

## WBCS (Main) Exam Paper – III Practice Set

### Answers with Explanation

1. (a) The Silk Road or Silk Route is a modern term referring to a historical network of interlinking trade routes across the Afro-Eurasian landmass that connected East, South, and Western Asia with the Mediterranean and European world, as well as parts of North and East Africa. Extending 6,500 km, the Silk Road gets its name from the lucrative Chinese silk trade along it, which began during the Han Dynasty (206 BC – 220 AD). The Kushan empire incorporated Samarkand, Bokhara and Fergana, bordering on the Silk Road towns of Kashgar, Yarkand and Khotan. The main route from Central Asia into India, connecting India with the Silk Roads and the Mediterranean, ran through Gandhara. Kanishka sought to promote the thriving trade with the Silk Road centres like Kashgar and beyond, sending an envoy to Ttajan in Rome. শ্রীচিভর্ষ
2. (b) Maitreya is foretold as a future Buddha of this world in Buddhist eschatology. In some Buddhist literature, such as the Amitabha Sutra and the Lotus Sutra, he or she is referred to as Ajita Bodhisattva. Maitreya is a bodhisattva who in the Buddhist tradition is to appear on Earth, achieve complete enlightenment, and teach the pure dharma. According to scriptures, Maitreya will be a successor of the historic Sakyamuni Buddha. শ্রীচিভর্ষ
3. (d) In 1872–75 Alexander Cunningham published the first Harappan seal (with an erroneous identification as Brahmi letters). It was half a century later, in 1912, that more Harappan seals were discovered by J. Fleet, prompting an excavation campaign under Sir John Hubert Marshall in 1921–22 and resulting in the discovery of the civilization at Harappa by Sir John Marshall, Rai Bahadur Daya Ram Sahni and Madho Sarup Vats, and at Mohenjo-daro by Rakhal Das Banerjee, E. J. H. MacKay, and Sir John Marshall. শ্রীচিভর্ষ
4. (a) Nalanda was an ancient centre of higher learning in Bihar, India. It was a Buddhist centre of learning from the fifth or sixth century CE to 1197 CE. Nalanda flourished between the reign of the Sakraditya (whose identity is uncertain and who might have been either Kumara Gupta-I or Kumara Gupta-II) and 1197 CE, supported by patronage from the Hindu Gupta rulers as well as Buddhist emperors like Harsha and later emperors from the Pala Empire. শ্রীচিভর্ষ
5. (a) Lothal is one of the most prominent cities of the ancient Indus valley civilization. Lothal's dock—the world's earliest known, connected the city to an ancient course of the Sabarmati river on the trade route between Harappan cities in Sindh and the peninsula of Saurashtra when the surrounding Kutch desert of today was a part of the Arabian Sea. It was a vital and thriving trade centre in ancient times, with its trade of beads, gems and valuable ornaments reaching the far corners of West Asia and Africa. শ্রীচিভর্ষ
6. (d) The Rig Veda mentions such artisans as the carpenter, the chariot-maker, the weaver, the leather worker, the potter, etc. This indicates that they practiced all these crafts. The term, ayas used for copper or bronze shows that metal working was known. Gold was known as 'hiranya'.
7. (a) Kadambari is a romantic novel in Sanskrit. It was substantially composed by Banabhatta in the first half of the 7th century, who did not survive to see it through completion. The novel was completed by Banabhatta's son Bhushanabhatta, according to the plan laid out by his late father. It is conventionally divided into Purvabhaga (earlier part) written by Banabhatta, and Uttarabhaga (latter part) by Bhushanabhatta. শ্রীচিভর্ষ
8. (a) The Satavahana kings mostly used lead as the material for their coins. Most of their coins are in that metal. Silver coins are very rare. Next to lead they used an alloy of silver and copper, called "potin". Many copper coins are also available. Although the Satavahana coins are devoid of any beauty or artistic merit, they constitute a valuable source-material for the dynastic history of the Satavahanas.
9. (a) The Battle of the Hydaspes River was fought by Alexander the Great in 326 BC against King Porus of the Hindu Paurava kingdom on the

banks of the Hydaspes River (Jhelum River) in the Punjab near Bhera in what is now modern-day Pakistan. The battle resulted in a complete Macedonian victory and the annexation of the Punjab, which lay beyond the confines of the defeated Persian Empire, into the Alexandrian Empire. The battle is historically significant for opening up India for Greek political (Seleucid Empire, Indo-Greeks) and cultural influence (Greco-Buddhist art) which was to continue for many centuries.

শ্রীচিড়ম্ব

10. (c) The scenes depicted in the Ajanta paintings are mostly didactic, devotional, and ornamental, with scenes from the Jataka stories of the Buddha's former existences as a bodhisattva, the life of the Gautama Buddha, and those of his veneration. The two most famous individual painted images at Ajanta are the two over-life size figures of the protective bodhisattvas Padmapani and Vajrapani on either side of the entrance to the Buddha shrine on the wall of the rear aisle.
11. (c) Sangam period is the period in the history of ancient southern India (known as the Tamilakam) spanning from c. 30th century BC to c. 4th century CE. It is named after the famous Sangam academies of poets and scholars centered in the city of Madurai. In old Tamil language, the term Tamilakam referred to the whole of the ancient Tamil-speaking area, corresponding roughly to the present-day Indian states of Tamil Nadu, Kerala, parts of Andhra Pradesh, parts of Karnataka and northern Sri Lanka.
12. (d) Sarnath is the deer park where Gautama Buddha first taught the Dharma, and where the Buddhist Sangha came into existence through the enlightenment of Kondanna. It is located to the north-east of Varanasi, in Uttar Pradesh.
13. (d) Gandhara art is the style of Buddhist visual art that developed in what is now northwestern Pakistan and eastern Afghanistan between the 1st century B.C and the 7th century A.D. The style, of Greco-Roman origin, seems to have flourished largely during the Kushan dynasty and was contemporaneous with an important but dissimilar school of Kushan art at Mathura.
14. (a) The Pallavas ruled regions of northern Tamil Nadu and southern Andhra Pradesh between the second to the ninth century A.D. Their

capital was Kanchipuram. Located on the banks of river Vegavathy, it served as the capital city of the Pallava Kingdom during the 4th to 9th century A.D.

15. (c) The name India is derived from Indus, which originates from the Old Persian word Hindu. The latter term stems from the Sanskrit word Sindhu, which was the historical local appellation for the Indus River. The ancient Greeks referred to the Indians as Indoi which translates as "the people of the Indus".
16. (b) The 'Great Stupa' at Sanchi is the oldest stone structure in India and was originally commissioned by the emperor Ashoka the Great in the 3rd century BC. It is located in Raisen District of the state of Madhya Pradesh. Sanchi is the location of several Buddhist monuments dating from the 3rd century BC to the 12th century AD.
17. (d) The Milinda Panha (Questions of Milinda) is a Buddhist text which dates from approximately 100 BC. It purports to record a dialogue in which the Indo-Greek king Menander I of Bactria, who reigned in the 2nd century BC, poses questions on Buddhism to the sage Nagasena.
18. (a) A majority of historians believe that the Aryans were the first to invade India in the later stages of the Indus Valley Civilization around 1700 B.C. The Aryans came to India in bands and over several centuries in the 2nd millennium B.C. Historians are divided on the issue of their original homeland.
19. (a) A Peshwa was the titular equivalent of a modern Prime Minister. Emperor Shivaji created the Peshwa designation in order to more effectively delegate administrative duties during the growth of the Maratha Empire. The word Peshwa has roots in the Persian language meaning 'foremost'. After the coronation of Shivaji in 1674, he appointed Moropant Trimbak Pingle as the first Peshwa.
20. (b) Saint Tukaram (1608–1645) was a prominent Varkari Sant (Saint) and spiritual poet during a Bhakti movement in India. Dilip Purushottam Chitre, a well known Marathi Scholar, identifies Tukaram as the first modern poet of Marathi. Chitre believes that Tukaram was the second saint after Sant Dnyaneshwar who denied caste hierarchy in Hindu religion and attacked rituals present in Hindu Dharma.

21. (d) Tughlakabad Fort is a ruined fort in Delhi, built by Ghiyas-ud-din Tughlaq, the founder of Tughlaq dynasty, of the Delhi Sultanate of India in 1321. The Red Fort is a 17th century fort complex constructed by the Mughal emperor, Shah Jahan. The fort was the palace for Mughal Emperor Shah Jahan's new capital, Shahjahanabad, the seventh city in the Delhi site. Hauz Khas is named after an ancient water reservoir by the same name. The large water tank or reservoir was first built by Alauddin Khilji (1296–1316) to supply water to the inhabitants of Siri Fort. Siri Fort, in the city of New Delhi, was built during the rule of Ala-ud-Din Khilji of the Delhi Sultanate to defend the city from the onslaught of the Mongols. It was the second of the seven cities of medieval Delhi built around 1303.
22. (c) Prince Salim was Akbar's eldest son, who took the reign name Jahangir, which means "world grasper." He explained in his memoir that there was a contemporary Ottoman emperor also named Salim, which made him decide to change his name. শ্রীচিভর্ষ
23. (c) The Chalukya dynasty was an Indian royal dynasty that ruled large parts of southern and central India between the 6th and the 12th centuries. During this period, they ruled as three related yet individual dynasties: "Badami Chalukyas", ruled from Vatapi (modern Badami) from the middle of the 6th century; Eastern Chalukyas, who ruled from Vengi until about the 11th century; and the Western Chalukyas who ruled from Kalyani until the end of the 12th century. শ্রীচিভর্ষ
24. (a) Kannauj: Kannauj remained a focal point for the three powerful dynasties, namely the Gurjara Pratiharas, Palas and Rashtrakutas, between the 8th and 10th centuries; Khaujraho: was the cultural capital of Chandel Rajputs, a Hindu dynasty that ruled this part of India from the 10-12th centuries; Dhar: seat of rule of the Parmar Rajputs; and Ahilwara: Chalukyas.
25. (d) The language of the Mughals was Chagatai and later Farsi. The language of the court was Persian which is known as Farsi. The language advanced into the language Urdu. It is characteristic of the Mughals that, next to Persian, the language which received the greatest patronage at court was Hindi. The practice started in Akbar's days.
26. (a) The city of Gulbarga was founded by the Bahmani Sultans in the 14th century as their capital. It remained the capital of the Bahamani Saltanate from 1347 to 1425 when Bidar was made the capital. Bidar continued as the capital till 1527. শ্রীচিভর্ষ
27. (b) During the Delhi Sultanate, the rise of Persian speaking people to the throne naturally resulted in the spread of the Persian language in India. It was the official language and soon literary works in the language began to appear. Amir Khusrav was a noted writer of the period, who was one of the first writers to write Persian literature about events concerning India. শ্রীচিভর্ষ
28. (c) Chengiz Khan was the founder and Great Khan (emperor) of the Mongol Empire, which became the largest contiguous empire in history after his demise. His period of reign was 1206 A.D-1227 A.D. Ilutmish was his contemporary and he had to face his frequent incursions.
29. (c) Mahmud of Ghazni sacked the Somnath temple in 1024 AD and is reported to have personally hammered the temple's gilded Lingam to pieces and the stone fragments were carted back to Ghazni, where they were incorporated into the steps of the city's new Jama Masjid (Friday Mosque) in 1026. The temple and citadel were sacked, and most of its defenders massacred. শ্রীচিভর্ষ
30. (d) The dynasties of the Delhi Sultanate were: Mamluk or Slave dynasty (1206–90); the Khilji dynasty (1290–1320); the Tughlaq dynasty (1320–1414); the Sayyid dynasty (1414–51); and the Afghan Lodi dynasty (1451–1526).
31. (d) Guru Granth Sahib is the central religious text of Sikhism, considered by Sikhs to be the final, sovereign guru among the lineage of 11 Sikh Gurus of the religion. It is a voluminous text of 1430 pages, compiled and composed during the period of Sikh gurus from 1469 to 1708. শ্রীচিভর্ষ
32. (b) Balaji Vishwanath was the founder of the house of the Peshwas in 1714. He was the first of a series of hereditary Peshwas hailing from the Marathi Chitpavan Brahmin family who gained effective control of the Maratha Empire during the 18th century. He is also called the second founder of the Maratha Empire.

33. (b) The Battle of Talikota (26 January 1565) was a watershed battle fought between the Vijayanagara Empire and the Deccan sultanates of Ahmednagar, Bijapur, Golkonda, Berar and Bidar. It ended in the defeat of Vijayanagara, resulting in its subsequent weakening.
34. (d) The Purna Swaraj declaration, or Declaration of the Independence of India was promulgated by the Indian National Congress on January 26, 1930, resolving the Congress and Indian nationalists to fight for Purna Swaraj, or complete self-rule independent of the British Empire. A very large number of Congress volunteers and delegates, members of other political parties and an especially large public gathering attended the session convened in Lahore. At midnight on New Year's Eve, President Jawaharlal Nehru hoisted the tri-colour flag of India upon the banks of the Ravi river in Lahore, which later became part of Pakistan. শ্রীচিড়াক্স
35. (a) Satyendranath Tagore was the first Indian to join the Indian Civil Service. He was an author, song composer, linguist and made significant contribution towards the emancipation of women in Indian society during the British Raj. Satyendranath was selected for the Indian Civil Service in June, 1863. He served in the ICS for about thirty years and retired as Judge of Satara in Maharashtra in 1897. He was a brother of Ravindranath Tagore. Surendranath Banerjee appeared at the examination in 1869 and joined the service in 1871. Romesh Dutt and Behari Lal Gupta were the second and third Indian to qualify in the Indian Civil Services Examination in 1869. শ্রীচিড়াক্স
36. (c) The Gandhi-Irwin Pact opened the way for Congress participation in this conference. Mahatma Gandhi was invited from India and attended as the sole official Congress representative accompanied by Sarojini Naidu and also Madan Mohan Malaviya, Ghanshyam Das Birla, Muhammad Iqbal, Sir Mirza Ismail Diwan of Mysore, S.K. Dutta and Sir Syed Ali Imam. Gandhi claimed that the Congress alone represented political India; that the Untouchables were Hindus and should not be treated as a "minority"; and that there should be no separate electorates or special safeguards for Muslims or other minorities. These claims were rejected by the other Indian participants. শ্রীচিড়াক্স
37. (c) In February 1946, the Royal Indian Navy (RIN) experienced a major mutiny, on a magnitude rare among modern navies. The Second Battalion of the Black watch was called from their barracks in Karachi to deal with this mutiny on Manora Island. Both Muhammad Ali Jinnah and Sardar Patel successfully persuaded the ratings to surrender. Patel wrote, "Discipline in the army cannot be tampered with. We will want [the] army even in free India". শ্রীচিড়াক্স
38. (c) The Indian Council act of 1909 also known as the Morley-Minto reforms named after the then Secretary of State for India, Lord Morley and the Viceroy Lord Minto. Its provisions were incorporated into the Indian Councils act of 1909 and were perhaps the first attempt at introducing a popular representative element in the government. In the provincial legislative councils, the number of non official members was increased, thereby reducing the official members to a minority. At the central legislative council however the official members still maintained their majority. The councils were given a little more power in the administration and could influence decisions on certain matters of the state. শ্রীচিড়াক্স
39. (a) In 1850, the first experimental electric telegraph line was started between Kolkata and Diamond Harbour. In 1851, it was opened for the use of the British East India Company. Subsequently, the construction of 6,400 km of telegraph lines connecting Kolkata (then Calcutta) and Peshawar in the north along with Agra, Mumbai (then Bombay) through Sindwa Ghats, and Chennai (then Madras) in the south, as well as Ootacamund and Bangalore was started in November 1853. William O'Shaughnessy, who pioneered the telegraph and telephone in India, belonged to the Public Works Department, and worked towards the development of telecom throughout this period. শ্রীচিড়াক্স
40. (a) Dadabhai Naoroji, known as the Grand Old Man of India, was a Parsi intellectual, educator, cotton trader, and an early Indian political and social leader. His book Poverty and Un-British Rule in India brought attention to the draining of India's wealth into Britain. He was a Member of Parliament (MP) in the United Kingdom House of Commons between 1892



and 1895, and the first Asian to be a British Member of Parliament. He is also credited with the founding of the Indian National Congress, along with A.O. Hume and Dinshaw Edulji Wacha.

41. (c) Macaulay was Secretary to the Board of Control under Lord Grey from 1832 until 1833. After the passing of the Government of India Act 1833, he was appointed as the first Law Member of the Governor-General's Council. He went to India in 1834. He served on the Supreme Council of India between 1834 and 1838. He introduced English education in India through his famous minute of February 1835.
42. (b) Jayaprakash Narayan, widely known as Loknayak, was an Indian independence activist and political leader, remembered especially for leading the opposition to Indira Gandhi in the 1970s and for giving a call for peaceful Total Revolution. Charles Freer Andrews was an English priest of the Church of England and a Christian missionary and social reformer in India. For Andrews's contributions to the Indian Independence Movement Gandhi and his students at St. Stephen's College, Delhi named him Deenabandhu, or "Friend of the Poor". Dadabhai Naoroji, known as the Grand Old Man of India, was a Parsi intellectual, educator, cotton trader, and an early Indian political and social leader. Lala Lajpat Rai was popularly known as Punjab Kesari (Punjabi: The Lion of Punjab) or Sher-e- Punjab (Urdu: The Lion of Punjab) meaning the same and was part of the Lal Bal Pal trio.
43. (b) The British presence in India dates back to the early part of the seventeenth century. On 31 December, 1600, Elizabeth, then the monarch of the United Kingdom, acceded to the demand of a large body of merchants that a royal charter be given to a new trading company, "The Governor and Company of Merchants of London, Trading into the East-Indies." Between 1601 and 1613, merchants of the East India Company took twelve voyages to India, and in 1609 William Hawkins arrived at the court of Jahangir to seek permission to establish a British presence in India. Hawkins was rebuffed by Jahangir, but Sir Thomas Roe, who presented himself before the Mughal Emperor in 1617, was rather more successful. Two years later, Roe gained

- Jahangir's permission to build a British factory in Surat, and in 1639, this was followed by the founding of Fort St. George (Madras).
44. (c) The Treaty of Amritsar was signed on March 16, 1846, to settle a dispute over territory in Kashmir after the First Sikh War with the United Kingdom, ceding some land to Maharaja Gulab Singh Dogra. The Treaty of Bassein (Now called Vasai) was a pact signed on December 31, 1802 between the British East India Company and Baji Rao II, the Maratha Peshwa of Pune (Poona) in India after the Battle of Poona. The Third Mysore War ended with the Treaty of Srirangapatnam concluded between Mysore and the English in 1792. The Treaty of Salbai was signed on May 17, 1782, by representatives of the Maratha Empire and the British East India Company after long negotiations to settle the outcome of the First Anglo-Maratha War.
45. (d) The Brahmo Samaj was conceived at Kolkata in 1830 by Devendranath Tagore and Ram Mohan Roy as reformation of the prevailing Brahmanism of the time (specifically Kulin practices) and began the Bengal Renaissance of the 19th century. The Veda Samaj was an extremely important social reform in the Southern India established in Madras in the year 1864. Arya Samaj is a Hindu reform movement founded by Swami Dayananda on 10 April 1875 and its area of activity was mainly northern India. Prarthna Samaj, or "Prayer Society" in Sanskrit, was a movement for religious and social reform in Maharashtra based on earlier reform movements and traditions of Maharashtra. It started in Bombay and was inspired by the Brahmo Samaj.
46. (d) MAO College (or Muhammadan Anglo-Oriental College) was founded by Sir Syed Ahmed Khan, the leader of Muslim renaissance in Indian subcontinent, in 1875 at Aligarh. This later became Aligarh Muslim University in 1920. Mohammedan Anglo Oriental (MAO) College in 1875 marks one of the most important events in the educational and social history of modern India. Its establishment is considered as the first significant response of the Indian Muslims to the challenges of post 1857 era. It was an important catalyst in a process of social change among Muslims. Lord Lytton laid the foundation stone of the

- Muhammadan Anglo Oriental College on January 8, 1877. It became Aligarh Muslim University In 1920 by the act of Parliament of India. শ্রীচিড়ম্ব
47. (b) Sunderlal Bahuguna is a noted Garhwali environmentalist, Chipko movement leader and a follower of Mahatma Gandhi's philosophy of Non-violence and Satyagraha. The Bhoodan Movement was a voluntary land reform movement in India started by Acharya Vinoba Bhave in 1951 started at Pochampally village. Narmada is social movement consisting of tribal people, adivasis, farmers, environmentalists and human rights activists against the Sardar Sarovar Dam being built across the Narmada River, Gujarat, India. Narmada Bachao Andolan, together with its leading spokespersons Medha Patkar and Baba Amte, were the 1991 recipient of the Right Livelihood Award. Jayaprakash Narayan is remembered especially for leading the opposition to Indira Gandhi in the 1970s and for giving a call for peaceful Total Revolution
48. (c) Sarvodaya is a term meaning 'universal uplift' or 'progress of all'. The term was first coined by Mahatma Gandhi as the title of his 1908 translation of John Ruskin's tract on political economy, Unto This Last, and Gandhi came to use the term for the ideal of his own political philosophy. Later Gandhians, like the Indian nonviolence activist Vinoba Bhave, embraced the term as a name for the social movement in postindependence India শ্রীচিড়ম্ব
49. (d) Jivatram Bhagwandas Kripalani, popularly known as Acharya Kripalani, was an Indian politician, noted particularly for holding the presidency of the Indian National Congress during the transfer of power in 1947. During the election for the post of the future Prime Minister of India held by the Congress party, he had the second highest number of votes after Sardar Patel. However, on Gandhi's insistence, both Patel and Kripalani backed out to allow Jawahar Lal Nehru to become the first Prime Minister of India. শ্রীচিড়ম্ব
50. (b) 'Back to Vedas' was Swami Dayanand Saraswati's call when he established the Arya Samaj. By exhorting the nation to reject superstitious notions, his aim was to educate the nation to 'Go back to the Vedas'. He wanted the people who followed Hinduism to go back to its roots and to follow the Vedic life, which he pointed out. By doing this, he felt that Hindus would be able to improve the depressive religious, social, political, and economic conditions prevailing in India in his times. শ্রীচিড়ম্ব
51. (a) Indian Standard Time (IST) is the time observed throughout India and Sri Lanka, with a time offset of UTC+05:30. India does not observe Daylight Saving Time (DST) or other seasonal adjustments. Indian Standard Time is calculated on the basis of 82.5° E longitude, from a clock tower in Mirzapur (25.15°N 82.58°E) (near Allahabad in the state of Uttar Pradesh) which is nearly on the corresponding longitude reference line
52. (c) Zero (0) degree Longitude is the mean longitude and the time adjusted according to this longitudinal time. The earth rotates from West to East. So every 15° we go eastwards, local time is advanced by 1 hour. If we go westwards, local time is retarded by 1 hour. Each country has set their local time multiple of half an hour (1/2 hour). India's local standard time is (+5.5 h). Means 5.5 h ahead of G.M.T. শ্রীচিড়ম্ব
53. (c) Length of coastline of India including the coastlines of Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep Islands in the Arabian Sea is 7517 km. Length of Coastline of Indian mainland is 6100 km.
54. (a) Badlands are area of severe erosion, usually found in semiarid climates and characterized by countless gullies, steep ridges, and sparse vegetation. Badland topography is formed on poorly cemented sediments that have few deep-rooted plants because short, heavy showers sweep away surface soil and small plants. Depressions gradually deepen into gullies. Badland topography is a characteristic feature of the Chambal valley, whereas Kankar has extensively developed in the older alluvium.
55. (c) Lake Manasarovar is a freshwater lake in the Tibet Autonomous Region of China 940 kilometres from Lhasa. To the west of Lake Manasarovar is Lake Rakshastal; toward the north is Mount Kailash. শ্রীচিড়ম্ব
56. (a) Pulicat Lake: the second largest brackish – water lake or lagoon in India which straddles the border of Andhra Pradesh and Tamil Nadu states on the Coromandal Coast in South India;

Chilka Lake: a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha; Wular Lake: India's largest fresh water lake and one of the largest in Asia, located in Bandipora district in Jammu and Kashmir; and Sambhar Lake: India's largest inland salt lake, south west of Jaipur and north east of Ajmer along National Highway 8 in Rajasthan.

57. (c) Nanda Devi is the second highest mountain in India and the highest entirely within the country (Kanchenjunga being on the border of India and Nepal). প্র্যুচিউর্ক
58. (c) The largest and highest plateau in India as well as the world is the Tibetan Plateau, called the "roof of the world", which is still being formed by the collisions of the Indo-Australian and Eurasian tectonic plates. In all, the Tibetan plateau covers an area of some 2.5 million square kilometres, approximately 5000 m above sea level. প্র্যুচিউর্ক
59. (c) The word "Metamorphism" comes from the Greek: Meta = change, Morph = form, so metamorphism means to change form. The process of metamorphism is one that changes or alters either the mineralogy (structure) or the texture, but typically both, of some pre-existing rock. Metamorphic rocks are consequently rocks that have undergone a change or "metamorphosis" from a previous state as a sedimentary, igneous or even another metamorphic rock. প্র্যুচিউর্ক
60. (b) The Survey of India is headquartered at Dehradun, Uttarakhand. It is India's central engineering agency in charge of mapping and surveying. Set up in 1767 to help consolidate the territories of the British East India Company, it is one of the oldest Engineering Departments of the Government of India.
61. (b) The Himalayas are examples of fold mountains that are created where two or more of Earth's tectonic plates are pushed together. The Himalayan mountain ranges were formed as result of a continental collision or orogeny along the convergent boundary between the Indo-Australian Plate and the Eurasian Plate. The Arakan Yoma highlands in Myanmar and the Andaman and Nicobar Islands in the Bay of Bengal were also formed as a result of this collision. প্র্যুচিউর্ক
62. (b) The Ten Degree Channel is a channel that separates the Little Andaman and Car Nicobar

in the Bay of Bengal. The two sets of islands together form the Indian Union Territory (UT) of Andaman and Nicobar Islands. The channel is so named as it lies on the 10-degree line of latitude, north of the equator. প্র্যুচিউর্ক

63. (b) Nandgaon is a city and a municipal council in Nashik district in the Indian state of Maharashtra. There are two important dams in Nandgaon taluka. One is Girana Dam under major project and another is Nagyasakya under medium project.
64. (c) Farakka Barrage is a barrage across the Ganges River, located in the Indian state of West Bengal, roughly 16.5 kilometres from the border with Bangladesh near Chapai Nawabganj District. The Tehri Dam is a multi-purpose rock and earth-fill embankment dam on the Bhagirathi River near Tehri in Uttarakhand. The Ranjit Sagar Dam, also known as the Thein Dam, is part of a hydroelectric project constructed by the Government of Punjab on the Ravi River in the state of Punjab. Nagarjuna Sagar Dam is the world's largest masonry dam at the time of its construction, which is built across Krishna River at Nagarjuna Sagar in Guntur district & Nalgonda district of Andhra Pradesh.
65. (c) The Tungabhadra dam is constructed across the Tungabhadra River, a tributary of the Krishna River. The dam is located near the town of Hospet in Karnataka. The Bhavanisagar Dam and Reservoir, also called Lower Bhavani Dam, is located on the Bhavani River between Mettupalayam and Sathyamangalam in Erode District, Tamil Nadu. The Idukki Dam, located in Kerala, India, is a 168.91 m tall arch dam. The dam stands between the two mountains - Kuravanmala and Kurathimala. Nagarjuna Sagar Dam is the world's largest masonry dam at the time of its construction, which is built across Krishna River at Nagarjuna Sagar in Guntur district & Nalgonda district of Andhra Pradesh. প্র্যুচিউর্ক
66. (c) Most of the west flowing rivers of Indian peninsula do not form delta. They form estuary. Narmada is one of them. It is so because rocky terrain of the Western Ghats does not allow the rivers to spread out much, and there is not sufficient plain stretch of land between the Arabian sea and Western Ghats for Narmada to slowdown and bifurcate

- into distributaries. Narmada forms an estuary of 21 km at the Gulf of Khambat. The river is presently partially navigable in the estuary reach around Bharuch but the river has never been a transport artery. অ্যাসিডিক্স
67. (c) The Tehri Dam is a multi-purpose rock and earthfill embankment dam on the Bhagirathi River near Tehri in Uttarakhand, India. It is the primary dam of the THDC India Ltd. and the Tehri hydroelectric complex. Tehri Dam withholds a reservoir for irrigation, municipal water supply and the generation of 1,000 MW of hydroelectricity. The Tehri Dam has been the object of protests by environmental organizations and local people of the region. অ্যাসিডিক্স
68. (a) This multinational power generation company from the United States was involved in one of the eight “fast-track” power projects that were chosen as examples of the benefits of “reform” in the power sector. Cogentrix and Hong Kong’s China Light and Power International were to set up a \$1.3 billion, 1000 MW project in Karnataka. অ্যাসিডিক্স
69. (b) The Rana Pratap Sagar Dam is a gravity masonry dam of 53.8 metres height built on the Chambal River at Rawatbhata in Rajasthan in India. It was officially declared open on 9 February 1970 by Indira Gandhi, the then Prime Minister of India. অ্যাসিডিক্স
70. (d) The Brahmaputra river (also called as “Burlung-Buthur” by the Bodo people of Assam), called Yarlung Tsangpo in Tibetan language, originates on the Angsi Glacier located on the northern side of the Himalayas in Burang County of Tibet and not Chema-Yungdung glacier, which was previously identified by geographer Swami Pranavananda in the 1930s. অ্যাসিডিক্স
71. (a) Srinagar is situated in the Kashmir Valley and lies on the banks of the Jhelum River, a tributary of the Indus. The city is famous for its gardens, lakes and houseboats. অ্যাসিডিক্স
72. (c) The Manas River is a trans-boundary river in the Himalayan foothills between southern Bhutan and India. It is met by three other major streams before it again debouches into India in western Assam. The total length of the river is 376 kilometres, flows through Bhutan for 272 kilometres and then through Assam for 104 kilometres before it joins the mighty Brahmaputra River at Jogighopa. অ্যাসিডিক্স
73. (a) The entire Ganga basin system effectively drains eight states. অ্যাসিডিক্স
74. (d) The Indira Gandhi Canal, earlier known as Rajasthan Canal, begins at the Harike Barrage—at the confluence of the Sutlej and Beas rivers in Punjab. One of the largest canal projects in India, it utilizes the surplus water from these rivers for irrigating vast areas in Rajasthan. অ্যাসিডিক্স
75. (a) Sideways form of erosion is called lateral erosion. In lateral erosion, the river erodes away at its banks and widens the river channel. Together, vertical and lateral erosion create the distinctive V-shaped valley that is found in rivers in their upper course. As the river gets closer to the sea, there is more lateral erosion than vertical erosion and the V flattens out into a much wider shape. অ্যাসিডিক্স
76. (d) Derived from the Arabic word ‘mausam’, monsoon implies a seasonal reversal in wind direction. These changes lead to changes in the seasonal distribution of rainfall and temperature. Although the Andaman & Nicobar Islands receive monsoon as early as mid-May, the southwest monsoon enters the subcontinent’s mainland through the Kerala coast. The monsoon then gets divided into two parts: the Arabian Sea branch and the Bay of Bengal branch. It normally reaches Mangalore on the west coast and Vishakhapatnam on the east coast within four days. Both the branches move to reach Mumbai and Kolkata on average between June 10 and 13. The monsoon crosses Varanasi, Ahmedabad and Bhopal by June 15. Agra has to wait for another five days and Delhi by June 29. The two branches merge over Punjab and Himachal. By mid-July the southwest monsoon engulfs the entire subcontinent. অ্যাসিডিক্স
77. (b) Summer monsoon (May to September) experiences South Western monsoon. The Western Ghats are the first highlands of India that the SW Monsoon winds encounter. The presence of abundant highlands like the Western Ghats and the Himalayas right across the path of the SW Monsoon winds are the main cause of the substantial orographic precipitation all over the Indian subcontinent. The Western Ghats rise very abruptly from the Western Coastal Plains of the subcontinent making effective orographic barriers for the Monsoon winds. অ্যাসিডিক্স



78. (d) Simlipal National Park is a national park and an elephant reserve situated in the Mayurbhanj district in the Indian state of Orissa. Simlipal National Park derives its name from the abundance of Semul or red silk cotton trees that bloom vividly. Dehong Deband biosphere reserve is present in Arunachal Pradesh, Norkek biosphere reserve is present in Meghalaya and Kanchenjunga biosphere reserve is situated in Sikkim. শ্রীচিভর্ষ
79. (c) Bandipur National Park, established in 1973 as a tiger reserve under Project Tiger, is a national park located in the south Indian state of Karnataka. The Gir Forest National Park and Wildlife Sanctuary is a forest and wildlife sanctuary in Gujarat. Manas National Park or Manas Wildlife Sanctuary is a Wildlife Sanctuary, UNESCO Natural World Heritage site, a Project Tiger Reserve, an Elephant Reserve and a Biosphere Reserve in Assam. Rohla National Park in Kulu, Himachal Pradesh, is known for snow leopards. শ্রীচিভর্ষ
80. (a) Kaziranga National Park is a national park in the Golaghat and Nagaon districts of the state of Assam, India. A World Heritage Site, the park hosts two-thirds of the world's Great One-horned Rhinoceroses. Kaziranga boasts the highest density of tigers among protected areas in the world and was declared a Tiger Reserve in 2006. The park is home to large breeding populations of elephants, wild water buffalo, and swamp deer. শ্রীচিভর্ষ
81. (c) Bandipur: Karnataka; Manas: Assam; Ranthambhore: Sawai Madhopur district of southeastern Rajasthan; and Simlipal: in the Mayurbhanj district in Odisha.
82. (b) Established in the year 1986, Nilgiri Biosphere Reserve is the first biosphere reserve in India. It is an International Biosphere Reserve in the Western Ghats.
83. (b) Forest area (% of land area) in India was last measured at 23.07% in 2011, according to the World Bank. Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems. শ্রীচিভর্ষ
84. (b) Bandhavgarh National Park is one of the popular national parks in India located in the Umaria district of Madhya Pradesh. Known for high density of tigers, Bandhavgarh was declared a national park in 1968. The park derives its name from the most prominent hillock of the area, which was said to be given by Hindu Lord Rama to Lakshmana to keep a watch on Lanka. শ্রীচিভর্ষ
85. (d) Laterite soils are found on the highland areas of plateau Karnataka, Kerala, Tamil Nadu and hilly regions of Assam, Rajmahal hills and Chhotanagpur plateau. These are shallow, acidic and less fertile soils. These soils are poor in lime but rich in iron. So these are suitable for plantation of crops like tea, rubber, coffee etc. শ্রীচিভর্ষ
86. (d) Plucking and pruning are the methods employed in tea. Pruning is a vital operation for tea management to limit the top growth and to stimulate the growth of the bush. Pruning is a process to the tea bush at a certain height to control the vertical growth and allow it expanding horizontally for comfortable plucking with renewed and vigorous branching pattern. Some objectives of pruning are: to check the reproductive growth and provide stimulus for vegetative growth especially for the production of young shoot that constitute the crop; to remove the dead wear and unproductive wood; to renew the actively growing branches which can support the sufficient volume of maintenance foliage on it; to maintain the height and dead frame for economic plucking; to increase the growth hormone for vegetative growth; to derive store energy for the production of the growing shoot; and to reduce the incidence of pest and diseases which help to rejuvenate the bushes for the maximum cross production.
87. (d) Wheat requires moderate temperatures (maximum 20-23 degrees Celsius and minimum 4-5 degrees Celsius) during sowing season and light rains in January for growth. High temperature and no rains lead to improper growth of the crop, early ripening and damages formation of grain. It thrives best in well drained loamy soil. Wheat is grown extensively in USA, Canada, Argentina, Russia, Ukraine, Australia and India. In India it is grown in winter. শ্রীচিভর্ষ
88. (b) Light travels at 186,000 miles a second at the Earth is 93 million miles to Sun on average. This works out as 8.33 minutes for light from the Sun to reach Earth. On average, it takes

energy between 10,000 and 170,000 years to leave the sun's interior and then be emitted from the surface as light. Sunlight, in the broad sense, is the total frequency spectrum of electromagnetic radiation given off by the Sun, particularly infrared, visible, and ultraviolet light. On Earth, sunlight is filtered through the Earth's atmosphere, and is obvious as daylight when the Sun is above the horizon.

89. (d) Jupiter is the biggest planet in our Solar System. It is the largest by mass, volume, and surface area among other statistics. Here are the critical measurements of Jupiter as well as a few other interesting facts about the planet and other bodies in the Jovian system.
90. (c) The outermost layer of the sun is the corona. Only visible during eclipses, it is a low density cloud of plasma with higher transparency than the inner layers. The white corona is a million times less bright than the inner layers of the sun, but is many times larger. A corona is a type of plasma "atmosphere" of the Sun or other celestial body, extending millions of kilometers into space, most easily seen during a total solar eclipse, but also observable in a coronagraph. The word "corona" itself derived from the Latin, meaning crown. The high temperature of the corona gives it unusual spectral features. শ্রীচিড়ম্ব
91. (c) A supernova is a stellar explosion that is more energetic than a nova. During this short interval a supernova can radiate as much energy as the Sun is expected to emit over its entire life span. The explosion expels much or all of a star's material at a velocity of up to 30,000 km/s (10% of the speed of light). শ্রীচিড়ম্ব
92. (b) The umbra (Latin for "shadow") is the innermost and darkest part of a shadow, where the light source is completely blocked by the occluding body. An observer in the umbra experiences a total eclipse. শ্রীচিড়ম্ব
93. (a) The Grand Canyon is a steep-sided canyon carved by the Colorado River in the United States in the state of Arizona. It is contained within and managed by Grand Canyon National Park, the Hualapai Tribal Nation, and the Havasupai Tribe. President Theodore Roosevelt was a major proponent of preservation of the Grand Canyon area. A number of processes combined to create the views that we see in today's Grand Canyon. The most powerful

force to have an impact on the Grand Canyon is erosion, primarily by water (and ice) and second by wind. Other forces that contributed to the Canyon's formation are the course of the Colorado River itself, volcanism, continental drift and slight variations in the earth's orbit which in turn causes variations in seasons and climate. শ্রীচিড়ম্ব

94. (a) The Deccan Traps are a large igneous province located on the Deccan Plateau of west-central India (between 17°–24°N, 73°–74°E) and one of the largest volcanic features on Earth. They consist of multiple layers of solidified flood basalt that together are more than 2,000 m (6,562 ft) thick and cover an area of 500,000 km<sup>2</sup> (193,051 sq mi) and a volume of 512,000 km<sup>3</sup> (123,000 cu mi). The term "trap", used in geology for such rock formations, is derived from the Swedish word for stairs and refers to the steplike hills forming the landscape of the region. শ্রীচিড়ম্ব
95. (c) Tropical grasslands (Savannas) are located near the equator, between the Tropic of Cancer and the Tropic of Capricorn. They cover much of Africa as well as large areas of Australia, South America, and India. They are found in tropical wet and dry climates. These areas are hot year-round, usually never dropping under 64 degrees Fahrenheit. Although these areas are overall very dry, they do have a season of heavy rain. Annual rainfall is from 20-50 inches per year. It is crucial that the rainfall is concentrated in six or eight months of the year, followed by a long period of drought when fires can occur. Savannas are associated with several types of biomes. Savannas are frequently in a transitional zone between forest and desert or grassland. Savanna covers approximately 20% of the Earth's land area. শ্রীচিড়ম্ব
96. (c) The Pacific Ring of Fire is an area where a large number of earthquakes and volcanic eruptions occur in the basin of the Pacific Ocean. In a 40,000 km horseshoe shape, it is associated with a nearly continuous series of oceanic trenches, volcanic arcs, and volcanic belts and/or plate movements. The Ring of Fire has 452 volcanoes and is home to over 75% of the world's active and dormant volcanoes. It is sometimes called the circum-Pacific belt or the circum-Pacific seismic belt. শ্রীচিড়ম্ব

About 90% of the world's earthquakes and 81% of the world's largest earthquakes occur along the Ring of Fire.

97. (d)

প্র্যাচিভার্স

98. (d) There are three Peninsular rivers which flow in a rift valley. Narmada flows westward between the Satpura and Vindhya ranges. The Tapi River and Mahi River also flow through rift valleys, but between different ranges.

99. (b) An earthquake is also known as a quake, tremor or temblor. At the Earth's surface,

earthquakes manifest themselves by shaking and sometimes displacement of the ground. It is the result of a sudden release of energy in the Earth's crust that creates seismic waves.

100. (c) Willow is a species of deciduous trees and shrubs, found primarily on moist soils in cold and temperate regions of the Northern Hemisphere. Willow wood is also used in the manufacture of boxes, brooms, cricket bats (grown from certain strains of white willow), cradle boards, etc.

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