MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY

Assignment-1 (CO1)

Faculty Name: Dr Parul Chaudhary | **Class / Semester: CSE-3 / 3rd**
Subject Name: Indian Knowledge System | **Topic / Unit: 1**
Subject Code: HS-203 | **Total Marks: 20**
Date of Issue: | **Submission Date:**

Q1. Discuss the importance of preserving the Indian Knowledge System (IKS) in the modern world. Provide examples of ancient knowledge that are relevant today. **(Evaluate)** [5 marks]

Q2. Explain the structure and divisions of the Vedic Corpus. Describe the role and significance of the Four Vedas and Vedāngas in shaping ancient Indian knowledge. **(Understand)** [5 marks]

Q3. Compare and contrast the Vedic and Non-Vedic philosophical systems. How did these systems contribute to the development of Indian intellectual traditions? **(Analyze)** [5 marks]

Q4. How do ancient Indian epics like the Rāmāyana and Mahābhārata serve as sources of wisdom? Illustrate with examples of ethical or philosophical lessons from these texts. **(Apply)** [5 marks]

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Assignment-2 (CO2)

Faculty Name: Dr Parul Chaudhary | **Class / Semester: CSE-3 / 3rd**
Subject Name: Indian Knowledge System | **Topic / Unit: 1**
Subject Code: HS-203 | **Total Marks: 20**
Date of Issue: | **Submission Date:**

Q1. Analyze the importance of Pānini's work in Sanskrit grammar. Discuss its impact on the structure and phonetics of the language. **(Analyze)** [5 marks]

Q2. Describe the computational concepts found in Pānini's Aṣṭādhyāyi. How do these principles contribute to natural language processing in modern computational linguistics?. **(Understand)** [5 marks]

Q3. Examine the salient features of the Indian numeral system and its historical evolution. Discuss how the system's concepts, such as zero and positional notation, influenced global mathematics. **(Evaluate)** [5 marks]

Q4. Discuss Pingala's binary system and its significance. How did ancient Indian mathematicians approach measurements of time, distance, and weight? **(Understand)** [5 marks]

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Assignment-3 (CO3)

Faculty Name: Dr Parul Chaudhary | **Class / Semester: CSE-3 / 3rd**
Subject Name: Indian Knowledge System | **Topic / Unit: 1**
Subject Code: HS-203 | **Total Marks: 20**
Date of Issue: | **Submission Date:**

Q1. Identify at least three notable Indian mathematicians and describe their contributions to fields such as arithmetic, algebra, and geometry. **(Remember)** [5 marks]

Q2. Explain the combinatorial problems in Pingala's Chandaḥśāstra. Discuss the role of these concepts in the development of trigonometry in Indian mathematics. **(Apply)** [5 marks]

Q3. Discuss the historical development of astronomy in India. Explain the celestial coordinate system and elements of the Indian calendar as detailed in texts like Āryabhatīya. **(Understand)** [5 marks]

Q4. Describe the importance of astronomical instruments like the Jantar Mantar and their role in advancing knowledge in ancient Indian astronomy. **(Analyze)** [5 marks]

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Assignment-4 (CO4)

Faculty Name: Dr Parul Chaudhary | **Class / Semester: CSE-3 / 3rd**
Subject Name: Indian Knowledge System | **Topic / Unit: 1**
Subject Code: HS-203 | **Total Marks: 20**
Date of Issue: | **Submission Date:**

Q1. Describe the process of metal extraction and the metallurgical advancements in ancient India, focusing on iron and steel production. **(Understand)** [5 marks]

Q2. Analyze the ancient Indian techniques for constructing physical structures, including irrigation and water management systems. What factors made these structures sustainable? **(Analyze)** [5 marks]

Q3. Discuss the contributions of ancient Indian texts and practices to the fields of dyes, paintings, and surgical techniques. Provide examples to illustrate their application. **(Apply)** [5 marks]

Q4. Explain the indigenous Indian methods in shipbuilding and the Sixty-four Art Forms (Chausath Kala). How did these arts contribute to India's cultural and technological heritage? **(Understand)** [5 marks]

Quiz – 1
CO – 1

Name:_____ **Subject: Indian Knowledge System**

Class:_____ **Subject Code: HS-203**

Enrollment No.:_____ **Total Marks: 10**

Q1. What is the primary purpose of studying the Indian Knowledge System (IKS)?

a) To modernize ancient systems

b) To understand and preserve cultural heritage

c) To replace current educational systems

d) None of the above

Q2. What does "Chaturdaśa-Vidyāsthāna" refer to?

a) The four Vedas

b) The fourteen branches of knowledge

c) Ancient Sanskrit grammar

d) Indian number system

Q3. The four Vedas are Rigveda, Samaveda, Yajurveda, and_____.

a) Arthaveda

b) Atharvaveda

c) Vishnuveda

d) Bhagavadveda

Q4. The primary focus of Vedāngas is related to:

a) Philosophical systems

b) Rituals and daily life practices

c) Mathematics

d) Medical practices

Q5. Which of the following is NOT a Vedic philosophical system?

a) Nyaya

b) Vaisheshika

c) Buddhism

d) Samkhya

Q6. The term ‘Itihāsa’ in IKS refers to which of the following?

a) Folk stories

b) Mythological tales

c) Historical epics

d) Philosophical texts

Q7. Which of the following texts is NOT classified as an Itihāsa?

a) Ramayana

b) Mahabharata

c) Arthashastra

d) None of the above

Q8. Niti-shastras are primarily focused on which aspect?

a) Philosophical inquiries

b) Ethical and moral codes

c) Linguistic structure

d) Geometry

Q9. The Ramayana was originally composed by which sage?

a) Ved Vyasa

b) Valmiki

c) Patanjali

d) Panini

Q10. Which text is considered the primary source of ancient Indian wisdom and knowledge?

a) Vedas

b) Charaka Samhita

c) Puranas

d) Subhasitas

Quiz – 2
CO – 2

Name:_____ **Subject: Indian Knowledge System**

Class:_____ **Subject Code: HS-203**

Enrollment No.:_____ **Total Marks: 10**

Q1. Who is considered the father of Sanskrit grammar?

a) Valmiki

b) Patanjali

c) Panini

d) Vyasa

Q2. The text "Ashtadhyayi" primarily focuses on:

a) Philosophical systems

b) Linguistics and grammar

c) Mathematics

d) Astronomy

Q3. What is unique about the structure of Panini's "Ashtadhyayi"?

a) It's written in prose

b) It uses computational grammar rules

c) It has no verb system

d) It covers only vocabulary

Q4. In Sanskrit, phonetics is primarily governed by the concept of:

a) Shabdakosha

b) Sandhi

c) Samasa

d) Vibhakti

Q5. Which Indian mathematician is known for developing a binary-like system in ancient India?

a) Aryabhata

b) Pingala

c) Panini

d) Brahmagupta

Q6. In Panini's grammar system, what role do verbs play in sentence construction?

a) None

b) Secondary

c) Primary

d) Optional

Q7. The Indian numeral system is unique because:

a) It introduced the concept of zero

b) It lacked a positional value system

c) It used only whole numbers

d) It did not influence global mathematics

Q8. Which Vedic text is known for discussing phonetics and grammar extensively?

a) Yajurveda

b) Samaveda

c) Atharvaveda

d) Rigveda

Q9. Pingala is known for which notable work in ancient India?

a) Manusmriti

b) Chandaḥśāstra

c) Rigveda

d) Ramayana

Q10. The Sanskrit term for "knowledge framework" is:

a) Pramāṇa

b) Prameya

c) Samshaya

d) Pradhanya

Quiz – 3
CO – 3

Name:_____ **Subject: Indian Knowledge System**

Class:_____ **Subject Code: HS-203**

Enrollment No.:_____ **Total Marks: 10**

Q1. Who is the author of the "Aryabhatiya"?

a) Bhaskaracharya

b) Brahmagupta

c) Aryabhata

d) Pingala

Q2. What is a "magic square" in Indian mathematics?

a) A type of triangle

b) A square with constant sums across rows and columns

c) An ancient Indian measuring device

d) A type of binary code

Q3. In the context of trigonometry, which Indian text is known for its contributions?

a) Rigveda

b) Yajurveda

c) Chandaḥśāstra

d) Samkhya Karika

Q4. The concept of "zero" was first introduced by:

a) Aryabhata

b) Bhaskaracharya

c) Brahmagupta

d) Panini

Q5. What is the significance of the Jantar Mantar in Indian history?

a) It's a holy site

b) It’s an ancient observatory

c) It's a Sanskrit library

d) It's a trade center

Q6. Which of the following is NOT an ancient Indian mathematician?

a) Brahmagupta

b) Ramanujan

c) Bhaskaracharya

d) Pingala

Q7. The "celestial coordinate system" is used in which field?

a) Linguistics

b) Astronomy

c) Engineering

d) Philosophy

Q8. The Indian calendar primarily uses which type of time measurement?

a) Solar

b) Lunar

c) Zodiacal

d) Equatorial

Q9. Which astronomical text is attributed to Aryabhata?

a) Surya Siddhanta

b) Aryabhatiya

c) Panchasiddhantika

d) Chandah-shastra

Q10. The Pancanga is best described as:

a) A philosophical text

b) An ancient medical text

c) A Hindu calendar

d) A trade document

Quiz – 4
CO – 4

Name:_____ **Subject: Indian Knowledge System**

Class:_____ **Subject Code: HS-203**

Enrollment No.:_____ **Total Marks: 10**

Q1. Ancient Indian metallurgical knowledge was prominent in the production of:

a) Bronze

b) Steel

c) Zinc

d) Plastic

Q2. What is the "lost wax casting" technique used for?

a) Fabric

b) Metal casting

c) Pottery

d) Jewelry crafting

Q3. Which structure is an example of ancient Indian water management?

a) Red Fort

b) Step wells

c) Jantar Mantar

d) Brihadeeswarar Temple

Q4. The Indian shipbuilding techniques primarily influenced which region?

a) China

b) Arabia

c) Southeast Asia

d) Europe

Q5. Ancient Indian techniques for iron production are evidenced by:

a) Taj Mahal

b) Iron Pillar of Delhi

c) Ajanta Caves

d) Konark Sun Temple

Q6. Which dye was commonly used in ancient India?

a) Saffron

b) Indigo

c) Blue woad

d) Madder

Q7. "Chausath Kala" refers to:

a) Sixty-four art forms

b) Sixty-four ancient texts

c) Sixty-four temples

d) Sixty-four Sanskrit scholars

Q8. Ancient surgical techniques in India are documented in which text?

a) Sushruta Samhita

b) Charaka Samhita

c) Ramayana

d) Mahabharata

Q9. Which of the following is NOT a focus of IKS engineering and technology?

a) Mining

b) Shipbuilding

c) Irrigation

d) Aviation

Q10. What was a key technique used in ancient India for large-scale irrigation and water distribution?

a) Aqueducts

b) Step wells and reservoirs

c) Underground canals

d) Rainwater harvesting tanks