

# DVR Scholarship Olympiad :

## Sample Paper (UG & PG)

### 1. Advanced Maths & Reasoning (20%)

**Q1. (Maths)** If a function  $f(x)$  is continuous and  $\int_0^1 f(x) dx = 5$ , then what is the value of  $\int_0^{0.5} f(2x) dx$ ?

- A) 2.5
- B) 5
- C) 10
- D) 1.25

**Q2. (Reasoning)** In a certain code language, 'POWER' is written as '161523518'. How will 'LIGHT' be written in that same code?

- A) 1297820
- B) 1297720
- C) 1287820
- D) 1298820

**Q3. (Data Analytics)** The population of a city increases by 10% every year. If the population after 3 years is  $X$ , what was the population 3 years ago?

- A)  $X / 1.331$
- B)  $X / 1.30$
- C)  $X \times 0.70$
- D)  $X / 1.10^2$

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## 2. Social Sciences - History, Geography & Economics (20%)

**Q4. (History) What was the most prominent feature of the 'Montagu-Chelmsford Reforms' of 1919?**

- A) Expansion of Communal Electorates
- B) Introduction of 'Diarchy' at the Provincial level
- C) Granting Purna Swaraj to India
- D) Absence of Indians in the Viceroy's Executive Council

**Q5. (Geography) Where is the 'Albedo Effect' observed to have the maximum impact?**

- A) Tropical Rainforests
- B) Thar Desert
- C) Snow-covered Himalayan Peaks
- D) Deep Oceans

**Q6. (Economics) What is the 'Gini Coefficient' used to measure in economics?**

- A) Unemployment Rate
- B) Inflation Rate
- C) Income Inequality
- D) GDP Growth Rate

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## 3. Current Affairs & Global Awareness (15%)

**Q7. 'Mission Divyastra', which was recently in the news, is related to:**

- A) Agricultural drones
- B) Agni-5 Missile with MIRV technology
- C) Deep Sea Mining
- D) AI-based Education

**Q8. What is the primary objective of the 'Kyoto Protocol'?**

- A) To prevent Cyber Crime
- B) To reduce Greenhouse Gas emissions
- C) To clear Space debris
- D) To increase International Trade

**Q9. With which countries did India propose the 'IMEC' (India-Middle East-Europe Economic Corridor)?**

- A) Only USA and UAE
- B) USA, Saudi Arabia, UAE, and the European Union
- C) Russia and China
- D) Only Saudi Arabia and Israel

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#### **4. Language & Linguistic Depth (15%)**

**Q10. (English) Choose the correct word for: "A person who believes that pleasure is the chief good."**

- A) Stoic
- B) Epicure
- C) Hedonist

D) Altruist

**Q11. (Literature) Who is the author of the epic poem 'Kamayani'?**

A) Suryakant Tripathi 'Nirala'

B) Mahadevi Verma

C) Jaishankar Prasad

D) Sumitranandan Pant

**Q12. (Grammar) "Had I known about the meeting, I \_\_\_\_\_ attended it."**

A) will have

B) would have

C) should be

D) had

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## 5. Tech & Artificial Intelligence (10%)

**Q13. What is the 'Turing Test' used to determine?**

A) A computer's processing speed

B) A machine's human-like intelligence

C) Internet bandwidth

D) Strength of encryption

**Q14. In Blockchain technology, what is the 'Genesis Block'?**

A) The final block in a chain

B) The very first block of a chain

C) A block where a transaction fails

D) A type of private key

**Q15. What does 'LLM' stand for in the context of Generative AI?**

A) Low Logic Machine

B) Large Language Model

C) Linear Learning Method

D) Long Latency Model

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## 6. Constitutional Law & Indian Polity (10%)

**Q16. Which Article of the Indian Constitution recognizes the 'Right to Privacy' as a Fundamental Right?**

A) Article 14

B) Article 19

C) Article 21

D) Article 25

**Q17. What is the literal meaning of the writ 'Habeas Corpus'?**

A) We command

B) By what authority

C) To have the body

D) To forbid

**Q18. By which amendment was the 9th Schedule added to the Constitution?**

A) 1st Amendment

- B) 42nd Amendment
  - C) 44th Amendment
  - D) 73rd Amendment
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## 7. The Sciences (Physics, Chemistry, Biology) (10%)

**Q19. (Physics) 'Schrödinger's Cat' is a famous thought experiment associated with which field?**

- A) Classical Mechanics
- B) Quantum Mechanics
- C) General Relativity
- D) Optics

**Q20. (Chemistry) Which is the lightest metal?**

- A) Hydrogen
- B) Lithium
- C) Helium
- D) Osmium

**Q21. (Biology) In the human body, in which part of the cell does 'DNA Replication' primarily take place?**

- A) Cytoplasm
- B) Ribosomes
- C) Nucleus
- D) Mitochondria

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**Answer Key:**

**1(A), 2(B), 3(A), 4(B), 5(C), 6(C), 7(B), 8(B), 9(B), 10(C), 11(C), 12(B), 13(B),  
14(B), 15(B), 16(C), 17(C), 18(A), 19(B), 20(B), 21(C)**