GATE 2026 Production and Industrial Engineering Question Paper

Time Allowed :3 Hours	Maximum Marks :100	Total Questions :65

General Instructions

Read the following instructions very carefully and strictly follow them:

1. Each GATE 2024 paper consists of a total of 100 marks. The examination is divided into two sections – General Aptitude (GA) and the Candidate's Selected Subjects. General Aptitude carries 15 marks, while the remaining 85 marks are dedicated to the candidate's chosen test paper syllabus.
2. GATE 2024 will be conducted in English as a Computer Based Test (CBT) at select centres in select cities. The duration of the examination is 3 hours.
3. MCQs carry 1 mark or 2 marks.
4. For a wrong answer in a 1-mark MCQ, 1/3 mark is deducted.
5. For a wrong answer in a 2-mark MCQ, 2/3 mark is deducted.
6. No negative marking for wrong answers in MSQ or NAT questions.

1. A through hole of 10 mm diameter is to be drilled in a mild steel plate of 30 mm thickness. The selected spindle speed and feed for drilling hole are 600 revolutions per minute (RPM) and 0.3 mm/rev, respectively. Take initial approach and breakthrough distances as 3 mm each. The total time (in minute) for drilling one hole is _____. (Rounded off to two decimal places)

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2. In a cold rolling process without front and back tensions, the required minimum coefficient of friction is 0.04. Assume large rolls. If the draft is doubled and roll diameters are halved, then the required minimum coefficient of friction is _____. (Rounded off to two decimal places)

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3. Which one of the following casting defects is caused due to the supply of the molten metal through two gates?

(A) Cold shut
(B) Rat tail
(C) Pin hole
(D) Shift

4. The relationship between the hoop stress σ_1 and the longitudinal stress σ_2 of a closed cylindrical thin-walled pressure vessel is

(A) $\sigma_1 = 2\sigma_2$
(B) $\sigma_1 = \frac{1}{3}\sigma_2$
(C) $\sigma_1 = \sigma_2$
(D) $\sigma_1 = \frac{\sigma_2}{2}$