ROYAL CIVIL SERVICE COMMISSION BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2024 EXAMINATION CATEGORY: TECHNICAL

PAPER I: LANGUAGE AND GENERAL KNOWLEDGE

Date : October 3, 2024

Total Marks : 100 [70 marks for English and GK; 30 marks for Dzongkha]

Writing Time : 3 hours

Reading Time : 15 minutes (prior to examination time)

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. Write your Registration Number clearly and correctly on the Answer Booklet.

- 2. The first 15 minutes is being provided to check the number of pages of the Question Paper, printing errors, clarify doubts and to read the instructions. You are NOT permitted to write during this time.
- 3. This paper is divided into FIVE Sections:
 - ✓ Section I Case Study;
 - ✓ Section II Topical Discussion; and
 - ✓ Section III General Knowledge.
 - ✓ Section IV Comprehension (र्निवार्कवार्त्रापः वीपायोवाद्वी)
- 4. Specific instructions for Part A and Part B are provided under each Part/Section separately. Please read the instructions for each Part/Section carefully and answer the questions that follow.
- 5. All answers should be written with correct numbering of Section and Question Number in the Answer Booklet provided to you. Note that any answer written without indicating any or correct Part, Section and Question Number will NOT be evaluated and no marks would be awarded.
- 6. Begin each Section on a fresh page of the Answer Booklet.
- 7. You must hand over the Answer Booklets to the Invigilator before leaving the examination hall.
- 8. This paper has **12 printed pages**, including this instruction page.

GOOD LUCK!

ENGLISH AND GENERAL KNOWLEDGE (70 MARKS)

SECTION I

Case Study [30 marks]

Read the following passage and answer ALL THREE questions that are given below.

Write Section and Question Number clearly in the Answer Booklet provided to you. Any answer written without indicating any or correct Section and Question Number will NOT be evaluated and no marks would be awarded.

Overview

Science, Technology, Engineering, and Mathematics (STEM) education plays a significant role in achieving the Sustainable Development Goals (SDGs), particularly SDG 4 - ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. It promotes 21st century skills by using real-world, complex problems as instructional contexts. It also advances employability skills, entrepreneurship, and innovation by integrating engineering and technology with science and mathematics. STEM education also provides an opportunity to rethink teaching and learning in practical and intuitive ways.

A publication from the Asian Development Bank draws inspiration and lessons from case studies in four countries on how to implement STEM education. Each country has its approach to STEM learning, but they all focus on promoting 21st century skills and preparing students for the future. Their curriculum also emphasizes convergence across various disciplines, innovating instructional methodology, and student collaboration.

Project-Based Learning in Thailand

Located near Bangkok, the Roong Aroon School approaches STEM education based on three success factors: (i) interdisciplinary connections; (ii) the need for new, ambitious instructional practices in enacting a STEM approach; and (iii) the engagement of students in real-world problem solving. It offers project-based learning encouraging students to become self-directed learners and enhances their collaborative skills as they work with others. In collaboration with teachers, students identify a real-life problem within or outside the school community and make it the focus of their STEM project. They discuss, identify, and research the knowledge required, develop a work plan, share the group work, present their design to the teachers, work on and try out experiments to solve the problem systematically, and prove their project inventions.

Teachers guide students with a lesson framework to plan key educational concepts in terms of content, learning objectives for knowledge, understanding, learning skills, values/attitudes, learning processes, and evaluation. They support and guide students through projects and inventions without the need for any extensive lecturing.

STEAM Integration in the Republic of Korea

The Republic of Korea (ROK) has included the Arts (hence, STEAM) as a way to promote critical thinking. It's STEAM education focuses on increasing students' interests and understanding of science and technology and nurturing their STEAM literacy and problem-solving ability.

To achieve its goal, ROK launched initiatives to systematically implement STEAM from the national to the school level.

At the national level, the STEAM education framework involves operating model schools that integrate 20% of STEAM-related content in syllabi for science, mathematics, technology and home economics, and music and art classes. It also includes providing teacher training and supporting the teacher community, making a STEAM education platform, and involving science-related institutes as agencies for STEAM education.

The framework for integrated STEAM classes consists of the following steps:

- Context presentation Present a situation where students could have the opportunity to solve problems that are related to their experiences.
- Creative design Provide students with opportunities to come up with creative ideas to solve the suggested problems through this process: (i) define problems, (ii) generate alternative solutions, (iii) evaluate and select an alternative, and (iv) solve problems.
- Emotional touch Provide students with opportunities to experience success in learning, which
 can foster their capacity to solve problems and significantly boost their confidence to take on
 new challenges or activities.

A Focus on Applied Learning in Singapore

The STEM Applied Learning Programme in Singapore has been implemented in secondary schools since 2014. It aims to promote interest in STEM and encourage students to pursue related careers. The program focuses on hands-on activities and presenting a challenge or problem statement relevant to the real world for students to solve. This method establishes relatedness among subjects, encourages learning through play and exploration, and stimulates development of 21st century competencies, such as collaboration, communication, and problem-solving skills.

As students find solutions to the problem, teachers facilitate, guide, motivate, and challenge them to re-examine the solution, modify its aspects, and test it. At the end of the STEM program, students collaborate and apply their knowledge to build and complete a prototype solution.

The STEM program covers 124 mainstream secondary schools that focus on one of eight areas:

- 1. engineering and robotics,
- 2. information and communication technology and programming,
- 3. food science and technology,
- 4. environmental science and sustainable living,
- 5. material science,
- 6. health science and technology,
- 7. transport and communication, and
- 8. simulation and modeling.

Key personnel of the school and education and curriculum experts discuss and finalize the design, development, and implementation of a customized curriculum. Schools invite industrial engineers and partners to schools and work together with teachers. The government provides financial support and sends a STEM educator to the school to give on-site support, including conducting professional development workshops for teachers.

Enabling a Creative Learning Environment in Finland

A group of educators who wanted to change the traditional way of teaching started STEAM education in Yli-Ii school in Oulu, Finland. This initiative began as the new national core curriculum for basic education was taken into use in secondary schools from 2017 to 2019. The new curriculum sought to reinforce student activity, increase the sense of meaning in studying, and enable experiences of success through the development of creative learning environments and new ways of working.

Yli-Ii school's STEAM learning requires combining more than one subject together with 21st century skills. It is being implemented through a learning environment called *Värkkäämö* that promotes student-centered learning. Activities are designed to support students' competence, autonomy, and involvement, and highlights cooperation between students and teachers. Students take an active role in designing their studies and the school's STEAM working space. They can choose their working methods, platforms, and technology as they hone their skills and know-how.

Teachers, meanwhile, collaborate in teaching cross-curricular subjects and open their classroom doors to teachers and students to seek the best solutions. As students are encouraged to set learning goals themselves and learn collaboration and communication skills, they become motivated, develop self-directness, and think like mathematicians and scientists.

Question 1

Outline the diverse methods of STEM education in four different countries towards a common goal and explain how they are similar and different from one another. [10 marks]

Question 2

What are your recommendations to make STEM education successful?

[10 marks]

Question 3

STEM education is the most desired and discussed topic in Bhutan. Is the Ministry of Education and Skills Development ready to streamline STEM curriculum across all levels? Discuss the pros and cons based on the inference highlighted in the essay and your expertise. [10 marks]

SECTION II

Topical Discussion [20 marks]

This section consists of three questions related to topical issues. Answer ANY TWO questions. Each question carries 10 marks.

Question 1

According to the news report on 16 January 2024, Bhutan witnessed a surge in motor vehicle accidents in 2023 compared to the past three years. Analyse the cause of accidents and explain the roles of concerned stakeholders in regulating the accidents. [10 marks]

Question 2

The Gelephu Mindfulness City is an interconnected bridge of sustainable development between South and Southeast Asia. Write your views on how it will hone Bhutan's economy. [10 marks]

Question 3

Lately, more crime news has become a big concern; the safety of people is questioned. Do you think installing CCTV cameras in strategic places (towns and institutes) is a rightful way to mitigate crimes and social issues? [10 marks]

SECTION III

General Knowledge [20 marks]

Choose the correct answer and write down the letter of your chosen answer in the Answer Booklet against the question number. Each question carries ONE mark. Any double writing, smudgy answers or writing more than one choice shall not be evaluated.

- 1. His Majesty The King Jigme Khesar Namgyel Wangchuck of Bhutan received seven honorary doctorate degrees from
 - a) England
 - b) India
 - c) Nepal
 - d) Thailand
- 2. Which company launched AI models named 'Qwen-VL and Qwen-VL-Chat'?
 - a) Alibaba
 - b) Huawei
 - c) Meta
 - d) Samsung
- 3. World Food Day is celebrated on the 16th of October every year. What was the theme of 2023?
 - a) 'Food for All. Leave No One Behind'
 - b) 'Our Actions are our Future'
 - c) 'Food safety: Prepare for the Unexpected'
 - d) 'Water is life, Water is Food. Leave No One Behind'
- 4. Which of the following is the highest civilian award conferred by His Majesty the King?
 - a) Order of the Druk Gyalpo
 - b) Druk Thuksey
 - c) Civil Service Award
 - d) National Order of Merit
- 5. Of the six official languages in the UN, a delegate may speak in any official UN language. Which one DOES NOT fall under these languages?
 - a) Arabic
 - b) French
 - c) German
 - d) Chinese
- 6. Which is the smallest country in the world?
 - a) Nauru
 - b) Monaco
 - c) Vatican
 - d) Tuvalu

- 7. What is the full form of QR Code?
 - a) Quick Regulating Code
 - b) Quick Register Code
 - c) Quick Recharge Code
 - d) Quick Response Code
- 8. Who is the father of Science?
 - a) Galileo Galilei
 - b) Aristotle
 - c) Isaac Newton
 - d) Antoine Lavoisier
- 9. An American author who represented an extraordinary accomplishment in the education of persons with disabilities is
 - a) Mark Twain
 - b) John Milton
 - c) Maya Angelou
 - d) Helen Keller
- 10. Which football team is known as 'The Red Devils'?
 - a) Manchester United
 - b) Real Madrid
 - c) FC Barcelona
 - d) Arsenal
- 11. Russia has 17.1 million KM square, which is the one of the largest country in Asia. How many time zone does Russia have?
 - a) 11
 - b) 12
 - c) 13
 - d) 14
- 12. The most expensive stone by price in the world is
 - a) Black Opal
 - b) Tanzanite
 - c) Musgravite
 - d) Red Beryl
- 13. When the National Assembly is dissolved, The Druk Gyalpo appoints an Interim Government headed by a Chief Advisor to enable the Election Commission to hold free and fair elections. Who is the Chief Advisor as per the Constitution?
 - a) Chairperson of the National Council
 - b) Chief Justice of Bhutan
 - c) Chairperson of the Royal Privy Council
 - d) The Attorney general

- PAPER I: LANGUAGE AND GENERAL KNOWLEDGE 14. Which of the following is NOT a constitutional body? a) Royal Civil Service Commission b) Anti-Corruption Commission c) Royal Privy council d) Royal Audit Authority 15. Pentagone has five sides, hexagone has six sides. How many sides does a dodecahedron have? a) 11 b) 12 c) 13 d) 14 16. Which of the following is known as "Blue Planet"? a) Earth b) Mars
 - c) Jupiter
 - d) Saturn
 - 17. Ms. Kinzang Lhamo participated in the Paris 2024 Olympic Marathon. What was her position when she completed the race?
 - a) 78th
 - b) 79th
 - c) 80th
 - d) 81st
 - 18. A rainbow have seven colours. The following are the colours, EXCEPT
 - a) Indigo
 - b) Orange
 - c) Purple
 - d) Green
- 19. Which of the following is a NOT a landlocked country?
 - a) Lesotho
 - b) Laos
 - c) Liechtenstein
 - d) Lebanon
- 20. Facebook is the world's premier social networking site with more than 2 billion user. Where is its headquarter located?
 - a) United Kingdom
 - b) Republic of China
 - c) United States of America
 - d) South Africa

SECTION IV

DZONGKHA LANGUAGE (30 MARKS)

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में प्रायेदादी

[भूगयः १५]

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त्त्वा.वा.कुट.श्रेट. व्य.द्रुव. कुट.श्रुर.क्व.व्यक्षका.पट्ट. जावाना.त्त्रुव.कु.कुषी) प्रवा.वा.कुट.श्रेट.वट.लूट.चु.ट्रुव.वाक्षका.पट्ट. जावाना.त्युवा.झे.केवा.खुषवा.जना. ह्टावायु.ह्यवा.जी. श्रेट.श्रीट.पटाटी (वाषट.ट्र्य.

His Majesty The King was warmly received by the government and people of Gujarat, India while on a three days visit to the Indian state. His Majesty is accompanied by Prime Minister Dasho Tshering Tobgay.

His Majesty was received at the airport by Minister of State Shri Jagdish Vishwakarma, who accompanied His Majesty on a visit to the Statue of Unity. Built to honour the great Indian statesman Sardar Vallabhbhai Patel as the architect of independent India, the 182 meters statue is the tallest in the world.

His Majesty also visited the nearby hydro power dam, which is the second largest gravity dam in the world in terms of volume of concrete used, which was built to provide water and electricity to the Indian states of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan.

His Majesty was then received at Ahmedabad Airport by Gujarat Chief Minister, Shri Bhupendra Patel, who hosted a dinner in honour of the visit in Gandhinagar, the State capital.

His Majesty thanked the government and people of Gujarat for the warm welcome accorded to the Bhutanese delegation - a reflection of the exceptional traditional hospitality that Gujarat, and India as a whole, is known for.

While in Gujarat, His Majesty visited major projects and infrastructure sites in the state, to explore opportunities for collaboration between India and Bhutan as part of the ongoing work for Gelephu Mindfulness City.

TASHI DELEK