



WINTER – 2022 EXAMINATION
Model Answer

Subject Name: Fluid Mechanics and Machinery

Subject Code: 22445

Important Instructions to examiners:

- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling errors should not be given more importance (Not applicable for subject English and Communication Skills).
- 4) While assessing figures, examiner may give credit for principal components indicated in the figure. The figures drawn by candidate and model answer may vary. The examiner may give credit for any equivalent figure drawn.
- 5) Credits may be given step wise for numerical problems. In some cases, the assumed constant values may vary and there may be some difference in the candidate's answers and model answer.
- 6) In case of some questions credit may be given by judgement on part of examiner of relevant answer based on candidate's understanding.
- 7) For programming language papers, credit may be given to any other program based on equivalent concept.
- 8) As per the policy decision of Maharashtra State Government, teaching in English/Marathi and Bilingual (English + Marathi) medium is introduced at first year of AICTE diploma Programme from academic year 2021-2022. Hence if the students in first year (first and second semesters) write answers in Marathi or bilingual language (English + Marathi), the Examiner shall consider the same and assess the answer based on matching of concepts with model answer.

Q. No.	Sub Q. N.	Answer	Marking Scheme
Que.1		Attempt any <u>FIVE</u> of the following	10 Marks
	a)	Define fluid pressure intensity and pressure head.	
	Sol.	<p>Pressure intensity: The force acting on the area in the normal direction is called as pressure intensity.</p> <p>Pressure head: Pressure head is defined as the vertical height or the free surface above any point in a fluid at rest.</p>	01 Mark for each definition
	b)	Convert 10 N/cm ² pressure in oil column of specific gravity 0.82	
	Sol.	<p>$P = 10 \text{ N/cm}^2 = 10 \times 10^4 \text{ N/m}^2$</p> <p>Density of Oil = $\rho_o = 0.82 \times 1000 = 820 \text{ kg/m}^3$</p> <p>Pressure in oil column = $H = P / \rho_o g$</p> <p>$= P / (\rho_o \times g) = (10 \times 10^4) / (820 \times 9.81) = 12.43 \text{ m of Oil}$</p>	01 Mark 01 Mark

Mshte Answer Paper For 121bing

Yicheng Fang



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