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**RV COLLEGE OF ENGINEERING**  
**Autonomous Institution affiliated to VTU**  
**VII Semester B. E. Dec 25/Jan 26 Examinations**  
**Humanities and Social Sciences Board**  
**INDIAN KNOWLEDGE SYSTEM - HS271TA**  
**(2022 SCHEME)**

UG

**Time: 03 Hours****Maximum Marks: 100****Instructions to candidates:**

1. Answer all questions from Part A. Part A questions should be answered in OMR sheet only.
2. Answer FIVE full questions from Part B.

Q. No	Question	BTL	CO	Marks
1	What is the primary characteristic of the 'Srutis' in the IKS Corpus? A) Written records      B) Oral tradition/Revelations C) Historical biographies      D) Legal codes	1	1	1
2	Which of the following refers to the transition from traditional to western knowledge during the colonial period? A) Integration      B) Epistemological shift C) Renaissance      D) Vedic revival	2	1	1
3	Which Vedanga is specifically dedicated to the study of Phonetics and Pronunciation? A) Kalpa      B) Nirukta      C) Shiksha      D) Chandas	2	1	1
4	The 'Ashtadhyayi', a foundational work on linguistics and grammar, was authored by: A) Pingala      B) Panini      C) Patanjali      D) Bhartrihari	1	1	1
5	Which philosophical system (Darshana) primarily focuses on logic and epistemology? A) Samkhya      B) Nyaya      C) Yoga      D) Vedanta	2	1	1
6	What does the term 'Tarka' refer to in the context of Indian Philosophical Systems? A) Devotional singing      B) Dialectical reasoning C) Physical exercise      D) Ritualistic sacrifice	1	1	1
7	How does Traditional Knowledge (TK) differ from Modern Scientific Knowledge in its approach to nature? A) TK is reductionist; Modern is holistic B) TK is holistic and community-based; Modern is reductionist C) TK is always documented; Modern is oral D) There is no difference	4	1	1
8	The 'Chanda Shastra' by Pingala is considered a precursor to which modern concept? A) Quantum Physics      B) Binary mathematics and combinatorics C) Organic chemistry      D) Civil engineering	4	1	1
9	Which component of the Vedic Corpus deals with the philosophical inquiries and the nature of the self (Atman)? A) Samhitas      B) Brahmanas      C) Aranyakas      D) Upanishads	1	1	1
10	In the context of Metallurgy, the 'Wootz Steel' of ancient India is a classic example of: A) Imported technology      B) Advanced Indigenous technology C) Decorative art only      D) Accidental discovery	5	3	1
11	Which Indian system of medicine emphasizes the balance of Vata, Pitta, and Kapha? A) Siddha      B) Unani      C) Ayurveda      D) Homeopathy	1	3	1

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12	The concept of 'Vastu Shastra' primarily applies IKS to which field? A) Metallurgy B) Architecture and Space Planning C) Linguistics D) Agriculture	1	3	1
13	In the Indian framework of knowledge, which term refers specifically to the "objects of valid knowledge"? A) Pramāṇa B) Prameya C) Saṁśaya D) Siddhānta	1	1	1
14	The <i>Aṣṭādhyāyī</i> by Pāṇini is structured into how many chapters, as its name suggests? A) Six B) Eight C) Ten D) Twelve	1	2	1
15	What is the literal meaning of 'Pratyakṣa' in the context of Indian Epistemology? A) Direct Perception B) Logical Inference C) Verbal Testimony D) Divine Revelation	2	1	1
16	Which ancient scholar is credited with pioneering binary arithmetic through the study of poetic meters? A) Aryabhata B) Brahmagupta C) Piṅgala D) Bhaskara	1	2	1
17	In Pāṇini's grammar, the <i>Maheśvara Sūtras</i> are primarily used for which purpose? A) Defining philosophical truths B) Organizing phonemes (sounds) into functional groups C) Calculating the distance of planets D) Prescribing ritual sacrifices	5	2	1
18	What initiates the process of logical inquiry in the Indian knowledge classification system? A) Pramā B) Saṁśaya (Doubt) C) Tarka D) Siddhānta	2	1	1
19	The concept of 'Shunya' (Zero) transitioned from a philosophical void to a mathematical digit due to its role as a: A) Holy symbol B) Placeholder in a place-value system C) Unit of weight D) Geometrical shape	4	2	1
20	Piṅgala's <i>Chandaḥśāstra</i> represents poetic meters using two types of syllables. They are: A) Svāra and Vyanjana B) Laghu (Light) and Guru (Heavy) C) Dharma and Artha D) Atman and Brahman	2	2	1
21	Which <i>Pramāṇa</i> is considered the most fundamental and universally accepted across almost all Indian schools of philosophy? A) Pratyakṣa (Perception) B) Anumāna (Inference) C) Upamāna (Comparison) D) Śabda (Verbal Testimony)	1	1	1
22	The mathematical algorithm <i>Meru-Prastāra</i> found in Piṅgala's work is a precursor to which modern concept? A) Calculus B) Pascal's Triangle (Combinatorics) C) Trigonometry D) Logarithms	4	2	1
23	Which Vedāṅga is considered the "mouth of the Veda Puruṣa" because it deals with grammar? A) Śikṣa B) Vyākaraṇa C) Nirukta D) Kalpa	1	2	1
24	Pāṇini's method of defining grammar through concise rules is known as the: A) Mantra style B) Sūtra style C) Bhaṣya style D) Kāvya style	2	2	1
25	Which is NOT a part of Panchāṅga? A) Tithi B) Nakṣatra C) Rāshi D) Yoga	1	1	1
26	The science of perfume-making is called A) Rasashastra B) Gandhayukti C) Alchemy D) Metallurgy	2	1	1
27	In ancient Indian trigonometry, sine was known as A) Jya B) Koti C) Bhuja D) Rekha	2	1	1
28	Wootz steel is known for its A) Low carbon B) Brittleness C) High carbon content D) Rusting	1	1	1

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29	Lost-wax casting is also called A) Sand casting                      B) Cire perdue                      C) Die casting D) Open mold casting	2	1	1
30	Āryabhaṭa stated that A) Earth is stationary                      B) Earth rotates on its axis C) Sun revolves around Earth                      D) Moon emits its own light	1	1	1
31	Damascus swords were made using A) Bronze      B) Cast iron      C) Wootz steel      D) Brass	4	1	1
32	The approximate value of $\pi$ used in ancient India was A) 3.14      B) 3      C) 22/7      D) $\sqrt{10}$	4	1	1
33	Indigo dye is extracted from the A) Flower                      B) Root                      C) Leaf                      D) Bark	1	1	1
34	Perfumes in ancient India were known as A) Sugandha      B) Gandha      C) Itar      D) Both b and c	5	3	1
35	The Sulba Sūtras are related to A) Algebra      B) Trigonometry      C) Geometry      D) Arithmetic	1	3	1
36	The shadow-measuring instrument is called A) Gnomon      B) Chakra      C) Dhanur                      D) Rekha	1	3	1
37	Which text is traditionally associated with the 64 Kalās? A) Yoga Sūtras      B) Nāṭyaśāstra      C) Kāmasūtra      D) Vedas	1	1	1
38	The concept of Body–Mind–Intellect–Consciousness is best explained in: A) Charaka Saṁhitā                      B) Yoga philosophy C) Arthashāstra                      D) Nāṭyaśāstra	2	1	1
39	Which element dominates Kapha doṣa? A) Fire and water                      B) Air and ether C) Earth and water                      D) Fire and air	2	1	1
40	Which civilization is famous for advanced water management? A) Vedic      B) Harappan      C) Mauryan      D) Gupta	1	1	1
41	The planning of cities in Arthashāstra emphasized: A) Aesthetics                      B) Religious symbolism C) Administration and security                      D) Agriculture only	2	1	1
42	Drāviḍa style temples are characterized by: A) Curvilinear towers                      B) Gopurams C) Flat roofs                      D) Wooden pillars	1	1	1
43	Which direction is considered most auspicious in Vāstu? A) South                      B) West                      C) North                      D) East	4	1	1
44	Town planning in ancient India emphasized: A) Random settlement                      B) Religious dominance C) Sanitation and drainage                      D) Defensive forts only	4	1	1
45	The Triguṇa system includes: A) Sattva, Rajas, Tamas                      B) Vāta, Pitta, Kapha C) Manas, Buddhi, Ahaṁkāra                      D) Dharma, Artha, Kāma	1	1	1
46	Which ancient irrigation system is found mainly in South India? A) Baolis                      B) Canals      C) Tanks (Eris)                      D) Wells	5	3	1
47	The Vimana refers to: A) Temple gateway                      B) Sanctum tower C) Assembly hall                      D) Water tank	1	3	1
48	The eight limbs of Vāstu are called: A) Aṣṭāṅga      B) Aṣṭadīpālās      C) Aṣṭavarga      D) Aṣṭasiddhi	1	3	1
49	How many SDGs are there? A) 12                      B) 15                      C) 17                      D) 20	1	1	1
50	Which principle of governance in <i>Rāmāyaṇa</i> aligns with modern democracy? A) Hereditary rule                      B) Public welfare C) Divine authority                      D) Absolute power	1	2	1

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51	Intellectual Property Rights related to traditional knowledge aim to: A) Commercialize culture only      B) Prevent misappropriation C) Restrict access      D) Eliminate modern science	2	1	1
52	Which ancient text emphasizes ethical taxation and public expenditure? A) Nāṭyaśāstra      B) Arthaśāstra C) Yoga Sūtras      D) Upaniṣads	1	2	1
53	Safeguarding traditional knowledge is important to: A) Limit innovation      B) Preserve cultural identity C) Promote superstition      D) Stop globalization	5	2	1
54	Danḍa in ancient governance signifies: A) Charity      B) Punishment and law enforcement C) Taxation      D) Agriculture	2	1	1
55	Traditional Indian knowledge supports sustainability mainly through: A) Industrial growth      B) Harmony with nature C) Maximum consumption      D) Urban expansion	4	2	1
56	The Traditional Knowledge Digital Library (TKDL) was created to: A) Teach Sanskrit      B) Protect Indian traditional knowledge C) Promote tourism      D) Digitize manuscripts only	2	2	1
57	The UN SDGs align with Indian philosophy of: A) Bhoga      B) Tyāga      C) Sarvodaya      D) Ahimsā only	1	1	1
58	Which concept ensures balance between power and justice in governance? A) Kośa      B) Danḍa      C) Dharma      D) Mitra	4	2	1
59	The idea of <i>Lokasaṅgraha</i> in Indian thought emphasizes: A) Individual gain      B) Social welfare C) Military dominance      D) Royal luxury	1	2	1
60	Which element of the state ensures internal security? A) Kośa      B) Danḍa      C) Janapada      D) Mitra	2	2	1

**PART B**

1 a	Explain the concept of the " <b>Vedic Corpus</b> " and describe how the <i>Vedāṅgas</i> serve as supporting sciences for the study and preservation of the Vedas.	2	1	4
b	Explain the "holistic nature" of Indian Knowledge Systems and contrast it with the "reductionist approach" of modern Western scientific paradigms.	1	1	4
<b>OR</b>				
2 a	Discuss the structural organization of the Vedic Corpus, specifically differentiating between the <i>Samhitas</i> , <i>Brahmanas</i> , <i>Aranyakas</i> , and <i>Upanishads</i> .	1	1	4
b	Analyze the importance of the Traditional Knowledge Digital Library (TKDL) in protecting Indian traditional knowledge from biopiracy and misappropriation.	4	4	4
3 a	Explain the "Computational Grammar" of Pāṇini's Aṣṭādhyāyī, specifically discussing how his rule-based system (Sutras) functions like modern programming logic.	4	2	4
b	Evaluate the role of Acharya Piṅgala's <i>Chandaḥśāstra</i> in the development of the binary number system, focusing on the use of <i>Laghu</i> and <i>Guru</i> syllables.	5	2	4
<b>OR</b>				
4 a	Explain the "Triangle of Knowledge" consisting of Prameya, Pramāṇa, and Saṃśaya, and describe their role in the	1	1	4

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b	Indian framework of logical inquiry.			
	Trace the historical development and Indian origin of the Concept of Zero (Shunya), highlighting its transition from a philosophical concept to a mathematical digit.	4	2	4
5 a	The <i>Sulba Sūtras</i> reflect a transition from ritual practice to mathematical reasoning. Critically examine how religious requirements contributed to the growth of geometric knowledge in ancient India.	4	2	4
b	Āryabhaṭa challenged traditional explanations of celestial phenomena. Assess the scientific importance of his astronomical ideas and their impact on later Indian and foreign scholars.	3	2	4
	<b>OR</b>			
6 a	The Panchāṅga integrates astronomy with daily life. Evaluate its role as both a scientific document and a cultural guide in traditional Indian society.	3	1	4
b	Wootz steel influenced global metallurgy. Assess its technological uniqueness and explain why it was highly valued outside India.	4	2	4
7 a	Analyze how the Tridoṣa theory explains both physical and psychological health in Ayurveda.	4	3	4
b	Analyze the significance of the 64 Kalās in understanding the social and economic life of ancient India.	4	3	4
	<b>OR</b>			
8 a	Evaluate ancient Indian irrigation systems as examples of sustainable water management.	3	3	4
b	Examine how Indian architecture demonstrates a balance between functionality and aesthetics.	3	3	4
9 a	Examine the need for safeguarding traditional Indian knowledge in the age of globalization.	4	2	4
b	Evaluate the relevance of dharma-based governance in the <i>Rāmāyaṇa</i> for contemporary public administration.	3	2	4
	<b>OR</b>			
10 a	Analyze how traditional Indian governance principles promote sustainable development.	3	4	4
b	Critically analyze how integrating IKS with modern governance frameworks can lead to sustainable and inclusive development.	4	4	4