

Version No.			

ROLL NUMBER						



0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

Answer Sheet No. \_\_\_\_\_

Sign. of Candidate \_\_\_\_\_

Sign. of Invigilator \_\_\_\_\_

## Plumbing and Solar Water Heating System–II (SSC-II)

### SECTION – A (Marks 06)

Time allowed: 10 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. **Do not use lead pencil.**

#### Q.1 Fill the relevant bubble for each part. All parts carry one mark.

- (1) Which part of a house receives majority of solar radiation?
 

A. Roof	<input type="radio"/>	B. Side walls	<input type="radio"/>
C. Floors	<input type="radio"/>	D. Doors	<input type="radio"/>
- (2) Which of the following is a circulating fluid in evacuated flat-plate solar collectors?
 

A. Water	<input type="radio"/>	B. Steam	<input type="radio"/>
C. Nitrogen	<input type="radio"/>	D. Hydrogen	<input type="radio"/>
- (3) The Earth receives solar radiation at the upper atmosphere:
 

A. 184 peta watts	<input type="radio"/>	B. 164 peta watts	<input type="radio"/>
C. 174 peta watts	<input type="radio"/>	D. 154 peta watts	<input type="radio"/>
- (4) How is water heated in a direct solar water heating system?
 

A. Electrical heater	<input type="radio"/>
B. Circulating potable water through collector	<input type="radio"/>
C. Heat exchanger	<input type="radio"/>
D. Directly exposing the substance to sunlight	<input type="radio"/>
- (5) Minimum roof tilt suitable for mounting frame for flat plate collector is:
 

A. 25 °	<input type="radio"/>	B. 15 °	<input type="radio"/>
C. 20 °	<input type="radio"/>	D. 10 °	<input type="radio"/>
- (6) Houses which do not have concrete roofs, angle of solar heater plates should be:
 

A. 15 °	<input type="radio"/>	B. 25 °	<input type="radio"/>
C. 30 °	<input type="radio"/>	D. 45 °	<input type="radio"/>



Federal Board SSC-II Examination  
Plumbing and Solar Water heating System–II  
(Curriculum 2021)

Time allowed: 2.00 hours

Total Marks: 24

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Note: Answer any seven parts from Section 'B' and attempt any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

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**SECTION – B (Marks 14)**

Q.2 Attempt any **SEVEN** parts from the following. All parts carry equal marks. Be brief and to the point. (7 × 2 = 14)

- i. What is solar water heating system?
- ii. Write the purposes of solar water heating.
- iii. Enlist the types of solar water heating system.
- iv. Enlist some uses of solar thermal energy.
- v. What is the function of heat exchanger?
- vi. Define direct solar water heating system.
- vii. Define temperature pressure relief valve.
- viii. Write the basic function of auto controller.
- ix. Differentiate between static and dynamic head.
- x. State the importance of active listening.

**SECTION – C (Marks 10)**

**Note:** Attempt any **TWO** questions. All questions carry equal marks. (2×5 = 10)

**Q.3** Briefly explain different parts of solar water heating system.

**Q.4** Briefly explain the factors affecting efficiency of solar water heaters.

**Q.5** Briefly explain installation and maintenance hazards in SWH system.

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