DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Serial No. 0250

AE

TEST BOOKLET

CIVIL ENGINEERING

Paper-II

Time Allowed : Two Hours	*Maximum Marks : 200*

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET *DOES NOT* HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **PLEASE NOTE THAT IT IS THE CANDIDATE'S RESPONSIBILITY TO ENCODE AND FILL IN THE ROLL NUMBER, SUBJECT, SUBJECT CODE AND CENTRE CODE CAREFULLY AND WITHOUT ANY OMISSION OR DISCREPANCY AT THE APPROPRIATE PLACES IN THE *OMR* ANSWER SHEET. ANY OMISSION/DISCREPANCY WILL RENDER THE ANSWER SHEET LIABLE FOR REJECTION.**
3. You have to enter your roll Number on the Test Booklet in the Box provided alongside. ***DO NOT*** write ***anything else*** on the Test Booklet.
4. This Test Booklet contains **100** items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case, you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose ***ONLY ONE*** response for each item.
5. You have to mark your responses ***ONLY*** on the separate Answer Sheet provided. See directions in the Answer Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the Answer Sheet* . You are permitted to take away with you the Test Booklet.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. There is no penalty for wrong answers.

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1. A differential manometer is used to measure

   (a) Velocity of air

   (b) Membrane pressure

   (c) Pressure in pipes

   (d) Difference of pressures between two points in a pipe

2. The total pressure on an immersed surface inclined at an angle θ with the liquid surface is

   (a) $wA.\text{Sin}\theta$

   (b) $w\bar{x}.\sin\theta$

   (c) $wA\bar{x}$

   (d) $\dfrac{wA\bar{x}}{\sin\theta}$

   Where w = Specific weight of the liquid

   A = Area of the immersed surface, and

   $\bar{x}$ = Depth of the centre of gravity of the immersed surface from the liquid surface

3. The point at which the resultant pressure on an immersed surface acts, is known as

   (a) Center of pressure

   (b) Centre of depth

   (c) Center of gravity

   (d) Centre of immersed surface

4. The centre of pressure and the center of gravity of immersed surface

   (a) Exactly overlaps

   (b) Lies above

   (c) Lies below

   (d) Either of the above

5. The centre of pressure for a vertically immersed surface lies at a distance equal to η. Then η, is -

   (a) $\dfrac{A\bar{x}}{I_G}$ above the center of gravity

   (b) $\dfrac{I_G}{A\bar{x}}$ above the center of gravity

   (c) $\dfrac{A\bar{x}}{I_G}$ below the center of gravity

   (d) $\dfrac{I_G}{A\bar{x}}$ below the center of gravity

6. A vertical wall is subjected to a pressure due to a liquid, on one of its sides. The total pressure on the wall is

   (a) γH

   (b) $\gamma H/2$

   (c) $\gamma H^2/2$

   (d) $\gamma H^2/3$

   where γ = specific weight of liquid, and H = Height of liquid

7. When a vertical wall is subjected to pressures due to a liquid on both sides, the resultant pressure is equal to the

(Contd.)