WATHIM

GCC exam prep

PRACTICE PACK

SCE FE General Engineering

Sample paper

The first 5 questions of Paper 1 with the answer sheet, key and every answer explained, after the guide that opens the full pack.

2026 edition · 540 questions · 3 papers

540	3	90 · 180m	60%
ORIGINAL QUESTIONS	FULL-LENGTH PAPERS	QUESTIONS · MINUTES A PAPER	OUR TARGET, NOT OFFICIAL

Prepared by Wathim · wathim.com · info@wathim.com

Original practice material. Not the official question bank.

About this pack

Saudi Council of Engineers FE General Practice Bank · read this before you start.

540	3	14	100%
ORIGINAL QUESTIONS	EXAM-LENGTH PAPERS	TOPICS COVERED	ANSWERED AND SOURCED

Every question here comes with its correct answer, the reasoning, and the law, standard or study guide it is drawn from, so you learn the rule and not just the letter. The mix: 135 easier, 270 standard and 135 harder questions, marked on each one.

General skills 132 · Mathematics 54 · Computer literacy 36 · Statics and dynamics 36 · Chemistry 36 · Materials science 36 · Engineering economics 36 · Project management 36 · Ethics and professionalism 36 · Probability and statistics 24 · Engineering drawing 24 · Thermodynamics 18 · Fluid mechanics 18 · Electricity and magnetism 18

The exam you are sitting

Which exams	FE (Fundamentals of Engineering) or FA (architecture) for Associate. PE (Principles and Practice of Engineering) or PA (architecture) for Professional and Consultant. SCE also accepts the US NCEES FE and PE. *SCE Professional Examination page, captured February 2026*
FE structure	Two sessions of 3 hours: General Engineering, 90 multiple-choice questions, then Discipline, 50 questions. You must pass both. *FE General Engineering Study Guide, 2014; SCE FAQ, captured January 2026*
FE disciplines	Electrical, Mechanical, Civil, Chemical, Industrial, and 'Other' for everything else. Architects sit the FA: 110 questions in 3 hours. *SCE exams page, captured February 2026; SCE FAQ*
FE pass mark	Not published in any SCE source we could read *FE study guide and SCE FAQ*
Language	FE in English. The PE language is not stated, but the study guides are in English. *SCE FAQ; PE study guides, 2019*
Where and how	Computer-based at Qiyas centres (2022 notice). The PE at Qiyas sites in Riyadh, Dammam or Jeddah. Prometric now has an SCE page; whether it has replaced Qiyas is not confirmed. *SCE PE page, captured February 2026; Prometric SCE page, read 13 October 2026*
Sittings	2025: 28 April, 1 September and 8 December, through Qiyas. No 2026 dates found. *SCE news, 6 February 2025*

What these questions are. Original practice questions written by Wathim to the exam's published topics and to the laws and standards it tests. They are not real, recalled or leaked exam items, and no official question bank is published for this exam. Practising with honest original questions is the safe and effective way to prepare.

Topic coverage

Published weights are from the Qiyas/SCE FE General Engineering Study Guide (2014). The papers are built to them, so a topic you lose here is one you will meet on the day.

Topic	Published weight	Questions in this pack	Share
General skills	22 of 90	**132**	24%

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Topic	Published weight	Questions in this pack	Share
Mathematics	9 of 90	**54**	10%
Computer literacy	6 of 90	**36**	7%
Statics and dynamics	6 of 90	**36**	7%
Chemistry	6 of 90	**36**	7%
Materials science	6 of 90	**36**	7%
Engineering economics	6 of 90	**36**	7%
Project management	6 of 90	**36**	7%
Ethics and professionalism	6 of 90	**36**	7%
Probability and statistics	4 of 90	**24**	4%
Engineering drawing	4 of 90	**24**	4%
Thermodynamics	3 of 90	**18**	3%
Fluid mechanics	3 of 90	**18**	3%
Electricity and magnetism	3 of 90	**18**	3%

Mark yourself

Score out of 90	Percentage	What it means
68-90	76-100%	Comfortably over the line. Keep the habit, sit the next paper cold.
54-67	60-74%	A pass, but a few questions either way decide it. Close your weakest topic first.
45-53	50-59%	Close. Read every answer you missed, then re-sit this paper in a week.
0-44	0-49%	A real gap. Work topic by topic before the next full paper.

90 questions in 3 hours, from SCE's FE General study guide. SCE does not publish an FE pass mark; 60% is our practice target, matching the PE part rule, not an official figure. The bands mark against 60%: 54 of 90.

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How to use it

1. **Sit Paper 1 cold, in one block**
   90 questions in 180 minutes, no notes, on the answer sheet. A paper done in pieces tells you what you know; one done in a block tells you what you would score.

2. **Mark it by topic, not just by total**
   Count your misses against the topic chips beside each question. The total says whether you would pass today; the topics say what to do tomorrow.

3. **Read every answer, including the ones you got right**
   If you cannot say why the other three options are wrong, you guessed well rather than knew.

4. **Spend a week on your two weakest topics**
   Work from the source named under each answer you missed, not a general read-through.

5. **Sit the next paper a week later**
   Compare topic scores, not just totals. A flat total can hide two topics moving in opposite directions.

6. **Keep the revision bank for the last few days**
   270 questions no paper uses, with answers beside them, and the night-before list, for a final pass before the exam.

What is in the download

5 PDFs, each with its own cover, named **Wathim - SCE FE General Engineering - *part*.pdf**. Print only the paper you are about to sit.

Start here	This guide: the exam, topic coverage, how to mark yourself and how to use the pack
Paper 1	90 questions · 180 minutes · answer sheet, key, every answer explained, and the score bands
Paper 2	90 questions · 180 minutes · answer sheet, key, every answer explained, and the score bands
Paper 3	90 questions · 180 minutes · answer sheet, key, every answer explained, and the score bands
Revision bank	270 more questions by topic, with the answer under each, and the night-before list of the hardest questions

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Answer sheet

Paper 1 of 3. Shade one letter per question, then mark it against the key at the end of the paper.

Name _____ Date _____ Score / 5

1 (A) (B) (C) (D)	2 (A) (B) (C) (D)	3 (A) (B) (C) (D)	4 (A) (B) (C) (D)	5 (A) (B) (C) (D)

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SCE FE GENERAL ENGINEERING

Paper 1 of 3: first 5 questions

5 of **90** questions
sample

Choose the single best answer. Answers and reasoning follow.

Q1 Materials science EASY

A plain carbon steel of eutectoid composition (about 0.76 wt% carbon) is cooled slowly from the austenite region. What microstructure forms?

(A) Pearlite
(B) Martensite
(C) Ledeburite
(D) Bainite

Q2 Materials science STANDARD

A steel rail is fixed at both ends with no stress at 20 °C. On a hot day it reaches 60 °C. Taking E = 200 GPa and alpha = 12 x 10^{-6} per °C, what stress develops in the rail?

(A) 96 MPa in tension
(B) 0.096 MPa in compression
(C) 96 MPa in compression
(D) 799 MPa in compression

Q3 Materials science STANDARD

A steel has an ultimate tensile strength of 400 MPa. A designer applies a factor of safety of 2.5 against ultimate. What is the allowable stress?

(A) 160 MPa
(B) 1,000 MPa
(C) 200 MPa
(D) 400 MPa

Q4 Materials science EASY

What is the usual effect of cold working a ductile metal such as copper?

(A) Strength and ductility both increase because dislocations are removed by the cold work
(B) Strength decreases and ductility increases as the grains are refined
(C) Strength and hardness increase, while ductility decreases markedly in the metal
(D) Strength and ductility stay unchanged but the grains become coarser

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Q5 Materials science EASY

For the same cement content and full compaction, what happens to the compressive strength of concrete as the water-cement ratio is increased?

(A) It increases, because more water hydrates more of the cement grains

(B) It is unchanged, because the aggregate carries almost all of the load

(C) It increases, because the wetter mix is easier to compact fully

(D) It decreases, because the extra water leaves a more porous paste

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Answer key at a glance

Mark your sheet and count your score first. Then read every answer below, including the ones you got right: a lucky guess looks the same as knowledge on the sheet.

1	2	3	4	5
A	C	A	C	D

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Paper 1 of 3: answers and reasoning

Why the answer is right, why the others are not, and where the rule comes from.

Q1 Answer: **A Pearlite**

Slow cooling through the eutectoid temperature (727 °C) turns austenite into pearlite, alternating layers of ferrite and cementite. Martensite needs rapid quenching, and bainite forms on holding at intermediate temperatures. Ledeburite belongs to the iron-carbon eutectic in cast irons.

Source: Callister and Rethwisch, Materials Science and Engineering: An Introduction, 10th ed., phase diagrams (the iron-carbon system)

Q2 Answer: **C 96 MPa in compression**

The free expansion that is prevented is alpha delta T = $12 \times 10^{-6} \times 40 = 4.8 \times 10^{-4}$, so stress = E alpha delta T = 200,000 MPa x 4.8×10^{-4} = 96 MPa. The ends stop the rail getting longer, so the stress is compressive. Using the final temperature in kelvin (333 K) instead of the change gives 799 MPa, and 0.096 MPa comes from treating E as 200 MPa.

Source: NCEES FE Reference Handbook, Mechanics of Materials section (thermal deformations)

Q3 Answer: **A 160 MPa**

Allowable stress = ultimate strength / factor of safety = 400/2.5 = 160 MPa. 1,000 MPa multiplies by the factor, 200 MPa uses a factor of 2, and 400 MPa applies no margin at all.

Source: Hibbeler, Mechanics of Materials, 10th ed. (factor of safety, allowable stress)

Q4 Answer: **C Strength and hardness increase, while ductility decreases markedly in the metal**

Plastic deformation below the recrystallisation temperature multiplies dislocations, which hinder each other's motion, so the metal strain-hardens and loses ductility. Annealing restores softness.

Source: Callister and Rethwisch, Materials Science and Engineering: An Introduction, 10th ed. (strain hardening)

Q5 Answer: **D It decreases, because the extra water leaves a more porous paste**

Strength falls as the water-cement ratio rises (Abrams' law): water beyond what hydration needs evaporates and leaves pores and capillaries. Extra water helps workability but costs strength and durability.

Source: Neville, Properties of Concrete, 5th ed. (strength of concrete)

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What the full pack contains

This sample is a slice of Paper 1. The full pack is:

Start here	The guide at the front of this sample, in full
3 full papers	90 questions · 180 minutes each, with answer sheet, key, every answer explained and the score bands
Revision bank	270 more questions by topic with the answer under each, and the night-before list
Total	540 original questions, every one answered and sourced

Get the full pack at **wathim.com/practice/saudi-sce-fe-practice**

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