

SECTION A [30 Marks]

Answer **all** the questions

Question I

For each question, there are **FOUR** responses: **A, B, C** and **D**. Choose the corresponding letter of your response and **CIRCLE** it. If you change your answer, cross out the previous response clearly and circle your new answer. **NO** score will be awarded if you circle more than **ONE** letter.

[15]

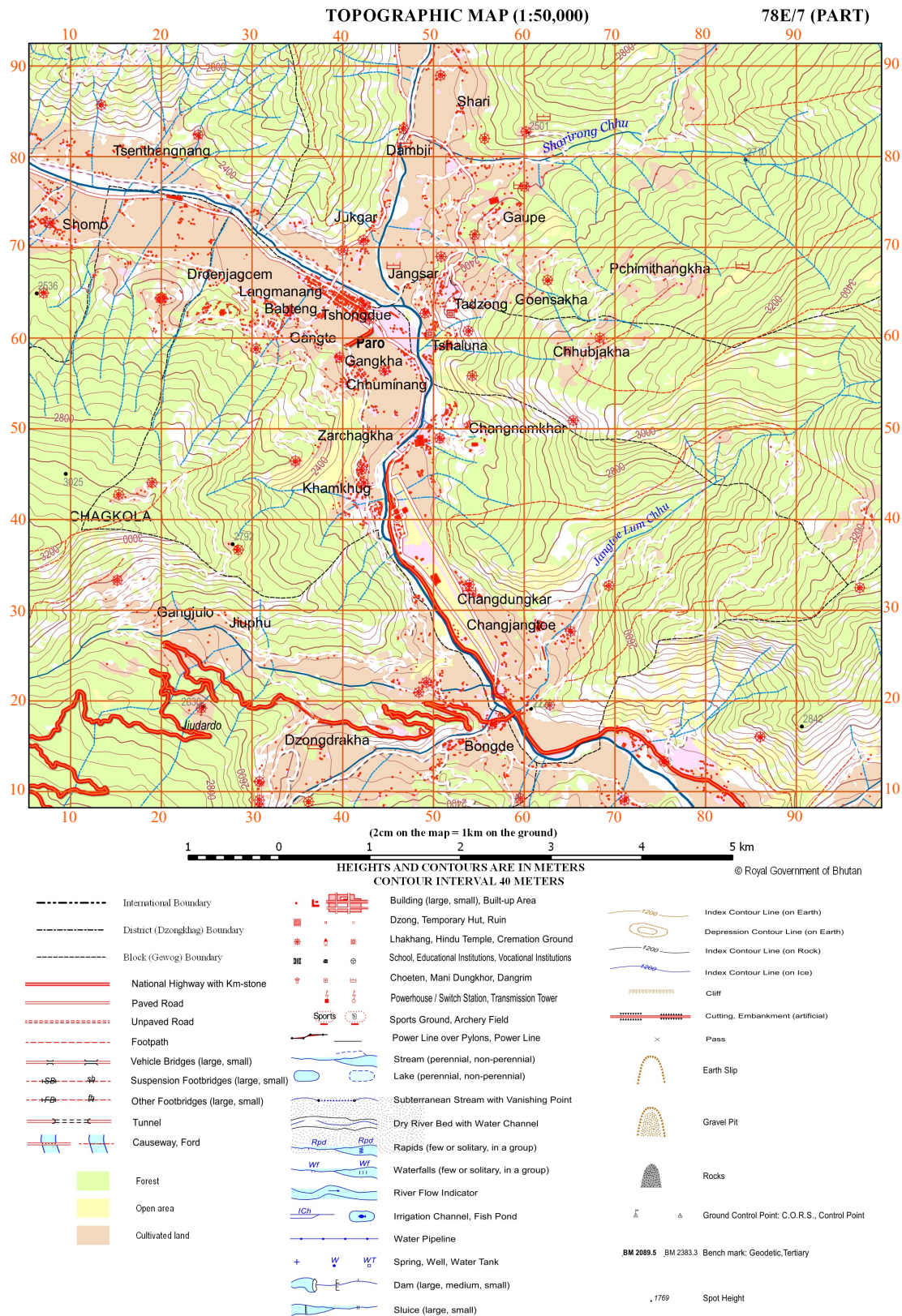
1. What is the key idea of the Big Bang Theory?
 - A The formation of mountains on the Earth
 - B The origin and expansion of the universe
 - C The origin and expansion of solar system
 - D The movement of continents on the Earth
2. A flight travels from a place A (30°W) longitude to Bhutan (90°E). What is the time difference?
 - A 6 hours
 - B 8 hours
 - C 10 hours
 - D 12 hours
3. Which process explains the formation of the Solar System?
 - A Explosion of stars and gases in space
 - B Cooling of oceans and waters on Earth
 - C Accumulation of dust and gases around the Sun
 - D Movement of continents and plates across Earth
4. Why is Earth's temperature suitable for living organisms?
 - A It receives the right amount of heat from the Sun
 - B It receives the lowest amount of heat from the Sun
 - C It receives the limited amount of heat from the Sun
 - D It receives the highest amount of heat from the Sun
5. Which observation provides evidence of Earth's revolution around the Sun?
 - A Different seasons at different times of the year
 - B The Moon changing its shape during the lunar cycle
 - C The Sun appearing to move across the sky each day
 - D One side of Earth experiencing daylight and darkness

6. A business meeting is scheduled at 9:00 a.m. in City A (30° E) longitude and its associate in City B joins the meeting at 12:00 noon. What is the longitude of City B?
- A 15° East
 - B 75° East
 - C 45° West
 - D 90° East
7. When did the Solar System and the Earth form according to the Solar Nebula Theory?
- A About 4.6 billion years ago
 - B About 2.5 billion years ago
 - C About 6.5 million years ago
 - D About 13.8 billion years ago
8. A flight departs from Bhutan at 10:00 a.m. and travels to a country located at 60° W longitude. If the time difference between Bhutan and the destination is 10 hours, what will be the local time of arrival if the flight takes 5 hours?
- A 5:00 p.m. next day
 - B 5:00 a.m. next day
 - C 5:00 p.m. same day
 - D 5:00 a.m. same day
9. If the Earth were a flat disc instead of a sphere, what would most likely happen during a lunar eclipse?
- A The lunar eclipse would occur every month
 - B The Earth's shadow would become invisible
 - C The Earth's shadow would not appear circular
 - D The Moon's surface would become completely dark
10. A live event is scheduled for 9:00 a.m. in Bhutan. Participants from Europe must join several hours earlier. What best explains this difference?
- A Europe and Bhutan are on the same longitude
 - B Europe is west of Bhutan, so its time is behind Bhutan
 - C Europe is east of Bhutan, so its local time is ahead of Bhutan
 - D Europe is closer to the Equator, so it has an earlier local time
11. A Bhutanese experiences jet lag after flying to Scandinavia. What is the main reason for this?
- A Crossing many time zones
 - B Long daylight hours in summer
 - C Cold temperatures in Scandinavia
 - D Ocean and wind current differences

12. If the time at 45 ° West is 9:00 p.m. on Tuesday, what would be the time and day at 45 ° East.
- A 3:00 a.m. Tuesday
 - B 5:00 a.m. Thursday
 - C 3:00 a.m. Wednesday
 - D 4:00 a.m. Wednesday
13. Venus and Earth are similar in size and composition. Why is Venus unable to support life?
- A It has a faster rotation that increases heat.
 - B It has a thick carbon dioxide that traps heat
 - C It has a larger rocky surface that absorbs heat
 - D It has a thin nitrogen atmosphere that loses heat
14. The Bedford Level experiment observed that the middle pole appeared to be higher than the other two poles at the sides. Why is it appearing as indicated?
- A The Earth is perfectly flat
 - B Light travels in straight lines
 - C The Earth's surface is curved
 - D Telescope was not working properly
15. Two towns are located at different longitudes. Town X experiences sunrise earlier than Town Y. Which explanation describes this difference?
- A Town X has a longer day than Town Y
 - B Town X is located farther east than Town Y
 - C Town X has a different climate from Town Y
 - D Town X is located farther west than Town YS

Question II

Using the topographical map given below, answer the questions.



1. State the index contour interval of the given map. [1]

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2. State the six figure grid reference of the spot height 2842 and 2710. [2]

3. Identify ONE region where there is possibility of industrial development. Give TWO reasons. [3]

4. Compare the drainage pattern of the main river flowing through the region with the Sharirong chhu. [3]

5. Mention the mode of transportation that you would take If you are traveling from Jangsar to Bongde? Give TWO reasons.

[3]

6. Describe ONE relief feature of the grid square Easting 8020 and Northing 8090.

[3]

SECTION B [20 Marks]

Answer any **TWO** questions

Question III

To what extent does the evidences of the Big Bang theory support the origin of the universe? Give examples to support your answer.

[10]

Question IV

Evaluate how modern technology platforms, such as video conferencing, instant messaging, and email, help overcome time-zone challenges in international communication. Give examples to support your answer.

[10]

[illegible]

Question V

Evaluate the effectiveness of the Solar Nebula theory to explain the formation of the Solar system. Give examples to support your answer.

[10]

[illegible]

Question VI

Evaluate the significance of longitude in global navigation. Give examples to support your answer.

[10]

