700.
- **Approximate value nearest thousand place**—If the number at hundred place is less than 5 then it is rounded of zero otherwise add 1 to the thousand place and keeps hundred place, tens place and unit place as zero.
Ex. : 6240 can be rounded off to 6000, 17573 can be rounded off to 18000 and 553650 can be rounded off to 554000.

7. Divisibility Test of Numbers

- **Divisibility by 2 :**
If the unit digit of a number is any of 0, 2, 4, 6, 8, then the given number is divisible by 2.
Ex. : 84, 786, 282, 1008, 5000....., etc. are divisible by 2.
- **Divisibility by 3 :**
A number is divisible by 3, if the sum of all digits of the number is divisible by 3.
Ex. : 786, here $7 + 8 + 6 = 21$ (completely divisible by 3)
So, the number 786 will be divisible by 3.
- **Divisibility by 4 :**
A number is divisible by 4, if the last two-digits of the number is divisible by 4.
Ex. : 3464, here 64 is the last two-digit number which is divisible by 4.
So, the number 3464 will be divisible by 4.
- **Divisibility by 5 :**
A number is divisible by 5, if the unit digit of the number is either 0 or 5.
Ex. : 3125, 2010, 2015, 6580....., etc. are divisible by 5.
- **Divisibility by 6 :**
A number is divisible by 6, if the number is divisible by the numbers 2 and 3.
Ex. : Test whether number 8202 is divisible by 6.
Sol. : (i) the unit digit of the number is 2 which is divisible by 2.
(ii) the sum of digits of the number = $8 + 2 + 0 + 2 = 12$ (divisible by 3)
Since, it is clear from (i) and (ii) that the number 8202 is divisible by both 2 and 3. So, the number will be divisible by 6.
- **Divisibility by 7 :**
Take the last digit of the given number and double it. Subtract this number from the rest of the digits in the original number. If this new number is either 0 or if it is a number that is divisible by 7, then the given number is also divisible by 7.
Ex. : Test whether number 2492 is divisible by 7.
Sol. : Here, the unit digit of the number = 2
 $249 - 2 \times 2 = 245$ (divisible by 7). So, the number will be divisible by 7.
- **Divisibility by 8 :**
A number is divisible by 8, if the last three-digits of the number is divisible by 8.
Example : Test whether number 6288 is divisible by 8.
Solution : Here, in the given number, 288 is the last three-digit number which is completely divisible by 8.
So, the number 6288 will be divisible by 8.

- **Divisibility by 9 :**
A number is divisible by 9, if the sum of its digits is divisible by 9.

Example : Test whether number 7074 is divisible by 9.

Solution : Sum of all digits of the number = $7 + 0 + 7 + 4 = 18$ (divisible by 9).

So, the number 7074 will be divisible by 9.

- **Divisibility by 11 :**
A number is divisible by 11, if difference between the sum of digits at odd places and the sum of digits at even places, is divisible by 11.

Example : Test whether number 86460 is divisible by 11.

Solution : Sum of the all digits at even places in the number = $6 + 6 = 12$

Sum of the all digits at odd places in the number = $8 + 4 + 0 = 12$

Their difference = $12 - 12 = 0$. So, the number 86460 will be divisible by 11.

8. Division Algorithm

The number which we divide is called the dividend. The number by which we divide is called the divisor. The result obtained is called the quotient. The number left over is called the remainder. Some formula are given below for Division based questions.

- Dividend = Divisor \times Quotient + Remainder
- Divisor = $\frac{\text{Dividend} - \text{Remainder}}{\text{Quotient}}$
- Quotient = $\frac{\text{Dividend} - \text{Remainder}}{\text{Divisor}}$

Example : In a question, the divisor is 4 times the quotient and 2 times the remainder. If the remainder is 20, then find the value of dividend.

Solution : According to Question,

$$\text{Divisor} = 2 \times \text{Remainder} = 2 \times 20 = 40 \quad \dots(1)$$

And, Divisor = $4 \times$ Quotient

$$\Rightarrow 4 \times \text{Quotient} = 40 \quad [\text{from eq.(1)}]$$

$$\Rightarrow \text{Quotient} = 40/4 = 10$$

$$\therefore \text{Dividend} = 40 \times 10 + 20 = 400 + 20 = 420$$

9. Whole Numbers

We start counting from the number 1. Hence 1 is the first natural number and the next natural number is 2 which is obtained by adding 1 to the first number. Hence, numbers are represented in two ways according to their orderliness :

- **Predecessor :** The natural number immediately preceding a natural number is its predecessor.

Example : Predecessor number of 65 = $65 - 1 = 64$

Predecessor number of 127 = $127 - 1 = 126$

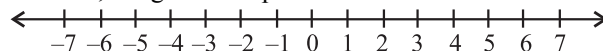
- **Successor :** The natural number immediately next to any natural number is its successor.

Example : Successor number of 785 = $785 + 1 = 786$

Successor number of 109 = $109 + 1 = 110$

10. Integers

The set of all negative numbers and positive numbers on either side of the zero marked on the number line is called an integer. $-5, -4, -3, -2, -1, 0, 1, 2, 3, 4,$ and 5 all are the integers. On the number line, integers are represented as follows :



$$= \frac{795}{13} = 53$$

11. To Find Unit's Digit

Following is the method to find the unit digit in product of numbers and in power form of number :

- I. In product of numbers**—We find the product of unit digits of all numbers to find the unit digit in the product of numbers. The unit digit of obtained product is equal to the unit digit in product of given numbers.

Ex. : Find the unit digit in product of $786 \times 78 \times 687$

(A) 4 (B) 5 (C) 6 (D) 2

Sol. (C) : Here, we multiply the unit digits of all numbers in $786 \times 78 \times 687$.

$$= \text{Unit digit in } 6 \times 8 \times 7$$

$$= \text{Unit digit in } 336 = 6$$

So, 6 will be the unit digit in the given product.

- II. In Exponential number :**

(i) **For odd numbers :** When unit digit is an odd number excluding 5, then

$$(\times\times\times 1)^n = (\times\times\times 1)$$

$$(\times\times\times 3)^{4n} = (\times\times\times 1)$$

$$(\times\times\times 7)^{4n} = (\times\times\times 1)$$

$$(\times\times\times 9)^n = (\times\times\times 1), \text{ if } n \text{ is an even number}$$

$$= (\times\times\times 9), \text{ if } n \text{ is an odd number.}$$

Ex. : Find the unit digit in $(27)^{43}$

(A) 3 (B) 4 (C) 5 (D) 6

Sol. (A) : Unit digit in $(27)^{43}$

$$= \text{Unit digit in } (7)^{43}$$

$$= \text{Unit digit in } (7)^{4 \times 10 + 3}$$

$$= \text{Unit digit in } (7)^3$$

$$= 3$$

(ii) **For Even numbers :**

$$(\times\times\times 2)^{4n} = (\times\times\times 6)$$

$$(\times\times\times 4)^{2n} = (\times\times\times 6)$$

$$(\times\times\times 6)^n = (\times\times\times 6)$$

$$(\times\times\times 8)^{4n} = (\times\times\times 6)$$

Ex. : Find the unit digit in $(44)^{69}$
 (A) 5 (B) 4 (C) 6 (D) 2

Sol. (B) : Unit digit in $(44)^{69}$
 = Unit digit in $(4)^{69}$

= Unit digit in $(4)^{2 \times 34 + 1}$
 = Unit digit in $(6 \times 4) = 4$

Note : If unit digits of a number is 0, 1, 5 and 6, then the unit digit in exponent of that number will also be 0, 1, 5 and 6 respectively.

Important Questions

1. If two numbers are divided by the same divisor, then the remainders are 3 and 4 respectively. If the sum of numbers are divided by the same divisor, the remainder is 2, then find the divisor.
 (A) 9 (B) 7
 (C) 5 (D) 3
2. What will be the remainder on dividing $141 \times 142 \times 143$ by 6 ?
 (A) 0 (B) 2
 (C) 4 (D) 5
3. Fill the smallest digit that will make 93856 ? 294 divisible by 9.
 (A) 0 (B) 4
 (C) 5 (D) 8
4. If n is an integer, then by what number $(n^3 - n)$ will be divisible ?
 (A) 4 (B) 5
 (C) 6 (D) 7
5. If the unit digit of $433 \times 456 \times 43N$ is $(N + 2)$, then what is the value of N ?
 (A) 1 (B) 8
 (C) 3 (D) 6
6. The last 2 digits of a 200 digit number 1230123001230001230000.....are :
 (A) 00 (B) 01
 (C) 12 (D) 23
7. A man engaged a servant on the condition that he would pay him ₹ 90 and a turban after a service of one year. He served only for nine months and received the turban and ₹ 65. The price of turban is :
 (A) 25 (B) 18.75
 (C) 10 (D) 2.50
8. The sum of three numbers is 2. First number is $\frac{1}{2}$ times of second number and third number is $\frac{1}{4}$ times the second number. What will be the second number ?
 (A) $\frac{7}{6}$ (B) $\frac{8}{7}$
 (C) $\frac{9}{8}$ (D) $\frac{10}{9}$
9. There are two teams A and B. If 3 people move from A team to B team, then the number of members in B team is 3 times than A team. If 2 people are brought from team B to team A then team B has twice as many members as team A. How many members were originally in team B ?
 (A) 15 (B) 18
 (C) 42 (D) 45
10. In competitions of race, there is a run of 100 yards as well as 100 metres. How many metres is 100 metres more than 100 yards ?
 (A) 0.856 metre
 (B) 8.56 metres
 (C) 0.0856 metre (D) 1.06 metres
11. How many numbers from 0 to 999 are neither divisible by 5 nor by 7 ?
 (A) 313 (B) 341
 (C) 686 (D) 786
12. 1800 chocolates were distributed among students in a class. Each student gets the chocolates twice the number of students in the class. Find the number of students in the class.
 (A) 30 (B) 40
 (C) 60 (D) 90
13. Which of the following statements is not correct ?
 (A) Every natural number is a real number
 (B) Every real number is a rational number
 (C) Every integer is a rational number
 (D) Every natural number is an integer.
14. How many composite numbers are there between 67 and 101 ?
 (A) 27 (B) 26
 (C) 24 (D) 23
15. If $*$ is a operation so that $a * b = a + b$ when, $a > 0, b > 0$ $a * b = \sqrt{a^2 + b^2}$, for other values of a and b then the value of $\frac{8*(7-13)-(3*1)}{(3-6)*(9-5)}$ will be :
 (A) $\frac{1}{5}$ (B) $\frac{4}{5}$
 (C) $\frac{6}{5}$ (D) $\frac{2}{5}$

Solutions

1. (C) **By Remainder Theorem,**

When two numbers are divided by the same number leaving remainders r_1 and r_2 respectively and the sum of these numbers are also divided by the same divisor leaving the remainder r_3

then, divisor = $r_1 + r_2 - r_3$

∴ Required divisor = $3 + 4 - 2 = 5$

2. (A) $141 = 3 \times 47$ and $142 = 2 \times 71$

$$\therefore \frac{141 \times 142 \times 143}{6}$$

$$= \frac{3 \times 47 \times 2 \times 71 \times 143}{6}$$

which is exactly divisible by 6, so remainder = 0

3. (D) By the divisibility rule of 9, if the sum of all digits of the given number is divisible by 9, then the number will also be divisible by 9
 So, $(9 + 3 + 8 + 5 + 6$

$$+ ? + 2 + 9 + 4) / 9$$

$$\Rightarrow \frac{46 + ?}{9}$$

∴ On putting minimum value 8 in place of ?, the number will divisible by 9.

4. (C) In $n^3 - n$

$$\text{put } n = 2, 8 - 2 = 6$$

$$\text{put } n = 3, 27 - 3 = 24$$

$$\text{put } n = 4, 64 - 4 = 60$$

put $n = 5$, $125 - 5 = 120$

∴ Answer will be in the multiple of 6 for each value of n

∴ Required number = 6

5. (D) From question,

Unit digit of $433 \times 456 \times 43N$

$$= N + 2$$

⇒ Unit digit of $8 \times 43N = N + 2$

So, $8 = N + 2$

or $N = 8 - 2 = 6$

(Here, on putting $N = 6$, 8 will come at units place)

6. (A) By general understanding,

In the given 200 digit number, zero are increasing after 123 digits. So it is clear that last digit will also be 100 of the above number.

7. (C) **By Logical Method,**

Months Rupees + Turban

$$12 \text{ ₹ } 90 + \text{ Turban } \dots(i)$$

$$\frac{9 \text{ ₹ } 65 + \text{ Turban } \dots(ii)}{3 \text{ ₹ } 25}$$

If ₹ 25, is received for 3 months then money will receive for 9 months

$$= 3 \times 25 = \text{₹ } 75$$

But from equation (ii),

$$\text{₹ } 65 + \text{ Turban } = \text{₹ } 75$$

$$\Rightarrow \text{ Turban } = \text{₹ } 75 - \text{₹ } 65$$

$$= \text{₹ } 10$$

8. (B) Let,

Third number = x

∴ Second number = $4x$

∴ First number = $2x$

Now, $2x + 4x + x = 2$

$$\Rightarrow x = \frac{2}{7}$$

$$\therefore \text{ Second number } = 4 \times \frac{2}{7} = \frac{8}{7}$$

9. (C) According to the question,

$$\frac{A-3}{B+3} = \frac{1}{3} \text{ and } \frac{A+2}{B-2} = \frac{1}{2}$$

$$\Rightarrow 3A - B = 12 \text{ and } 2A - B = -6$$

On solving the above equations,

$$B = 42$$

10. (B) ∴ 1 yard = 36 inch

and 1 inch = 2.54 cm

$$\therefore 1 \text{ yard} = 36 \times 2.54 \text{ cm}$$

$$\therefore 100 \text{ yard} = \frac{36 \times 2.54}{100} \text{ 100 metre}$$

$$= 91.44 \text{ m}$$

$$\text{So, } 100 - 91.44 = 8.56 \text{ m}$$

11. (C) Number divisible by 7 from 0 to 999 are :

$$= \frac{999}{7} = 142 \frac{5}{7} \approx 142$$

∴ The number which are divisible by both 5 and 7

$$= 142 + 199 - 28$$

$$= 313$$

∴ Numbers divisible by 5 or 7

$$= 999 - 313$$

$$= 686$$

12. (A) Let, total number of students = m

From question,

$$m \times 2m = 1800$$

$$\Rightarrow 2m^2 = 1800$$

$$\Rightarrow m = \sqrt{900} = 30$$

So, total number of students = 30

13. (D) Every natural number is not an integer.

14. (A) (68, 69, 70, 72, 74, 75 100)

Numbers greater than 1, which are not prime, are called "composite number".

So, Numbers = 27

15. (C) Given, $a * b = a + b$, $a > 0$, $b > 0$

and $a * b = \sqrt{a^2 + b^2}$, for other values of a, b

Now,

$$\frac{8 * (7 - 13) - (3 * 1)}{(3 - 6) * (9 - 5)}$$

$$= \frac{8 * (-6) - (3 + 1)}{(-3) * (4)}$$

$$= \frac{\sqrt{(8)^2 + (-6)^2} - 4}{\sqrt{(-3)^2 + (4)^2}}$$

$$= \frac{10 - 4}{5} = \frac{6}{5}$$

$$= \frac{10 - 4}{5} = \frac{6}{5}$$

□□

अध्याय 1

अपठित गद्यांश एवं पद्यांश

महत्वपूर्ण अभ्यास प्रश्न

निर्देश (प्रश्न संख्या 1 से 5 तक)

एक गद्यांश दिया गया है। गद्यांश के आधार पर पाँच प्रश्न दिए गए हैं। गद्यांश को ध्यानपूर्वक पढ़ें तथा प्रत्येक प्रश्न के चार विकल्पों में से सही विकल्प चुनें। किसी भी राष्ट्र की राष्ट्रभाषा वह होती है, जिसे उसमें रहने वाले अधिकांश नागरिक बोलते, समझते और व्यवहार में लाते हैं। इसके साथ-साथ उस देश की अपनी राष्ट्रभाषा का होना भी अत्यन्त आवश्यक होता है। भारत में हिन्दी ही एकमात्र ऐसी भाषा है जिसे लेह - लद्दाख से लक्षद्वीप और अरुणाचल प्रदेश से जैसलमेर तक सभी लोग बोलते हैं इसलिए हिन्दी भारत की राष्ट्रभाषा है।

हिन्दी को राष्ट्रभाषा का गौरव दिलाने में स्वतंत्रता सेनानियों ने अहम् भूमिका निभाई है। वस्तुतः हिन्दी द्वारा ही स्वतंत्रता का संघर्ष लड़ा गया। इसके माध्यम से ही सभी नेता और क्रांतिकारी विचारों का आदान-प्रदान करते थे। हिन्दी के लिए गौरव का विषय यह रहा कि इसे राष्ट्रभाषा का स्थान अहिंदीभाषियों ने दिलाया। महात्मा गाँधी, सुभाषचंद्र बोस, लोकमान्य तिलक आदि अहिंदीभाषी थे। उन्होंने स्वतंत्रता आंदोलन में हिंदी भाषा का ही प्रयोग किया। सामाजिक कुरीतियों से छुटकारा दिलाने के लिए जिन महापुरुषों ने महत्वपूर्ण भूमिका निभाई उनमें स्वामी विवेकानंद और स्वामी दयानंद प्रमुख थे। दोनों ने सामाजिक कुरीतियों को दूर करके जिस भाषा द्वारा भारत को नया आध्यात्मिक चिंतन दिया वह हिंदी ही थी। महात्मा गाँधी ने तो यहाँ तक कहा था—'अंग्रेजी कभी राष्ट्रभाषा नहीं बन सकती। जो स्थान हिंदी को प्राप्त है, वह किसी दूसरी भाषा को नहीं मिल सकता।' पंडित जवाहरलाल नेहरू ने 16 मई सन् 1931 को सेठ गोविंददास को लिखा था—हिंदी ने अब पूर्णतः राष्ट्रभाषा की भूमिका ले ली है। नेताजी सुभाष चंद्र बोस ने 20 सितंबर 1928 को कहा था, 'यदि हमने तन, मन और धन से प्रयत्न किया तो वह दिन दूर नहीं जब भारत स्वाधीन होगा और उसकी राष्ट्रभाषा हिंदी होगी।'

- जवाहरलाल नेहरू ने कब लिखा कि "हिंदी ने अब पूर्णतः राष्ट्रभाषा की भूमिका ले ली है"?
(A) 16 मई सन्, 1931
(B) 20 सितम्बर सन्, 1928
(C) 16 मई सन्, 1932
(D) 16 जून सन्, 1931

- स्वतंत्रता आंदोलन में किस भाषा का प्रयोग किया।
(A) उर्दू (B) हिन्दी
(C) संस्कृत (D) अंग्रेजी
- उपर्युक्त गद्यांश का शीर्षक होगा—
(A) राष्ट्रभाषा हिन्दी (B) हिन्दी
(C) भारतमाता (D) लोगों की भाषा
- "अंग्रेजी कभी राष्ट्रभाषा नहीं बन सकती" किसने कहा ?
(A) जवाहर लाल नेहरू
(B) सुभाषचंद्र बोस
(C) स्वामी विवेकानंद
(D) महात्मा गाँधी
- किसने कहा "यदि हमने तन, मन और धन से प्रयत्न किया तो वह दिन दूर नहीं जब भारत स्वाधीन होगा और उसकी राष्ट्रभाषा हिंदी होगी" ?
(A) स्वामी विवेकानंद (B) सुभाषचंद्र बोस
(C) महात्मा गाँधी (D) जवाहरलाल नेहरू

निर्देश (प्रश्न संख्या 6 से 10 तक)

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें।

महिलाओं को शिक्षा के क्षेत्र के समान चिकित्सा के क्षेत्र में भी आना चाहिए। महिलाएँ शरीर और स्वभाव दोनों ही रूप से इस कार्य के लिए उपयुक्त होती हैं। हमारे देश में कई जगह महिलाएँ अक्सर बीमार और कमजोर रहती हैं। उनके बच्चे भी कुपोषण के कारण अकाल मृत्यु के ग्रास बन जाते हैं। महिलाओं की इस तरह की समस्याओं का समाधान महिलाएँ ही भली-भांति कर सकती हैं। कुछ महिलाएँ व्यवसाय को अपनाता तो चाहती हैं पर उनके पति इस व्यवसाय को अपनी प्रतिष्ठा के अनुकूल नहीं मानते। इस तरह विवश होकर महिलाओं को चिकित्सा के व्यवसाय से विमुख होना पड़ता है। पतियों को समाज के हित में अपने निरर्थक अहंकार की भावना का त्याग कर अपनी पत्नियों को चिकित्सा के क्षेत्र में जाने के लिए प्रेरित करना चाहिए। यदि पुरुष ऐसा कर सकें तो समाज और परिवार दोनों का ही कल्याण होगा।

- इनमें से कौन -सा विमुख का विलोम शब्द है ?
(A) ओर (B) एकाग्र
(C) सन्मुख (D) दो मुख

- इस अनुच्छेद का कोई उपयुक्त शीर्षक—
(A) पुरुषों की स्वीकृति
(B) अप्रतिष्ठित व्यवसाय
(C) चिकित्सा के क्षेत्र में महिलाओं की आवश्यकता
(D) समाज हित
- महिलाओं को चिकित्सा के क्षेत्र में क्यों आगे आना चाहिए ?
(A) क्योंकि वह शरीर और स्वभाव दोनों से ही इसके अनुकूल हैं
(B) क्योंकि इस क्षेत्र में आने के लिए उनके पास बहुत समय है
(C) क्योंकि वह शरीर और स्वभाव दोनों से ही इसके प्रतिकूल हैं
(D) क्योंकि यह क्षेत्र सिर्फ महिलाओं के लिए है
- समाज हित में भारतीय पतियों से क्या अपेक्षा की गई है ?
(A) कि वे पत्नियों के साथ चिकित्सा के क्षेत्र में आ जाए
(B) कि वे पत्नियों को वहीं करने दे जो वे स्वयं चाहते हैं
(C) कि वे पत्नियों को चिकित्सा के क्षेत्र में जाने के लिए मना करें
(D) कि वे पत्नियों को चिकित्सा के क्षेत्र में जाने के लिए प्रेरित करें
- लेखक के अनुसार वर्तमान में महिलाएँ किस क्षेत्र में अधिक कार्यरत हैं ?
(A) अस्वस्थ के तौर पर
(B) कमजोरी के क्षेत्र में
(C) चिकित्सा के क्षेत्र में
(D) शिक्षा के क्षेत्र में

निर्देश (प्रश्न संख्या 11 से 15 तक)

नीचे दिए गए गद्यांश को ध्यानपूर्वक पढ़ें और चार विकल्पों में से प्रत्येक प्रश्न का सर्वोत्तम उत्तर चुनें—

संस्कृतियों के निर्माण में एक सीमा तक देश और जाति का योगदान रहता है। संस्कृति के मूल उपदान तो प्रायः सभी सुसंस्कृत और सम्य देशों में एक सीमा तक समान रहते हैं, किन्तु बाह्य उपादानों में अंतर अवश्य आता है। राष्ट्रीय या जातीय संस्कृति का

सबसे बड़ा योगदान यही है कि वह हमें अपने राष्ट्र की परम्परा से संतुप्त बनाती है, अपनी रीति-नीति की संपदा से विच्छिन्न नहीं होने देती। आज के युग में राष्ट्रीय एवं जातीय संस्कृतियों के मिलन के अवसर अति सुलभ हो गए हैं। कुछ ऐसे विदेशी प्रभाव हमारे देश पर पड़ रहे हैं, जिनके आतंक ने हमें स्वयं अपनी संस्कृति के प्रति संशयालु बना दिया है। हमारी आस्था डिगने लगी है। यह हमारी वैचारिक दुर्बलता का फल है।

11. राष्ट्रीय या जातीय संस्कृति का सबसे बड़ा योगदान क्या है ?
 - (A) कि यह अपने रीति-रिवाजों से दूर नहीं होने देती
 - (B) कि यह अपने रीति-रिवाजों से दूर कर देती है
 - (C) कि यह हमें सुसंस्कृत नहीं होने देती
 - (D) कि यह हमें राष्ट्र की परम्परा से दूर कर देती है
12. इस अनुच्छेद का कोई उपयुक्त शीर्षक—
 - (A) बाह्य उपादान (B) संस्कृति का प्रभाव
 - (C) जातीय संस्कृति (D) आस्था की कमी
13. अपनी संस्कृति के प्रति संशयालु होना या आस्था में कमी होने का क्या कारण है ?
 - (A) बाह्य उपादानों में अंतर
 - (B) राष्ट्रीय एवं जातीय संस्कृतियाँ
 - (C) वैचारिक दुर्बलता
 - (D) वैचारिक सबलता
14. अनुच्छेद के अनुसार संस्कृतियों के निर्माण में किसका योगदान रहा है ?
 - (A) विदेशों का
 - (B) देश और जाति का
 - (C) राष्ट्र की सम्पदा का
 - (D) देशों की सीमा का
15. इनमें से कौन-सा सुलभ का विलोम शब्द है ?
 - (A) दुर्लभ (B) अधीन
 - (C) सस्ता (D) आसान

निर्देश (प्रश्न संख्या 16 से 20 तक)

एक गद्यांश दिया गया है। गद्यांश को ध्यानपूर्वक पढ़ें तथा प्रत्येक प्रश्न के चार विकल्पों में से सही विकल्प चुनें—

सम्पूर्ण विश्व में 8 मार्च को अन्तर्राष्ट्रीय महिला दिवस मनाया जाता है। इस दिवस को मनाने का उद्देश्य नारी को उसके अधिकारों के प्रति प्रोत्साहित कर उसे सशक्त होने का अवसर प्रदान करना है जिससे वह न केवल खुद को सशक्त कर सके बल्कि उन्नत समाज के लिए महत्वपूर्ण योगदान दे

सके। भारत में, महिलाओं को सशक्त बनाने के लिये सबसे पहले समाज में उनके अधिकारों और मूल्यों को मारने वाले उन सभी राक्षसी सोच को मारना जरूरी है। जैसे—दहेज प्रथा, यौन हिंसा, अशिक्षा, भ्रूण हत्या, असमानता, महिलाओं के प्रति घरेलू हिंसा, कार्य स्थान पर यौन शोषण, बाल मजदूरी, वेश्यावृत्ति, मानव तस्करी आदि। स्त्री को सृजन की शक्ति माना जाता है। इस सृजन की शक्ति को विकसित-परिष्कृत कर उसे सामाजिक, आर्थिक, राजनैतिक न्याय, विचार, विश्वास, धर्म और उपासना की स्वतन्त्रता, अवसर की समानता का सुअवसर प्रदान करना ही नारी सशक्तिकरण का आशय है। बदलते समय के साथ आधुनिक युग की नारी पढ़-लिख कर स्वतन्त्र है। वह अपने अधिकारों के प्रति सजग है तथा स्वयं अपना निर्णय लेती है। अब वह चारदीवारी से बाहर निकलकर देश के लिए विशेष महत्वपूर्ण कार्य करती है। आज स्त्री की छवि भले ही 'पवित्र आदरणीय देवी' की नहीं है लेकिन भारतीय संस्कृति के इतिहास के पन्ने पलट कर देखें तो नर और नारी को गृहस्थी की गाड़ी चलाने के लिए दो पहियों की भाँति माना गया है। एक ने बिना दूसरा अधूरा तथा आश्रयहीन था। आज देश में नारी शक्ति को सभी दृष्टि से सशक्त बनाने के प्रयास किये जा रहे हैं।

16. देश में कौन-सी शक्ति को सभी दृष्टि से सशक्त बनाने का प्रयास कर रहे हैं ?
 - (A) बाल शक्ति
 - (B) वृद्ध शक्ति
 - (C) नर शक्ति
 - (D) नारी शक्ति
17. आधुनिक युग में क्या बदलाव देखने को मिला है ?
 - (A) नारी पढ़-लिखकर चारदीवारी में है।
 - (B) नारी पढ़-लिखकर स्वतन्त्र है।
 - (C) नारी दहेज प्रथा व यौन शोषण का शिकार।
 - (D) अपने अधिकारों के प्रति सजग नहीं है।
18. स्त्री को कौन-सी शक्ति भी माना जाता है ?
 - (A) असृजन (B) सृजन
 - (C) हिंसा (D) शोषण
19. सम्पूर्ण विश्व में अन्तर्राष्ट्रीय महिला दिवस कब मनाया जाता है ?
 - (A) 10 मार्च (B) 8 मार्च
 - (C) 5 मार्च (D) 9 मार्च
20. उपर्युक्त गद्यांश का उपयुक्त शीर्षक क्या होगा ?
 - (A) नारी-दहेज प्रथा
 - (B) नारी राजनैतिक अन्याय
 - (C) नारी चारदीवारी के भीतर
 - (D) नारी सशक्तिकरण

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एक गद्यांश दिया गया है। गद्यांश को ध्यानपूर्वक पढ़ें तथा प्रत्येक प्रश्न के चार विकल्पों में से सही विकल्प चुनें—

किसी भी स्वतन्त्र राष्ट्र की अपनी एक भाषा होती है जो उसका गौरव होती है। राष्ट्रीय एकता और राष्ट्र के स्थायित्व के लिए राष्ट्रभाषा अनिवार्य रूप से होनी चाहिए जो किसी भी राष्ट्र के लिये सर्वोपरि होती है। स्वतन्त्रता के बाद भारत की संविधान सभा ने 14 सितम्बर, 1949 को हिंदी भाषा को भारत संघ की राजभाषा के रूप में मान्यता दी थी। किसी भी भाषा को राष्ट्रभाषा बनाने के लिए उसमें सर्वव्यापकता, प्रचुर साहित्य रचना, बनावट की दृष्टि से सरलता और वैज्ञानिकता, सब प्रकार के भावों को प्रकट करने का सामर्थ्य आदि गुण होने अनिवार्य होते हैं। यह सभी गुण हिंदी भाषा में हैं। हिंदी जनसम्पर्क का सरल व सुगम साधन है। आजादी के बाद जब सम्पूर्ण राष्ट्र को एक सूत्र में बाँधकर रखने की आवश्यकता महसूस हुई तो यह उत्तरदायित्व हिंदी को दिया गया। तभी 14 सितम्बर, 1949 को हिंदी को राजभाषा के पद पर आसीन किया गया। आज हिंदी भाषा को अपने ही घर में, अपने ही देश में श्वास लेने में कठिनाई हो रही है। हम हिंदी में लिखना नहीं चाहते, पढ़ना नहीं चाहते, बोलना नहीं चाहते। महात्मा गाँधी का कथन—'राष्ट्रभाषा के बिना देश गूंगा है।' अथवा श्री कमलापति त्रिपाठी का कथन—'हिंदी भारतीय संस्कृति की आत्मा है।' विश्व में हिंदी भाषा ने अपनी पहचान बनाने के लिए हमारे विचारों की सुदृढ़ नींव रखी। रामचरितमानस, सूरदास के पद, भगवद्गीता आदि अनेक महान ग्रन्थ जिनकी प्रशंसा करते पूरा विश्व नहीं थकता, उनके आनन्द में सब आनन्दित होना चाहते हैं। यहाँ पर एक विशेष ध्यान देने योग्य तथ्य यह है कि हिंदी का अर्थ सिर्फ खड़ी बोली से नहीं है। हिंदी परिवार में इसके जितने रूप हैं वे सब हिंदी ही हैं। भाषा हमारे विचारों के आदान-प्रदान का एक सशक्त माध्यम है। हजारी प्रसाद द्विवेदी जी ने कहा है—मनुष्य ही बड़ी चीज है और भाषा उसी की सेवा के लिए है। वहीं कबीर दास जी ने भाषा को 'बहता नीर' कहा है। यदि दोनों विद्वानों के कथन को मिलाकर देखा जाए तो हिंदी भाषा बहता नीर बनकर मनुष्य की सेवा कर रही है।

21. हिंदी भाषा को भारत संघ की कौन-सी भाषा के रूप में मान्यता दी गई थी ?
 - (A) संघभाषा (B) विरोधी भाषा
 - (C) सम्पर्क भाषा (D) राजभाषा
22. हिंदी भाषा को विचारों के आदान-प्रदान करने का कैसा माध्यम माना जाता है ?
 - (A) सुशोभित (B) सशक्त
 - (C) कमजोर (D) शक्तिहीन

23. कौन-सी भाषा में सभी गुण माने गए हैं?
 (A) अवधी (B) बंगाल
 (C) खड़ी (D) हिंदी
24. उपर्युक्त गद्यांश का उपयुक्त शीर्षक क्या होगा?
 (A) अवधी भाषा का महत्व
 (B) राजभाषा हिंदी का महत्व
 (C) संघ भाषा का महत्व
 (D) अंग्रेजी भाषा का महत्व
25. स्वतन्त्रता के बाद संविधान सभा ने हिंदी भाषा को कब मान्यता दी थी?
 (A) 15 सितम्बर, 1950
 (B) 19 सितम्बर, 1949
 (C) 11 सितम्बर, 1948
 (D) 14 सितम्बर, 1949

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एक गद्यांश दिया गया है। गद्यांश को ध्यानपूर्वक पढ़ें तथा प्रत्येक प्रश्न के चार विकल्पों में से सही विकल्प चुनें।

प्लास्टिक प्रदूषण पर्यावरण में भारी मात्रा में प्लास्टिक कचरे के इकट्ठे हो जाने से उत्पन्न होता है। प्लास्टिक एक गैर नॉन बायो-डिग्रेडिबल पदार्थ है, यह पानी या मिट्टी में विघटित नहीं होता है और इसे जलाने पर इसका प्रभाव और भी ज्यादा हानिकारक हो जाता है। यह वातावरण में सैकड़ों सालों तक उपस्थित रहता है, जिससे यह वायु, जल और भूमि प्रदूषण उत्पन्न करता है। इसके साथ ही मनुष्य, जीव-जन्तुओं और पेड़-पौधों के लिए भी बहुत हानिकारक है, प्लास्टिक प्रदूषण के चलते प्रतिवर्ष कई जीव-जन्तुओं और समुद्री जीवों की मृत्यु हो जाती है। प्लास्टिक प्रदूषण को रोकने के लिये सबसे महत्वपूर्ण कदम यह है कि हमें प्लास्टिक के उपयोग से बचना चाहिए, क्योंकि अब हम इनके उपयोग के आदी हो चुके हैं तथा यह काफी सस्ते भी हैं, इसलिये हम इनके उपयोग को पूरी तरह से बंद नहीं करते हैं। हालांकि हम उन प्लास्टिक उत्पादों के उपयोग पर आसानी से रोकथाम लगा सकते हैं, जिनके लिए हमारे पास इको-फ्रेंडली विकल्प उपलब्ध हैं। जैसा कि उदाहरण के लिये, बाजार से सामान खरीदते समय हम प्लास्टिक बैग की जगह जूट, कपड़े या पेपर से बने थैलों का इस्तेमाल कर सकते हैं। ठीक इसी तरह पार्टियों और उत्सवों के दौरान हम प्लास्टिक के बर्तन और अन्य सामानों के उपयोग की जगह स्टील, कागज, थर्माकोल या अन्य उत्पादों से निर्मित वस्तुओं का उपयोग कर सकते हैं, जिनका आसानी से पुनरुपयोग और निस्तारण किया जा सके। पिछले कुछ दशकों में प्लास्टिक, प्रदूषण का स्तर काफी

तेजी से बढ़ा है, जोकि एक गंभीर चिंता का विषय है। हमारे द्वारा प्लास्टिक के बढ़ते उपयोग को रोककर ही इस भयावह समस्या पर काबू पाया जा सकता है। हममें से हर एक व्यक्ति को इस समस्या के निवारण के लिये आगे आना होगा और इसे रोकने में अपना बहुमूल्य योगदान देना होगा।

26. निम्न में से कौन-सी उपयोगी वस्तु इको फ्रेंडली नहीं है ?
 (A) प्लास्टिक (B) थर्माकोल
 (C) कागज (D) जूट
27. प्लास्टिक कौन-सा पदार्थ है?
 (A) गैर-बायोडिग्रेडिबल
 (B) धातु निर्मित
 (C) इको फ्रेंडली
 (D) बायोडिग्रेडिबल
28. उपर्युक्त गद्यांश का उपयुक्त शीर्षक क्या होगा ?
 (A) प्लास्टिक-बहुमूल्य वस्तु
 (B) प्लास्टिक-इको फ्रेंडली
 (C) प्लास्टिक-लाभदायक वस्तु
 (D) प्लास्टिक-चिंता का विषय
29. प्लास्टिक का उपयोग करना हमारे स्वास्थ्य के लिए कैसा रहता है ?
 (A) हानिकारक (B) अधिक उपयोगी
 (C) पुनरुपयोग (D) लाभकारी
30. प्लास्टिक प्रदूषण कौनसी समस्या बनकर उत्पन्न हो रही है ?
 (A) उन्नति (B) बहुमूल्य
 (C) इको फ्रेंडली (D) भयावह

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एक गद्यांश दिया गया है। गद्यांश के आधार पर प्रश्न दिए गए हैं। गद्यांश को ध्यानपूर्वक पढ़ें तथा प्रत्येक प्रश्न के चार विकल्पों में से सही विकल्प चुनें।

बेहतर शिक्षा सभी के लिए जीवन में आगे बढ़ने और सफलता प्राप्त करने के लिए बहुत आवश्यक है। यह हम में आत्मविश्वास विकसित करने के साथ ही हमारे व्यक्तित्व निर्माण में भी सहायता करती है। स्कूली शिक्षा जीवन में महान भूमिका निभाती है। पूरे शिक्षा तंत्र को प्राथमिक शिक्षा, माध्यमिक शिक्षा और उच्च शिक्षा जैसे तीन भागों में बाँटा गया है। शिक्षा के सभी स्तर अपना एक विशेष महत्व व स्थान रखते हैं। आज के इस प्रतियोगी संसार में, सभी के लिए शिक्षा प्राप्त करना बहुत आवश्यक है। उच्च शिक्षा का महत्व नौकरी और अच्छा पद प्राप्त करने के लिए बहुत अधिक बढ़ गया है। उचित शिक्षा भविष्य में आगे बढ़ने के लिए बहुत से रास्तों का निर्माण

करती है। यह हमारे ज्ञान के स्तर, तकनीकी कौशल और नौकरी में उच्च पद को प्राप्त करने के द्वारा हमें सामाजिक, मानसिक और बौद्धिक रूप से मजबूत बनाती है। हरेक बच्चा अपने जीवन में कुछ अलग करने का सपना रखता है। शिक्षा लोगों के मस्तिष्क को उच्च स्तर पर विकसित करने का कार्य करती है और समाज में लोगों के बीच सभी भेदभावों को हटाने में मदद करती है। शिक्षा हमें अच्छा अध्ययन कर्ता बनने में मदद करती है और जीवन के हर पहलू को समझने के लिए सूझ-बूझ को विकसित करती है। शिक्षा सभी मानव अधिकारों, सामाजिक अधिकारों, देश के प्रति कर्तव्यों और दायित्वों को समझने में भी हमारी सहायता करती है। शिक्षा का हमारे जीवन में अत्यधिक महत्व है।

31. उपर्युक्त गद्यांश का उपयुक्त शीर्षक क्या होगा?
 (A) बेरोजगारी के अवसर
 (B) शिक्षा का महत्व
 (C) शिक्षकों का महत्व
 (D) रोजगार का महत्व
32. शिक्षा के माध्यम से क्या विकसित करने में सहायता मिलती है ?
 (A) अच्छा पद (B) बेहतर शिक्षा
 (C) अपराध (D) आत्मविश्वास
33. उच्च शिक्षा क्या प्राप्त करने में सहायक है ?
 (A) नौकरी (B) भुखमरी
 (C) बेरोजगारी (D) सपने
34. हर एक बच्चा क्या सपना रखता है ?
 (A) अनुशासन को मिटाने में
 (B) दायित्व पूर्ण करने, में सफल होने में
 (C) कर्तव्य पालन का
 (D) जीवन में कुछ अलग करने का
35. पूरे शिक्षा तंत्र को कितने भागों में बाँटा गया है ?
 (A) पाँच (B) दो
 (C) चार (D) तीन

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निम्नलिखित गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों के उत्तर दीजिए—

सच्चे वीर अपने प्रेम के जोर से लोगों को सदा के लिए बाँध देते हैं। वीरता की अभिव्यक्ति कई प्रकार से होती है, कभी लड़ने-मरने से, खून बहाने से, तो तोप तलवार के सामने बलिदान करने से होती है, तो कभी जीवन के गूढ़ तत्व और सत्य की तलाश में बुद्ध जैसे राजा विरक्त होकर वीर हो जाते हैं। वीरता एक प्रकार की अंत-प्रेरणा है जब कभी उसका विकास हुआ तभी एक रौनक, एक रंग, एक बहार संसार में छा गई। वीरता हमेशा निराली और नई होती है। वीरों को बनाने के कारखाने नहीं होते। वे तो देवदार के

वृक्ष की भाँति जीवन रूपी वन में स्वयं पैदा होते हैं और बिना किसी के पानी दिए, बिना किसी के दूध पिलाए बढ़ते हैं। "जीवन के केंद्र में निवास करो और सत्य की चट्टान पर दृढ़ता से खड़े हो जाओ। बाहर की सतह छोड़कर जीवन के अन्दर की तहों में पहुँचे तब नए रंग खिलेंगे।" यही वीरता का संदेश है।

36. उपर्युक्त गद्यांश का सर्वाधिक उचित शीर्षक निम्न में से कौन-सा है?
- (A) वीरों का देश-प्रेम
(B) सच्ची वीरता
(C) वीरता का संस्मरण
(D) देवदार के वृक्ष एवं वीर।
37. उपर्युक्त गद्यांश के अनुसार, निम्न में से कौन-सा कथन सत्य नहीं है?
- (A) वीरों को बनाने के कारखाने होते हैं।
(B) सच्चे वीर अपने प्रेम के जोर से लोगों को सदा के लिए बाँध देते हैं।
(C) वीर जीवन रूपी वन में स्वयं पैदा और बिना किसी के पानी दिए, बिना किसी के दूध पिलाए बढ़ते हैं।
(D) वीरता हमेशा निराली और नई होती है।
38. उपर्युक्त गद्यांश के अनुसार, वीरता की अभिव्यक्ति निम्न में से किस प्रकार से होती है?
- (A) कभी लड़ने-मरने से, खून बहाने से, तो तोप तलवार के सामने बलिदान करने से होती है।
(B) लड़ने-मरने से
(C) तोप तलवार के सामने बलिदान करने से
(D) खून बहाने से
39. उपर्युक्त गद्यांश में वीरों की तुलना किस वृक्ष के भाँति की गई है?
- (A) पीपल के वृक्ष (B) पतझड़ के वृक्ष
(C) नीम के वृक्ष (D) देवदार के वृक्ष
40. उपर्युक्त गद्यांश के अनुसार, वीरता एक प्रकार की अंतःप्रेरणा है जब कभी उसका विकास हुआ तभी.....संसार में छा गई।
- (A) एक रौनक, एक रंग, एक बहार
(B) एक बहार
(C) एक रौनक
(D) एक रंग

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निम्नलिखित गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों के उत्तर दीजिए।

श्रद्धा एक सामाजिक भाव है, इससे अपनी श्रद्धा के बदले में हम श्रद्धेय से अपने लिए कोई बात नहीं चाहते। श्रद्धा धारण करते हुए अपने को उस समाज में समझते हैं जिसके किसी अंश पर—चाहे हम व्यक्ति

रूप में उनके अंतर्गत न भी हों—जानबूझकर उसने कोई शुभ प्रभाव डाला। श्रद्धा स्वयं ऐसे कर्मों के प्रतिकार में होती है जिनका शुभ प्रभाव अकेले हम पर नहीं; बल्कि सारे मनुष्य समाज पर पड़ सकता है। श्रद्धा एक ऐसी आनंदपूर्ण कृतज्ञता है जिसे हम केवल समाज के प्रतिनिधिरूप में प्रकट करते हैं। सदाचार पर श्रद्धा और अत्याचार पर क्रोध या घृणा प्रकट करने के लिए समाज में प्रत्येक व्यक्ति को प्रतिनिधित्व प्रदान कर रखा है। यह काम उसने इतना भारी समझा है कि उसका भार सारे मनुष्यों को बाँट दिया है, दो-चार माननीय लोगों के ही सर पर नहीं छोड़ रखा है। जिस समाज में सदाचार पर श्रद्धा और अत्याचार पर क्रोध प्रकट करने के लिए जितने भी अधिक लोग तत्पर पाये जायेंगे, उतना ही वह समाज जाग्रत समझा जायेगा। श्रद्धा की सामाजिक विशेषता एक इसी बात से समझ लीजिए कि जिस पर हम श्रद्धा रखते हैं; उस पर चाहते हैं कि और लोग भी श्रद्धा रखें, पर जिस पर हमारा प्रेम होता है; उससे और दस-पाँच आदमी प्रेम रखें—इसकी हमें परवाह क्या इच्छा ही नहीं होती; क्योंकि हम प्रिया पर लोभवश एक प्रकार का अनन्य अधिकार चाहते हैं। श्रद्धालु अपने भाव में संसार को संतुलित करना चाहता है, पर प्रेमी नहीं।

41. उपर्युक्त गद्यांश के अनुसार, श्रद्धा एक ऐसी आनंदपूर्ण कृतज्ञता है जिसे हम
- (A) केवल समाज के प्रतिनिधि रूप में प्रकट करते हैं।
(B) केवल श्रद्धा के प्रतिनिधि रूप में प्रकट करते हैं।
(C) केवल व्यक्ति के प्रतिनिधि रूप में प्रकट करते हैं।
(D) केवल श्रद्धा एवं कृतज्ञता के प्रतिनिधि रूप में प्रकट करते हैं।
42. उपर्युक्त गद्यांश के अनुसार, जिस समाज में सदाचार पर श्रद्धा और अत्याचार पर क्रोध प्रकट करने के लिए जितने भी अधिक लोग तत्पर पाये जायेंगे उतना ही
- (A) वह समाज जाग्रत समझा जायेगा।
(B) वह समाज सुन्न समझा जायेगा।
(C) वह समाज निद्रित समझा जायेगा।
(D) वह समाज सुप्त समझा जायेगा।
43. उपर्युक्त गद्यांश का निम्नलिखित में से निष्कर्ष क्या है?
- (A) श्रद्धा केवल एक श्रद्धालु तक सीमित।
(B) श्रद्धा एक सांसारिक लोभवश।
(C) श्रद्धा एक सामाजिक भाव।
(D) केवल एक श्रद्धालु का सामाजिक भाव।
44. उपर्युक्त गद्यांश का उचित शीर्षक निम्न में से क्या है?

- (A) श्रद्धा: एक प्रेम कथा
(B) स्वार्थ एवं परोपकार
(C) स्वार्थ एवं श्रद्धा में अंतर
(D) श्रद्धा का स्वरूप

45. उपर्युक्त गद्यांश के अनुसार, कौन-सा कथन सही नहीं है?

- (A) सदाचार पर श्रद्धा और अत्याचार पर क्रोध या घृणा प्रकट करने के लिए समाज में प्रत्येक व्यक्ति को प्रतिनिधित्व प्रदान कर रखा है।
(B) श्रद्धा एक सामाजिक भाव है, इससे अपनी श्रद्धा के बदले में हम श्रद्धेय से अपने लिए कोई बात नहीं चाहते।
(C) श्रद्धालु अपने भाव में संसार को संतुलित नहीं करना चाहता है, पर प्रेमी चाहता है।
(D) श्रद्धा स्वयं ऐसे कर्मों के प्रतिकार में होती है जिनका शुभ प्रभाव अकेले हम पर नहीं बल्कि सारे मनुष्य समाज पर पड़ सकता है।

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निम्नलिखित गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों के उत्तर दीजिए—

सामान्यतः दुष्टों की वन्दना में या तो भय रहता है या व्यंग्य, परन्तु जहाँ हम हानि होने के पहले ही हानि के कारण ही वन्दना करने लगते हैं वहाँ हमारी वन्दना के मूल में भय नहीं बल्कि उसकी स्थाई दशा की आशंका है। इस वन्दना में दुष्टों को थपकी देकर सुलाने की चाल है जिसमें विघ्न बाधाओं से जान बच सके। आशंका से उत्पन्न या नम्रता गोस्वामी जी को आश्रय से आलंबन बना देती है। जब स्फुट अंशों के संचारी भावों तथा अनुभवों को छोड़कर वन्दना के पीछे निहित भावना की दृष्टि से देखते हैं, तो यह आश्रय से संक्रमित आलंबन का उदाहरण बन जाता है। संतों, देवताओं तथा राम की वन्दना पर्याप्त नहीं इसलिए दुष्टों की भी वन्दना की जाती है। इससे दुष्टों के महत्त्व की भाविक सृष्टि होती है और वह उन्हें और भी उपहास्य बना देती है।

46. उपर्युक्त गद्यांश के अनुसार, कौन-सा कथन पूर्णतः सही है ?

- (A) सन्तों, देवताओं तथा राम की वन्दना पर्याप्त है, इसलिए दुष्टों की भी वन्दना नहीं की जाती है। इससे दुष्टों के महत्त्व की भाविक सृष्टि होती है और वह उन्हें और भी उपहास्य बना देती है।
(B) सन्तों, देवताओं तथा राम की वन्दना पर्याप्त नहीं इसलिए दुष्टों की भी वन्दना की जाती है। इससे दुष्टों के महत्त्व की भाविक सृष्टि होती है और वह उन्हें और भी उपहास्य बना देती है।

- (C) सन्तों, देवताओं तथा राम की वन्दना पर्याप्त नहीं इसलिए दुष्टों की भी वन्दना की जाती है। इससे दुष्टों के महत्त्व की भायिक दृष्टि होती है और वह उन्हें और भी खतरनाक बना देती है।
- (D) संतों, देवताओं तथा राम की वन्दना पर्याप्त नहीं है इसलिए दुष्टों की भी वन्दना नहीं की जाती है। इससे दुष्टों के महत्त्व की भायिक दृष्टि होती है और वह उन्हें और भी उपहास्य बना देती है।
47. निम्नलिखित में से शृंगार रस का स्थायी भाव क्या है ?
 (A) रति (B) हास्य
 (C) वात्सल्य (D) जुगुप्सा
48. उपर्युक्त गद्यांश में निम्नलिखित में से किस शब्द का प्रयोग नहीं किया गया है ?
 (A) आलंबन (B) अनाश्रय
 (C) भावना (D) वंदना
49. उपर्युक्त गद्यांश के अनुसार, दुष्ट वंदना के पीछे लेखक का क्या उद्देश्य है ?
 (A) दुष्टों को भी परस्पर सम्मान दिलाना
 (B) दुष्टों को थपकी देकर सुलाना
 (C) दुष्टों को लाभ पहुंचाना
 (D) दुष्टों को लाभ पहुंचाना
50. उपर्युक्त गद्यांश के लिए निम्न में से सर्वाधिक उचित शीर्षक का चयन कीजिए।
 (A) तुलसीदास की रचनाएं
 (B) तुलसीदास जी का जीवन परिचय
 (C) गोस्वामी तुलसीदास जी का मानीय दृष्टिकोण
 (D) वंदना का महत्व

निर्देश (प्रश्न संख्या 51 से 55 तक)

पद्यांश को पढ़कर निम्नलिखित प्रश्नों में सबसे उचित विकल्प चुनिए—

सुनता हूँ मैंने भी देखा,
 काले बादल में हँसती चाँदी की रेखा।
 काले बादल जाति-द्वेष के,
 काले बादल विश्व-क्लेश के,
 काले बादल उठते पर
 नवस्वतन्त्रता के प्रवेश के।
 सुनता आया हूँ, है देखा
 काले बादल में हँसती चाँदी की रेखा।

(चाँदी की रेखा—सुमित्रानन्दन पन्त)

51. "काले बादल में हँसती चाँदी की रेखा।" पंक्ति का भाव है—
 (A) बादलों से टकराने से बिजली चमकती है
 (B) अँधेरे के बाद प्रकाश आता है
 (C) काले बादलों में चाँदी की रेखा रहती है
 (D) विपत्तियों के बीच आशा की किरण दिखायी देती है

52. 'काले बादल' प्रतीक हैं.....के।
 (A) मानसून द्वारा आने वाली खुशहाली
 (B) तूफान
 (C) गर्मी से मुक्ति
 (D) जातिगत वैमनस्य
53. 'काले बादल में हँसती चाँदी की रेखा' में कौन-सा अलंकार है ?
 (A) उत्प्रेक्षा अलंकार (B) श्लेष अलंकार
 (C) उपमा अलंकार (D) रूपक अलंकार
54. निम्न में से 'बादल' का पर्यायवाची शब्द नहीं है—
 (A) घन (B) पयोधर
 (C) जलज (D) जलद
55. 'स्वतन्त्रता' का विलोम शब्द है—
 (A) परतन्त्रता (B) पराधीनता
 (C) परतन्त्र (D) गुलाम

निर्देश (प्रश्न संख्या 56 से 60 तक)

नीचे दी गई पंक्तियों को पढ़कर सबसे उचित विकल्प का चयन कीजिए—

पूछो किसी भाग्यवादी से,
 यदि विधि-अंक प्रबल है।
 पद पर क्यों देती न स्वयं
 वसुधा निज रतन उगल है ?

56. कवि के अनुसार, यदि भाग्य ही सब कुछ होता, तो क्या होता ?
 (A) रत्न मिल जाते
 (B) पैरों के नीचे वसुधा होती
 (C) धरती स्वयं ही रत्न रूपी सम्पत्ति उगल देती
 (D) रत्न स्वयं प्रकाशयुक्त हो उठते
57. तुकबंदी के कारण कौन-सा शब्द बदले हुये रूप में प्रयुक्त हुआ है ?
 (A) रतन (B) प्रबल
 (C) स्वयं (D) उगल
58. इनमें से कौन-सा 'वसुधा' का समानार्थी है ?
 (A) वसुंधरा (B) महीप
 (C) वारिधि (D) जलधि
59. 'प्र' उपसर्ग से बनने वाला शब्द-समूह है—
 (A) प्रत्येक, प्रभाव, प्रदेश
 (B) प्रसाद, प्रत्येक, प्रपत्र
 (C) प्रभाव, प्रदेश, प्रपत्र
 (D) प्रत्युत्तर, प्रदेश, प्रपत्र
60. कवि ने किसकी महिमा का खण्डन किया है ?
 (A) किसी के विधान का
 (B) भाग्यवाद का
 (C) वसुधा का
 (D) रतनों का

निर्देश (प्रश्न संख्या 61 से 66 तक)

निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्नों के सबसे उपयुक्त उत्तर वाले विकल्प को चुनिए:

वह आता —

दो टूक कलेजे के करता पछताता पथ पर आता।
 पेट-पीठ दोनों मिलकर हैं एक,
 चल रहा लकटिया टेक,
 मुट्ठी-भर दाने को — भूख मिटाने को
 मुँह फटी पुरानी झोली को फैलाता —
 दो टूक कलेजे के करता पछताता पथ पर आता।

61. 'कलेजे के दो टूक करना' का आशय है —
 (A) मन को कष्ट पहुँचाना।
 (B) दिल की चीर-फाड़ करना।
 (C) कठिनाई पैदा करना।
 (D) टुकड़े-टुकड़े करना।
62. भिखारी अपनी झोली क्यों फैलाता है ?
 (A) झोली में कुछ छिपाना चाहता है।
 (B) मुट्ठी-भर अनाज दिखाना चाहता है।
 (C) अपनी गरीबी के बारे में बताना चाहता है।
 (D) भूख मिटाने के लिए कुछ अन्न चाहता है।
63. 'मुँह' शब्द में प्रयुक्त चंद्रबिंदु है —
 (A) अनुनासिक (B) नासिक्य
 (C) शिरोरेखा (D) अनुस्वार
64. काव्यांश से हमारे मन में उठने वाला मुख्य भाव है —
 (A) हास्य (B) करुणा
 (C) वीरता (D) शृंगार
65. 'वह आता' में 'वह' सर्वनाम किसका द्योतक हो सकता है ?
 (A) अतिथि (B) भिक्षुक
 (C) विकलांग (D) गाँधीजी
66. 'पेट-पीठ दोनों मिलकर हैं एक' इसका कारण क्या हो सकता है ?
 (A) झुककर चलना।
 (B) कुछ भी भोजन न करना।
 (C) भीख माँगने का नाटक करना।
 (D) सिकुड़कर बैठना।

उत्तरमाला

1. (A) 2. (B) 3. (A) 4. (D) 5. (B)
 6. (C) 7. (C) 8. (A) 9. (D) 10. (D)
 11. (A) 12. (B) 13. (C) 14. (B) 15. (A)
 16. (D) 17. (B) 18. (B) 19. (B) 20. (D)
 21. (D) 22. (B) 23. (D) 24. (B) 25. (D)
 26. (A) 27. (A) 28. (D) 29. (A) 30. (D)
 31. (B) 32. (D) 33. (A) 34. (B) 35. (D)
 36. (B) 37. (A) 38. (A) 39. (D) 40. (A)
 41. (A) 42. (A) 43. (C) 44. (D) 45. (C)
 46. (B) 47. (A) 48. (B) 49. (B) 50. (C)
 51. (D) 52. (D) 53. (B) 54. (C) 55. (A)
 56. (C) 57. (A) 58. (A) 59. (C) 60. (B)
 61. (A) 62. (D) 63. (D) 64. (B) 65. (B)
 66. (B)

□□

Chapter 1

Reading Comprehension

A comprehension exercise is mainly consisted of a passage, upon which questions are set. The main purpose of this exercise is to test ability of a student.

Therefore, candidate is need to read the passage carefully and choose the correct answer out of the given alternatives.

To Important Points to be noted in this field are given as under

- The reader should develop a habit of reading different types of articles which will help them to understand the tone, attitude, and style of writing of several writers.
- Use of “bottom-up” approach which means, read the questions first, so that the reader has an idea of what to look for, in the passage. It will save the reader’s time.
- While reading the long passage make sure not to read the complete passage, try reading only the part that is related to the questions that are asked
- While reading the passage don’t try to memorize every part of the passage instead understanding the essence of the point being conveyed by the author.
- Increase the reading speed by solving different exam papers or online mock tests.
- Try to engage with the passage from the starting, do not read the passage similar to reading an article in the newspaper because, by the time the reader reaches the end of the passage, she/he has forgotten what was at the beginning of the passage. Therefore, try and actively engage with the contents of the passage.

Important Questions

Direction (Q. No. 1 to 5)

Read the following information carefully and answer the given questions.

Big dams received a big push from politicians and bureaucracy pouring enormous amounts of borrowed money in the early years of independence. There has however been hardly any attempt at questioning the extent of damage caused or in evaluating whether the promises of food, water and prosperity for all have actually been realised. The diversion of rivers and construction of a long system of canals in a densely populated country like India will involve displacement of people on a colossal scale and the people affected are never likely to agree with such measures. All over the world, community reaction is to prevent construction of large dams. Preserving rivers in free-flow condition is considered ecologically necessary and the construction of large dams is now legally prohibited in Sweden and also in parts of USA. The technical challenges to be faced in redrawing the geography of the country are many and full of dangerous consequences and the mad rush in pursuit of such a chimera will prove disastrous. The cost of the project is so stupendous that any water made available will cost so much that governments will have to be forever subsidizing farmers. What long-term impact this massive borrowing will have on the economy is difficult to foresee.

1. Which of the following is not true about the water made available through dams ?
 - (A) The water so generated is mainly used in washing.
 - (B) The government gives subsidy to the farmers due to high costs of the water from the dams.
 - (C) The water so generated is mainly used in agriculture.

- (D) The water made available through dams has high costs associated with it.
2. Which of the following have been mentioned as disadvantages of dams ?
 - (A) Ecological imbalance due to restrictions on the flow of rivers.
 - (B) Displacement of people on a large scale.
 - (C) Construction of dams is prohibited in Sweden.
 - (D) Displacement of people on a large scale and ecological imbalance due to restrictions on the natural flow of rivers.
3. Which of the following statement is true ?
 - (A) The water made available through dams is better suited for industries than agricultural because of high costs and most of the countries have banned the construction of big dams.
 - (B) Most of the countries have banned the construction of big dams.
 - (C) The water made available through dams is better suited for industries than agricultural because of high costs.
 - (D) The diversion of rivers will involve displacement of people on a colossal scale.
4. Which word is similar in meaning to displacement ?
 - (A) Inactivity
 - (B) Dislocation
 - (C) Stagnation
 - (D) Inaction

5. What is the thematic centre of the passage ?

- (A) The social impact of dams over rivers their economic impact.
- (B) Dams have proven to be bane rather than boon in the long run and the social impact of dams over rivers their economic impact.
- (C) Following the footsteps of Sweden and USA in banning the construction of dams.
- (D) Dams have proven to be bane rather than boon in the long run.

Direction (Q. No. 6 to 10)

Read the following information carefully and answer the given questions :

Climate change and its imperatives across the globe have moved beyond the immediate compulsions of rising mercury levels on planet Earth. It is today a debate among nations on geo-politics and the shift in economic balance from the developed countries to the emerging economies. The rhetoric by global leaders thus needs to be taken with a pinch of salt for it is not all about climate change concerns. The changing axis of economic power of the East and emerging countries of Asia will perhaps take a while to sink in. Developing economies like India and just beginning to take baby steps on the global stage and industry entrepreneurship will have to go a long way. Millions of house-holds in India still have to depend on

6. Why does the author want the talks about climate change by the global leaders “to be taken with a pinch of salt” ?
 - (A) The talks are sometimes directed towards political and economic gains rather than climate change

- (B) The global leaders are not responsible for the climate change
- (C) The talks about the climate change by the global leaders have little to do with developing countries.
- (D) The developed countries are more concerned with exporting their technologies that cut emissions

7. Which word means the opposite of emerging ?

- (A) Arrive (B) Develop
- (C) Fading (D) Appear

8. What should be the stand of India on matters of climate change ?

- (A) The matter of climate change should be ignored.
- (B) Measures should be taken to cut down emissions.
- (C) India should reject any demand for emission cut by the developed countries.
- (D) Measures should be taken to cut down emissions but not at the cost of development.

9. Which word from the passage is similar in meaning to onset ?

- (A) Importing (B) Amenities
- (C) Beginning (D) Priority

10. Which of the following statements is true ?

- (A) The global leaders are the main stakeholders in climate change talks.
- (B) The global leaders are the main stakeholders in global change.
- (C) The priority for such a nation is to earn more money.
- (D) Kerosene and wood are the main fuels used in India.

Direction (Q. No. 11 to 15)

Read the following information carefully and answer the given questions :

Artificial intelligence is a branch of computer science that enables machines and robots to perform tasks such as speech and visual recognition, translation of the languages and virtual decision-making on behalf of human beings. Today, the use of artificial intelligence is not restricted to gaming and data management. Its ambit has encompassed a variety of applications in almost every industry, be it automobile, health, education or hospitality. People are desperately awaiting the driverless cars of Google and Apple based on autonomous vehicle technology, and robots have already made their entry into the health and medical sector. The US, Japan, the UK and France are the countries which are spending billions of dollars on the research and development of AI goods and services. Though, it is a relatively new concept in India,

both the government and research institutes are working aggressively at using this revolutionary technology in the defence, investigation, banking and education sectors. Innefu Labs, a Delhi-based IT information security firm, has developed a multifactor authentication device for the security of government agencies and corporate firms. The face and speech recognition system developed by Innefu is shielding the Reserve Bank of India and the Defence Research and Development Organisation against various security threats. Various studies have confirmed that from 2015 to 2017, the Global estimated growth of robot installations is expected to increase by 12% annually on CAGR basis. The AI industry geared up a greater pace and the demand for engineers, architects, developers and data scientists is increasing everyday.

11. Which of the following have developed driverless autonomous vehicle ?

- (A) Innefu Labs
- (B) DRDO
- (C) Google and Apple
- (D) RBI

12. Which of the following statements is incorrect ?

- (A) AI is not restricted to just giving and data management today.
- (B) Innefu developed face and speech recognition system used by RBI and DRDO.
- (C) India by 2017, has the potential to increase robot installation by 12 percent.
- (D) Xiaodu is an artificial intelligent robot developed by the Innefu Labs and India by 2017, has the potential to increase robot installation by 12 percent.

13. Which of the following statements is incorrect with respect to Artificial Intelligence ?

- (A) Artificial intelligence is a branch of computer science.
- (B) It is a branch of biological science which integrates machines and robots to perform certain tasks like speech, visual recognition etc.
- (C) India is pioneer in the field of AI.
- (D) It is a branch of biological science which integrates machines and robots to perform certain tasks like speech, visual recognition etc. and India is pioneer in the field of AI.

14. Artificial intelligence is not discussed in regards to which sector ?

- (A) Cleaning (B) Education
- (C) Health (D) Automobile

15. Which of the following is similar in meaning to encompassed ?

- (A) Free (B) Release
- (C) Exclude (D) Encircle

Direction (Q. No. 16 to 20)

Read the following passage and answer the questions that follow :

New Delhi : His seat belt tightly strapped to his body and his hands firmly on the steering wheel, Jai Kumar looks tense as he waits in a Maruti Ertiga at the Indira Gandhi International Airport. Today, a man's life depends on his driving skills— he has to transport a beating heart from the airport to All India Institute of Medical Sciences (AIIMS) where a transplant is scheduled in an hour.

The Delhi Traffic Police have arranged a 'green corridor'— a special route that will give Kumar an uninterrupted passage during the peak traffic hour in the morning. But still, there is no margin of error.

"I have driven in a green corridor once before, but I cannot get rid of the fear of getting stuck in a traffic jam," says Kumar. The conversation is cut short midway as a doctor carrying a heart in an organ preservation box hurriedly emerges from the airport and paces towards the waiting vehicle.

The route is not very different from a VIP movement corridor — a familiar irritant in Delhi— but causes barely five minutes of inconvenience to other motorists along the route. Escorted by three police vans and four motorcycles — sirens blaring constantly and traffic officers on the way frantically waving aside obstructing vehicles — the vehicle hits speeds of up to 100 km per hour to cover a 14 km journey in 12 minutes.

In the end, a patient undergoes a successful heart transplant.

This is no longer a rare occurrence in the National Capital Region (NCR). What began with a celebrated 32 km journey in 29 minutes from a Gurgaon hospital to one in South Delhi's Okhla in January 2015 has now become a regular way of saving lives.

Since January 2017, traffic police have arranged 44 green corridors in Delhi at an average of over two such trips every month.

"On each occasion, a life was saved," says Alok Kumar, Joint Commissioner of Police (Delhi Traffic Police), proud of the fact that every green corridor has been managed successfully. Kumar says that never has a request for a green corridor been turned down. "We can arrange green corridors within 30 minutes of intimation. There is no margin for error," says Kumar.

These special corridors are necessary to transport organs such as hearts, livers, kidneys or eyes after harvesting them from a dying or brain-dead person to a patient in another hospital.

Time is of utmost importance in these transplants. A heart, for example, needs to be transplanted

within four hours — the earlier the better, to improve the chances of success.

“It takes six-seven minutes to harvest a heart. Another two-three minutes are lost in placing the organ in a bag and rushing it to the ambulance. Transplanting the heart into the receiver’s body takes 40-60 minutes. We have three hours for transporting the heart from one hospital to another, so we focus on saving time there,” says Dr. Kewal Krishan, Director of Heart Transplants at Max Super Speciality Hospital.

16. What is the main theme of the passage?
- (A) The importance of time in transplant of organs.
(B) Transplanting heart and other organs.
(C) Transporting organs at a fast pace by creating a green corridor.
(D) Efficiency of Delhi police in transporting organs.
17. What is the Delhi Police’s role in the whole process?
- (A) Creating and managing the green corridor for the ambulance.
(B) Blaring their sirens to cause inconvenience to motorists.
(C) Escorting the ambulance carrying the organ.
(D) Driving the ambulance carrying the organ.
18. Put these steps of heart transplant in sequence.
- a. Transporting the heart from one hospital to another.
b. Harvesting the heart from a brain dead person.
c. Transplanting the heart in the patient’s body.
d. Securing the heart in a safe box and rushing it to the ambulance.
- (A) c a b d (B) b d a c
(C) d b c a (D) a b c d
19. What does Jai Kumar, the driver of the ambulance carrying a heart, fear the most?
- (A) The ambulance may develop a snag and not start.
(B) The condition of the heart may deteriorate.
(C) He may get stuck in a traffic jam on the way.
(D) The police may erect barricades.
20. How much maximum time do the doctors get to transport a heart from one hospital to the other?
- (A) Four hours (B) Three hours
(C) One hour (D) half an hour

Direction (Q. No. 21 to 25)

Read the following passage and answer the questions below.

The pandemic's second wave may have subsided but hopes of a smooth rebound in the economy in tandem with easing restrictions remain muddled, with the inflation numbers for May compounding the problem. The soaring pace of rising prices, both retail and wholesale, in the month that saw widespread lockdown-like restrictions, has come as a negative surprise. Inflation based on the Wholesale Price Index is reckoned to have hit a 25-year record of nearly 13 percent, while retail inflation touched a six-month high of 6.3 percent. While runaway fuel prices, that include high excise duties and taxes, were a key factor in driving up both the inflation indices, they were not the only ones at work. Retail inflation in food hit a six-month high of 5 percent, from barely 2 percent in April, with pulses and eggs as well as edible oils leading the surge. 'Fuel and light' inflation hit 11.6 percent, the highest in over nine years, and no respite is in sight on this front as pump prices for petrol raced past ₹ 100 a litre in even more parts of the country this month. Diesel has also crossed the century mark in Rajasthan's Sri Ganganagar, where freight costs add up on top of State and central taxes. Even if one were to discount food and fuel prices, core inflation has crossed the 6 percent mark for the first time in 31 months and is estimated at 6.6 percent. Reacting to the April retail inflation print of 4.3 percent, after averaging a steep 6.2 percent through 2020-21, the RBI Governor had remarked earlier this month that it brought some relief and 'elbow room' for sticking with growth-supportive policy. If anything, May's inflation prints leave no such room for manoeuvre. Though the bank's Monetary Policy Committee may not switch away from its dovish Policy, no further easing of interest rate can be expected at these price levels. Most economists expect inflation to remain higher than the average 5.1 percent estimated by the central bank for this year.

21. Even if one were to discount food and fuel prices, then still, the core inflation has crossed the mark.....
- (A) 6 percent
(B) 11.6 percent
(C) 5.1 percent
(D) 6.2 percent
22. According to the given passage, most economists expect inflation to remain
- (A) higher than the average 6.3 percent
(B) lower than the average 4.9 percent
(C) higher than the average 5.1 percent
(D) lower than the average 5.1 percent

23. What does the word 'Manoeuvre' mean in the given passage?

- (A) the denial and rejection of a doctrine or belief
(B) an increase by natural growth or addition
(C) a movement or set of movements needing skill and care
(D) a state or condition markedly different from the norm
24. According to the given passage, which of the following statements is incorrect?
- (A) Inflation based on the Wholesale Price Index is reckoned to have taken a hit
(B) Diesel has also crossed the century mark
(C) Runaway fuel prices don't include high excise duties and taxes
(D) Most economists expect inflation to remain higher than the average 5.1 percent
25. According to the given passage, retail inflation in food has hit.....
- (A) A six-month high
(B) A three-month low
(C) A six-month low
(D) A three-month high

Direction (Q. No. 26 to 30)

Read the following information carefully and answer the given questions.

Water is scarce for many creatures in the Sonoran Desert in Arizona, so when it does rain (or snow or sleet), some resident rattle snakes seize the moment. They slither out of their dens, flatten themselves in a coil shape, and suck the water that collects on their backs into their mouths.

Now a team of engineers and biologists has discovered special properties of the reptiles' scales that help the snakes become living rain buckets. They found that a water droplet hitting the back of a western diamondback rattlesnake breaks into smaller droplets that often stay pinned to the snake's skin. In contrast, most water hitting the scales of two desert-dwelling snakes that haven't been observed harvesting rainwater—the desert king snake and the Sonoran gopher snake—simply slides off.

When the researchers looked at the snakes' skin with a powerful microscope, they saw that the rattlers' scales sported a network of tiny channels, each about one-tenth the width of a red blood cell across. Additional tests showed how the intricate texture helps the scales capture water.

Scientists suspect the rattlesnakes evolved to harvest precipitation with their bodies because the snakes are relatively slow-moving and rely

on ambush to catch their meals. Having to travel far to get water might reveal the snakes to their prey (or to predators such as hawks). Instead, the snakes simply gather a drink directly from the sky.

26. Which of the following words is synonym of 'slither' ?
 (A) Grovel (B) Recede
 (C) Ascend (D) Retrograde
27. What style of writing is used in the following passage ?
 (A) Persuasive (B) Descriptive
 (C) Argumentative (D) Narrative
28. What is the primary purpose of the following passage ?
 (A) To understand the importance of rain water harvesting
 (B) To understand the dermatology of desert-dwelling rattlesnakes
 (C) To explain how desert rattlesnakes harvest rainwater
 (D) To explain the struggle of desert rattlesnakes in the winter season
29. Why author has compared the desert-dwelling snakes to 'rain buckets' ?
 (A) The desert-dwelling snakes are commonly called rain buckets.
 (B) Because they can store a good amount of water under their.
 (C) Because they harvest rainwater with the help of their skin
 (D) Because the rattlesnakes move slowly while drinking water.
30. According to the given passage, what helps a rattlesnake to store rain water ?
 (A) Rattlesnakes skin having idenfinte scales.
 (B) Their urge to drink more water.
 (C) Their slow movement in the desert.
 (D) Coil shape during precipitation.

Direction (Q. No. 31 to 35)

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Most people use social media in one form or another. While there is nothing inherently wrong with that, and while social media can sometimes be beneficial, it's important to be aware that social media is associated with a number of issues and potential dangers, including stress, anxiety, loneliness, and depression. Understanding the dangers of social media is important, both so you can deal with them yourself, and so you can help others deal with them. As such, in the following article you will learn about the issues that are associated with social media, see who is most vulnerable to them, and find out what you can do to deal with them effectively. There are many reasons why people keep

using social media even when it's bad for them, and these reasons vary across individuals and across circumstances. One notable reason why people continue to use social media even though it affects them negatively is that they're simply unaware of its harmful influence. Furthermore, in some cases, people are aware of the harmful influence that social media has on them, but they don't care enough about these dangers to want to change their behaviour. However, many people continue to use social media even though they know it's bad for them and even though they want to stop, because they're psychologically predisposed to keep using it. For example, one study found that people keep using Facebook despite the fact that it makes them feel bad, because they keep expecting it to make them feel better.

31. Three assertions are given below (A, B & C) on the basis of your understanding of the passage, which one of the options is correct?
 A. There are a number of potential dangers and issues associated with social media.
 B. People continue using social media despite knowing its ill effects.
 C. People use Facebook with the expectation that it will make them feel better.
 (A) All are correct.
 (B) B & C are correct.
 (C) Only B is correct.
 (D) A & B are correct
32. On the basis of your reading of the above passage, select the most appropriate heading for the same.
 (A) Dangers of Social Media and How to Avoid Them
 (B) Subconscious Mind
 (C) Ban Facebook
 (D) Life threatening effects of social media
33. What is the meaning of 'psychologically predisposed' from the above passage?
 (A) Mentally or emotionally inclined to the use of social media.
 (B) Mentally preoccupied with the contents of social media.
 (C) Emotionally or mentally unavailable to other people around them.
 (D) Emotional addiction to the used of social media.
34. Three assertions are given below (A, B & C) on the basis of your understanding of the passage, which one of the options is correct?
 A. Understanding the danger of social media is important so that one can help themselves and others around them.

- B. People do not care enough about the danger of social media so as to change their own behaviour.
 C. Social media is always unhealthy and dangerous.
 (A) A & B are correct
 (B) B & C are correct.
 (C) Only A is correct.
 (D) All are correct.
35. Which of the following is not associated with health issues and potential dangers of using social media?
 (A) Anxiety
 (B) Sleeplessness
 (C) Depression
 (D) Stress

Direction (Q. No. 36 to 40)

Read the passage carefully and choose the best answer to each question out of the four alternatives.

In 1988, for the first time in British history, a National Curriculum was introduced. The National Curriculum tells pupils which subjects they have to study, what they must learn and when they have to take assessment tests. Between the ages of 14 and 16, pupils study for their GCSE (General Certificate of Secondary Education) exams. Pupils must take English Language, Maths and Science for GCSE, as well as a half GCSE in a foreign language and Technology. In addition, they must also be taught Physical Education, Religious Education and Sex Education, although they do not take exams in these subjects. At the age of 16, pupils can leave school. If pupils stay on, they usually take A (Advanced) levels, AS (Advanced Supplementary) level or GNVQs (Greater National Vocational Qualifications). It is quite common to combine, for example, two A levels with one AS level, or one A level with one GNVQ. Pupils taking A levels study traditional subjects, such as French, Physics or History. To go to university, pupils usually need two or three A levels. AS levels are the same standard as A levels, but only half of the content : AS level German pupils take the A-level German language exam, but do not take the A-level German Literature exam. GNVQs are vocational qualifications, Pupils usually take on GNVQ in subjects such as Business, Leisure and Tourism, Manufacturing and Art and Design. One GVNQ (at advanced level) is equal to two A levels.

36. Which of the following is not A level subject ?
 (A) French (B) Current Affairs
 (C) History (D) Physics
37. According to the GCSE, which of the following subject does one need not take a test for, but is included in the curriculum?
 (A) Technological Studies
 (B) Religious Education

- (C) English Language
- (D) Foreign Language

38. According to the National Curriculum when can a student finish school ?
- (A) 17 (B) 18
 - (C) 16 (D) 15
39. According to the passage, which of the following option is incorrect ? Choose one option.
- (A) To get into a University students usually need 2 or 3 A levels
 - (B) Maths, Science and English are mandatory subjects for a GCSE test.
 - (C) Students can give GCSE between the ages of 14 to 16.
 - (D) All the subjects included in the National Curriculum require a exam and assessment to pass.
40. Why was the National Curriculum introduced ?
- (A) To dispose of the old structured curriculum for education
 - (B) To introduce the concept of GCSE.
 - (C) To set education parameters and measures mandatory for everyone
 - (D) To set equal education standards mandatory for everyone.

Direction (Q. No. 41 to 45)

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

The destructive process of mountaintop removal mining (MTR) has caused permanent damage to Appalachia. Although the law required that mining companies restore the mountaintops after the mining has been completed, the 1.5 million acres of mountains that have already been removed cannot be regrown, re-built, or replaced. The companies do secure the rock formations to prevent erosion and landslides, but their efforts cannot recreate the once-beautiful mountain landscape. Furthermore, while companies are usually vigilant about securing the rock formations, they seem less interested in restoring the native vegetation. MTR operations clear enormous tracts of forest; some experts estimate that over 2000 square miles of forests in the Appalachian region will have been razed by mining companies by 2012. Instead of replanting the native trees and shrubs that have been cleared, many companies opt to plant cheap, fast-growing, non-native plants, such as *Lespedeza cuneata*, which is officially classified by the USDA as an invasive weed.

Environmental hazards are not only created in preparing a mountaintop for mining, they also continue once the coal has been extracted. After the blast, the excess mountaintop—which miners refer to as "overburden"—is usually

dumped into nearby valleys or streams. The overburden contains a variety of toxic substances, including explosive residue, silica, and coal dust. These substances are filled with sulphur, lead, mercury, and other chemicals. Over 700 miles of streams in Appalachia have been contaminated by this dumping. Although the mining companies have built structures known as "sludge dams" that are intended to contain the toxic runoff, these dams can burst or leak, sending thousands of gallons of toxic chemicals into municipal drinking water.

41. According to the passage, what is the excess mountaintop called after the blast?
- (A) Overburden
 - (B) Overcultivation
 - (C) Overkill
 - (D) Overabundance
42. What extent of irreparable surface area damage was witnessed by the process of MTR on Appalachia landscape?
- (A) 1.9 million acres of mountain range was removed.
 - (B) 1.5 million acres of mountaintop from the mountain range removed.
 - (C) 1.3 million acres of mountain was removed
 - (D) 1.7 million acres of mountain surface was removed.
43. According to the passage which mountain has been subjected to MTR?
- (A) Ozark mountains
 - (B) Appalachia mountains
 - (C) Rocky mountains
 - (D) Pangean Mountains
44. According to the passage, which of the following statement is incorrect?
- (A) MTR has an adverse affect on the forestry.
 - (B) Over 700 miles of streams in Appalachia have been contaminated by overburden dumping
 - (C) Over 2000 square miles of forest has been razed by MTR.
 - (D) Overburden is normally dumped into near by streams or Valley.
45. According to the passage, what environmental hazard is caused by MTR with reference to native flora?
- (A) Restoration of native flora.
 - (B) Deforestation of the native flora.
 - (C) Reforestation of native flora.
 - (D) Afforestation of the native flora.

Direction (Q. No. 46 to 50)

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the alternatives.

If you are reading this right now, you are taking part in the wonder of literacy. Because of printed words, people can relay information

across both time and space. Ideas are encoded in writing and transmitted to readers across thousands of miles and years. Because of this development the words of people distant to us can influence events, impart knowledge, and change the world. Much of the credit for the development of this phenomenon can be attributed to one man.

Johannes Gensfleisch zur Leden zum Gutenberg, better known as Johannes Gutenberg, was born in the German city of Mainz. Though most of Gutenberg's early life is a mystery, historians believe that he studied at the University of Erfurt in 1418 and spent much of his young adult life practicing the profession of his father: goldsmithing. Having a penchant for fortune and success, Gutenberg borrowed money from investors in 1439 and found himself in financial trouble.

In the year 1439 the city in which Gutenberg lived was planning to exhibit its large collection of relics from Emperor Charlemagne (a famous ruler who had united much of Western Europe around 800 AD). The exhibit was expected to bring many visitors to the town, so Gutenberg took investments and created many polished metal mirrors which were to be sold to the visitors (it was a common belief at that time mirrors were able to capture holy light from religious relics). The mirrors which Gutenberg produced probably would have sold well, but due to severe flooding the event was delayed by one year.

46. How does the writer infer that printed words can relay information across time and space?
- (A) Ideas encoded in written scripts can be transmitted across miles and ages.
 - (B) As literacy is a wonder of the world it can spread easily.
 - (C) Ideas put in words can influence events, impart knowledge, and change the world.
 - (D) Ideas in written format can cause people to be more interested in literature.
47. According to the passage, which of the following statement is incorrect?
- (A) The words of people distant to us can influence events, impart knowledge, and change the world because the printed words can travel across time and space.
 - (B) Guttenberg was an English citizen.
 - (C) Guttenberg's father was a goldsmith.
 - (D) Guttenberg is his young adult life practised goldsmithing.
48. What profession did Gutenberg's father practice?
- (A) Wordsmith (B) Locksmith
 - (C) Goldsmith (D) Blacksmith

49. What was the nationality of the Johannes Gutenberg?
- (A) German (B) French
(C) English (D) Italian
50. According to the passage, what kind of value did polished metal mirror possess?
- (A) Religious value
(B) Individualistic value
(C) Sentimental value
(D) National value

Direction (Q. No. 51 to 55)

Read the following passage and answer the questions below.

Isaac Newton was born in Lincolnshire, England in 1643, where he grew up on a farm. When he was a boy, he made lots of brilliant inventions like a windmill to grind corn, a water clock and a sundial. However, Isaac didn't get brilliant marks at school. When he was 18, Isaac went to study at Cambridge University. He was very interested in physics, mathematics and astronomy. But in 1665 the Great Plague, which was a terrible disease spread in England, and Cambridge University had to close down. Isaac returned home to the farm continued studying and experimenting at home. One day he was drinking a cup of tea in the garden. He saw an apple fall from a tree. 'Why do apples fall down instead of up?' From this, he formed the theory of gravity. Gravity is an invisible force which pulls objects towards the Earth and keeps the planets moving around the Sun. Isaac was fascinated by light. He discovered that white light is in fact made up of all the colours of the rainbow. Isaac also invented a special reflecting telescope, using mirrors. It was much more powerful than other telescopes. Isaac made another very important discovery, which he called his 'Three laws of

motion. These laws explain how objects move. Isaac's laws are still used today for sending rockets into space. Thanks to his discoveries, Isaac became rich and famous. However, he had a bad temper and often argued with other scientists. 'You stole my discovery!' Sir Isaac Newton died in 1727 aged 85. He was buried along with English kings and queens in Westminster Abbey in London. He was one of the greatest scientists and mathematicians who have ever lived.

51. What is Gravity as described by Newton in the given passage?
- (A) an invisible force which decides how an object moves in the sky
(B) a force that pulls objects towards earth and keeps the planet moving around the Sun
(C) a force that repulses objects and keeps the planets not to collide one another
(D) an invisible force which pushes a rocket to move up into the sky at some angle
52. Which of the following statements is incorrect to the given passage?
- (A) Isaac Newton had a bad temper and he often argued with other scientists.
(B) Isaac Newton went to study at Cambridge University, in England in 1665.
(C) When he was a boy, he invented a windmill to grind corn and a water clock.
(D) Isaac Newton also invented a special reflecting, using mirrors.
53. Why did Isaac Newton return home from Cambridge University?

- (A) because he cannot afford the expenditure at university
(B) because the university had to close down as there spread 'Plague'
(C) because the university denied his admission to its campus
(D) because he was failed in the entrance exam of the university

54. How was the theory of Gravity formed by Newton?
- (A) after seeing a bird flying in the sky and falling
(B) after seeing an apple falling down instead of going up
(C) after seeing an pineapple not flying in the sky
(D) after throwing some pebbles into sky to fly
55. Which of the following best expresses the opposite meaning to the given word "Terrible"?
- (A) horrific (B) appalling
(C) congenial (D) dreadful

Answer Key

1. (A) 2. (D) 3. (D) 4. (B) 5. (D)
6. (A) 7. (C) 8. (D) 9. (C) 10. (D)
11. (C) 12. (D) 13. (A) 14. (A) 15. (D)
16. (C) 17. (A) 18. (C) 19. (C) 20. (B)
21. (A) 22. (C) 23. (C) 24. (C) 25. (A)
26. (A) 27. (B) 28. (C) 29. (C) 30. (A)
31. (A) 32. (A) 33. (A) 34. (A) 35. (B)
36. (B) 37. (B) 38. (C) 39. (D) 40. (C)
41. (A) 42. (B) 43. (A) 44. (C) 45. (B)
46. (A) 47. (B) 48. (C) 49. (A) 50. (A)
51. (B) 52. (B) 53. (B) 54. (B) 55. (C)

