



ICB4 Examination Requirements

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Version control

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1 Legend

CE	Competence Element according to ICB4: Group (Perspective, People or Practice) respectively, sequence number of the competence and competence name
No.	Number code of the subject and/or letter code of the examination requirement
Subject	Examination requirement grouping. Within each competence element, the examination requirements are grouped into between one and nine 'subjects'.
Subject and examination requirements coding	<p>For reference, each examination requirement has a code. This is constructed as follows: capital letter-number-digit-small letter</p> <p>The capital letter represents the competence group, as follows:</p> <ul style="list-style-type: none"> • C : Contextual competences (Perspective) • B : Behavioural competences (People) • T : Technical competences (Practice) <p>The letter is followed by a number (one or two digits), which indicates the sequence number of the competence within the competence group.</p> <p>This is followed by a digit, which indicates the sequence number of the subject within the competence, for example:</p> <ul style="list-style-type: none"> • C11 : Contextual 1, subject 1 • C29 : Contextual 2, subject 9 • V131 : Technical 13, subject 1 <p>Within each subject, each examination requirement has a letter code, for example:</p> <ul style="list-style-type: none"> • B32b : Behavioural 3, subject 2, examination requirement b ("Active listening").
Further information	Explanation of the examination requirement, or reference to relevant literature
B, C, D, P	IPMA level (IPMA B, IPMA C, IPMA D and IPMA PMO respectively)
c, ap, an	(Maximum) examination requirement level at which the competence can be tested: c – <u>C</u> omprehension, p – <u>a</u> pplication, or n – <u>a</u> nalysis.

2 Taxonomy

c = Comprehension		p = Application		n = Analysis	
Verbs	Nouns	Verbs	Nouns	Verbs	Nouns
Recognise	Terms	Apply	Situations	Analyse	Analyses
Name	Facts	Draw up	Applications	Derive	Models
Compare	Processes	Implement	Principles	Assess	Problems
Describe	Relationships	Calculate	Criteria	Design	Conclusions
Define	Standards	Define	Rules	Prioritise	Predictions
Explain	Rules	Choose	Methods	Relate	Comment(s)
Reproduce	Criteria	(Re)solve	Conclusions	Conclude	Concepts
Illustrate	Methods	Derive		Consider	

3 Examination Requirements

3.1 Contextual competence elements (Perspective)

No.	Subjects	Further information	B	C	D	P
CE	Perspective 1: Strategy					
C11	Mission, vision and strategy					
a	Mission and visions of organisations		c	c	c	c
b	Core corporate values of an organisation		c	c	c	c
	<i>Formulation of strategy:</i>					
c	• 7-S Framework© - McKinsey Consulting		c			
d	• Canvas© company model	Business Model Generation – Osterwalder, 2010	n	c		
e	• SWOT		n	p	c	c
C12	Strategic performance management					
a	Benefits management		c			
b	Strategic performance management	- Performance indicators - Balanced Scorecard©	p	c		
c	EFQM management model©		p	c		
d	Benchmarking		n	p	c	c
C13	Investment calculations					
a	NPV calculation	Incl. the terms WACC/Capital costs, discount rate, internal rate of return, 'cash is king', opportunity costs, sunk costs (as concepts, not calculations)	n	n		
b	Payback period, Break Even Point		n	p		
C14	Business or organisational justification					
a	Business case document (contents and features)	Measurable and immeasurable benefits	n	p	c	c
b	Baseline, delta measurement		n	p	c	c
c	Client and supplier business cases		n	p	c	c
d	Relationship between business justification and project lifecycle		n	p	c	c
e	Relationship with the feasibility study and the benefits review/ post-investment assessment		n	p	c	c
CE	Perspective 2: Control, structures and processes					
C21	Project Management					
a	Work forms: improvised, routine and planned		n	n	c	c
b	Conditions and characteristics of a project		n	n	p	p
c	Reasons for carrying out a project		n	n	p	c
d	Projects within the lifecycle of a product		c	c	c	c

No.	Subjects	Further information	B	C	D	P
e	Phasing, controlling and deciding	Control aspects (e.g. time, money, scope, quality, risks, benefits, progress)	c	c	c	c
f	Project Excellence Baseline© (PEB)		c			
C22 Programme management						
a	When do you choose for a programme		p	c		
b	Differences between projects and programmes		p	c	c	c
c	Programme organisation: roles and the associated tasks, responsibilities and authority	Programme executive, sponsor, sponsor group, programme manager, change managers, programme bureau, programme steering committee, programme assurance	c	c		c
d	Multi-organisation programmes	E.g. public-private collaboration	c			
e	Programme lifecycle	Programme phases and plateau transitions	c			
f	Key documents for a programme	Vision document and blueprint, programme plan, breakdown of goals, business case	c			
C23 Portfolio management						
a	Portfolio and multi-project management		c	c	c	c
b	The portfolio organisation		c			
c	Prioritising programmes and projects	Multi-criteria analysis, Bubble chart	p	c		c
d	Portfolio process		c			
C24 Setting up PPP and PMO organisations						
a	Steps for implementing a PPP organisation <i>Permanent PMO:</i>	Impact of implementation on the organisation.	p	c		c
b	• Setting up a permanent PMO		p	c		c
c	• Characteristics of a permanent PMO		p	c		c
d	• Added value of a permanent PMO		p	c		c
e	Organisational Competence Baseline© (OCB)	Maturity levels of organisations with respect to project management	p			
C25 Organisation theory						
a	Permanent organisation	- Line, staff, and auxiliary services - Function differentiation - Primary process	n	p	c	c
b	Organisation structures	Mintzberg on management - Mintzberg	p	c		
c	Flat versus hierarchical organisation	Span of control, depth of control	n	p	c	c
d	Supply chain/Supply chain management		c	c		
e	Interfaces between project/programme and the business operation	- Run the business/change the business - Matrix, autonomous and co-ordination structure	n	p	c	c
f	Systems approach		n	p		
g	TQM Total Quality Management		p	c		

No.	Subjects	Further information	B	C	D	P
C26	Project Management standards and methods, PPP management standards and methods					
a	ISO standard 21500:2012, Guidance on Project Management©		n	c		
b	Project Management standards	- PMBok Guide©, PRINCE2©, PMW, PMC (as described in the Dutch book "Wegwijzer voor methoden bij projectmanagement") - Modification of methods for specific organisations/situations	n	c		
C27	Process development methods					
a	Agile	Agile manifesto and agile principles	n	p	c	c
b	Scrum	Roles, events, artefacts, concepts	p	p	c	c
c	Lean Six Sigma	DMAIC and DMDAV	c	c		c
d	Kanban		p	p		c
C28	Personnel management					
a	Role of project, line and HR manager in HRM of project team members	For recruitment, management and termination / responsibilities, dependencies and coherence between the project and permanent organisation	c	c	c	c
b	Competence management	Incl. single, double and triple loop learning	c	c		
C29	Financial administration					
a	Cost classification	Fixed and variable costs, direct and indirect costs, cost types	c	c	c	c
b	Allocation of indirect costs	- Overhead, overabsorption and underabsorption - Cost centre method	p			
c	Fundamental principles of financial administration	- Ledger account, journal entries, financial journals	c	c		
d	Annual accounts	- Balance sheet, Profit & Loss account (EBIT and EBITDA), cash flow summary, IFRS	n	c		
e	Investments and depreciations	Operational expenses (OPEX) and Capital expenses (CAPEX)	c	c		
f	Cash flow with respect to investments		p	c		
g	Valuation of projects	Projects in progress	c	c		
CE	Perspective 3: Compliance, legislation					
C31	Sustainability					
	<i>Sustainability principles:</i>					
a	• People, planet, profit		c	c	c	c

No.	Subjects	Further information	B	C	D	P
b	• The 10 principles of the UN Global Compact		n	c		
c	CSR: Corporate Social Responsibility	ISO standard 26000: Corporate social responsibility© (CSR)	c			
C32 Legislation						
a	Sources of the law	Difference between the law, laws, customary law, case law	c	c		
b	Fields and types of law	- Private and public law - Mandatory, directory and supplementary law	c	c		
c	Responsibility of the project manager in law enforcement		c	c	c	
d	Agreements		p	p	c	c
e	Shortcomings in complying with an agreement		p	p	c	c
f	Legal offence	Strict liability, causal connection	c	c	c	c
g	Norms, regulations and standards		p	p	c	c
h	Patent and trademark law	Intellectual ownership, copyright law, patent, licences	c	c		
C33 Health, security, safety and environment						
a	Health and Safety legislation	Risk assessment, safety plan, duty of care	p	c	c	c
b	Environmental Permitting (General Provisions) Act	Activities decree and Activities regulation, Integrated environmental permit (WABO), Environmental permit, EIA (environmental impact assessment), environmental offences	p	c		
c	Legislation in the field of data security and protection, privacy, etc.		p	c	c	c
CE Perspective 4: Influence and interests						
C41 Influence and interests						
a	Formal and informal power and influence	Influence – Robert B Cialdini (Reciprocity, Commitment and consistency, Social proof, Liking, Authority, Scarcity)	p	p	c	c
b	Sources of interests		n	c		
c	Conflicts of interest		n	c		
d	Sources of power	- PESTLE analysis - Seven bases of power – Hersey, Blanchard and Johnson	n	n	c	c
CE Perspective 5: Culture and values						
C51 Culture and values						

No.	Subjects	Further information	B	C	D	P
a	Dimensions of national cultures	Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations - Hofstede	n	p	c	c
	<i>Corporate culture:</i>					
b	• Organisational culture and decision making	Diagnosing and Changing Organizational Culture – Quinn	c	c		
c	• Organisational culture model – Schein		n	p	c	

3.2 Behavioural competence elements (People)

CE	People 1: Self-reflection and self-management		B	C	D	P
B11	Self-reflection and self-analysis					
a	Emotional intelligence - Goleman	Self-consciousness, self-management, social skills, empathy, motivation	p	c	c	
	<i>Self-reflection and self-analysis techniques:</i>					
b	• Rational-Emotive Therapy© (RET)		p	c		
c	• Johari diagram		p	p	c	c
	<i>Personal self-consciousness:</i>					
d	• Big 5		p	p	c	
e	• Core Quadrants	Inspiration and Quality in Organisations - Daniel D. Ofman	n	n	p	c
B12	Personal goal setting and time management					
a	Self-motivation		c	c	c	c
b	Steps in goal determination	Goal setting - Locke and Latham	p	c		
c	The 7 Habits of Highly Effective People (Covey)		c	c	c	c
d	Personal time management	Eisenhower Matrix	p	p	p	p
B13	Stress management					
a	Tension versus stress / burn-out	Balance between burden and workload capacity	c	c	c	c
b	Symptoms & causes of stress		c	c	c	c
c	Stress management for oneself and others	Relaxation techniques, reducing physical, emotional and rational tension	c	c	c	c
d	Intervention techniques for reducing stress	Vitalising /stimulating, team building activities, escalating and de-escalating	c	c		
CE	People 2: Personal integrity and reliability					
B21	Ethics					
a	Types of ethics	Virtue ethics, Deontology, Utilitarianism, Care ethics	p	c	c	c

b	Personal ethics versus corporate ethics		c	c		
c	Professional norms and standards	IPMA Code of Ethics ©	c	c	c	c
B22 Reliability						
a	Aspects of reliability	Consistency/Transparency/Acting consequently/Predictability	c	c	c	c
b	Building up reliability in a network of parties involved	Strong and weak ties (The strength of weak ties – Granovetter)	n	p	c	c
CE People 3: Personal communication						
B31 Communication						
a	Communication model	Sender, channel, receiver, message, feedback, noise	c	c	c	c
b	Communication levels	Four Sides Model of Interpersonal Communication – Schultz von Thun: Content, relationship, self-revelation, appeal	n	p	c	c
c	Communication channels	Verbal, written, audio-visual, digital (incl. social media)	c	c	c	c
d	Miscommunication and noise	Selective perception, cognitive dissonance, internal and external noise	n	p	c	c
e	Criteria for good communication	- Effective, efficient, acceptable - Comprehensible (connect with the target audience)	n	n	p	p
B32 Conversation skills						
a	Verbal and non-verbal communication		p	p	p	p
b	Active listening	Hmm, summarising, paraphrasing and in-depth questioning; make a connection, empathy	p	p	p	p
c	Asking the right questions	Open, closed, suggestive and rhetorical questions	p	p	p	p
d	Giving and receiving feedback		c	c	c	c
e	Bad news conversations		p			
B33 Meetings						
a	Effective meetings	Success and failure factors and interventions during preparation, actual meeting and follow-up	p	p	c	c
b	Agenda and agenda items	- contents and order of agenda points - Forming a view, providing a commentary, decision forming and planning stage	p	p	c	c
c	Meeting roles	Chairman, secretary or minutes taker, participant	p	p	c	p
B34 Workshops						

a	Characteristics of workshops		c	c	c	c
b	Setting up and carrying out workshops	Process steps and workshop stages	p	p	c	p
c	Roles and responsibilities in workshops	Workshop owner, facilitator, participant and secretary/workshop supporter	p	p	c	c
B35 Presentations						
a	Effectiveness of presentation	Schedule/layout, verbal and non-verbal behaviour, connecting with target audience	p	p	p	
b	Elevator pitch		p	p		
c	Items to be considered for good visual support of a presentation		p	p	p	c
B36 Written communication						
a	Effective written communication	requirements: comprehensibility; precision; conciseness; attractiveness	n	p	c	c
b	Design and structure of documents	Every communication contains the topic, the <i>questions</i> to be discussed and the <i>answers</i> to these questions	n	p	c	c
CE People 4: Relationships and involvement						
B41 Openness						
a	Creating an open project culture	Action science - Argyris (model 1/model 2)	p			
b	Aspects, characteristics and policy with respect to openness	- Frankness, approachability, participative and introspective openness - Influence of corporate culture, confidentiality and security aspects	n	p	c	c
B42 Consultation						
a	Role of PM as consultant	Process Consultation Revisited - Schein (3 models, 5 principles)	n	p		
b	Build up arguments	The uses of argument - Toulmin	p	p	c	c
c	Relationships in consulting	Below-above /together-against	p	c		
B43 Motivation						
a	Motivation theory	- 4 extrinsic and intrinsic motivators - Self-determination (3 basic needs) (both in accordance with Deci/Ryan)	p	p	c	c
b	Motivation and hygiene factors	How Do You Motivate Employees – Herzberg	p	c		
CE People 5: Leadership						
B51 Leadership						

a	Differences and similarities between leadership and management		c	c	c	c
b	Leadership	Three Levels of Leadership - Scouller (public, private and personal leadership)	n	c		
	<i>Leadership styles:</i>					
c	• Situational leadership	According to Hersey & Blanchard	p	p	p	c
d	• Leadership styles	Leadership that gets results - Goleman	p	p		
e	Influence and involvement	Circles of influence and involvement	p	p	c	c
f	Assertiveness	Assertiveness versus compliance versus aggressiveness	p	p	c	c
g	Equilibrium of role perception and role expectations		p	c		
CE People 6: Teamwork						
B61 Lifecycle of teams						
a	Team development stages	- Tuckman model: Forming, storming, norming, performing and adjourning - Team building	p	p	p	c
b	Stages of team development in relationship to situational leadership		p	p	p	c
B62 Successful teams						
a	Team composition	Professional and work content, co-operation and competence	p	p		
b	Team roles	Team roles - Belbin	p	c		
c	Handling resistance, the necessity of 'difficult' people in the team		p	p	c	
d	Causes, symptoms and prevention of group blindness		p	c		
e	Management of virtual teams		p	c		
CE People 7: Conflicts and crisis						
B71 Crisis management						
a	Crisis plan, content and composition		p			
b	Desired style of management and competences for managing crisis		p	c		
B72 Conflict management						
a	Types of conflict	- Business, scarcity, power and socio-economic conflicts - Functional versus dysfunctional conflicts	c	c	c	c
b	Stages in a conflict	Pondy: 4 stage escalation model (1 Latent, 2 Perceived, 3 Felt, 4 Manifest)	c	c		

c	Conflict deregulation mechanisms in different conflict stages		c	c		
d	Conflict management styles	Thomas & Kilmann model	p	p	c	c
e	PM in different roles in conflicts		p	p		
CE People 8: Resourcefulness						
B81 Problem solving						
a	Steps in problem solving	Shoji Shiba & David Walden, Four Practical Revolutions In Management, Systems for Creating Unique Organizational Capability: - 9 step problem solving strategy (WB model) - pro-active, reactive and corrective (/control) stages	p	p	c	c
b	Cause identification techniques	Cause and effect diagram, analytical thinking, systems approach	p	c		
c	Solution identification techniques	Brainstorming, expert opinion, lateral thinking	p	c		
d	Solution assessment techniques	Prototyping, value analysis, scenario planning	p	c		
e	Decision making techniques	Consensus, majority, unanimity, compromise, authority, delegation	p	p	p	c
B82 Creativity						
a	Stages in the creative process	Start, diverging, converging, decision stages	p	p	c	c
b	Diverging creativity techniques	Brainstorming, brown-paper session, lateral thinking (incl. De Bono's Thinking Hats)	p	c		c
c	Converging creativity techniques	COCD box©, Multi-criteria analysis, mood boards, conversation mirror	p	c		c
CE People 9: Negotiation						
B91 Negotiation						
a	Negotiation strategy	Thomas & Kilman/Win-Win, Win-Lose (in accordance with conflict management)	p	p	c	c
b	Harvard method (mutual gain)	Getting to Yes – Fisher, Ury, Patton (4 principles, plus BATNA: Best Alternative To a Negotiated Agreement)	p	p	c	c
c	Positional negotiation	Opening bid, target point, resistance point, result expectation, break point	p	p	c	c
d	Stages in negotiation	Preparation, run-up, opening, exploration, execution and conclusion	p	p		
e	Aspects of negotiation	Interests, power balance, climate, content and room to manoeuvre (backers)	p	c		

CE	People 10: Result orientation					
B101	Result orientation					
a	Efficiency, effectiveness and productivity		c	c	c	c
b	Result oriented project management	Breaking the Code of Project Management - A. Laufer (5 principles)	p	c		
c	Entrepreneurship	Entrepreneurship - Hisrich, Peters, Shepherd	p			
	<i>Efficiency:</i>					
d	• Principles and conditions for continuous improvement	Kaizen: The Key To Japan's Competitive Success – Masaaki Imai	p	p	c	c
e	• Efficiency techniques	Kaizen: The Key To Japan's Competitive Success – Masaaki Imai	p	c		
f	Political and social sensitivity		p	c		

3.3 Professional competence elements (Practice)

No.	Subjects	Further information	B	C	D	P
CE	Practice 1: Project approach					
T11	Project approach					
a	Success and failure criteria	E.g. the triple constraint (Time/Money/ Quality) and the iron square (Time/Money/Scope/Quality)	p	p	p	p
b	Success and failure factors	- Chaos Rapport / Standish Group 2015 - Make a good analysis	p	p	c	c
c	Project success and project management success		p	p	c	c
d	Learning (and periodically re-assess) based on lessons learned		c	c	c	c
e	Choosing the right project approach	Reinventing Project Management – Shenhar, Dvir	p	p	c	c
CE	Practice 2: Requirements and goals					
T21	Expectations and requirements					
a	Project objectives versus project goals	Goal of the project (what the project owner wants to achieve with the result) versus objectives of the project (the goals of the project manager)	p	p	p	p
b	Value management		p	c		
c	Cost conscious design	Total cost of ownership	c	c		
d	Expectations, requirements and acceptance criteria	- Explicit and implicit expectations - MoSCoW technique	p	p	p	p

No.	Subjects	Further information	B	C	D	P
		- Functional and technical requirements				
e	Programme of requirements, specifications		c	c	c	c
f	Fit for use, fit for purpose		c	c	c	c
CE Practice 3: Scope						
T31 Scope and definition						
a	Scope definition	Including definition of, and interfaces with, other projects or initiatives	p	p	p	p
b	Scope creep		p	p	p	p
T32 Product breakdown						
a	Work Breakdown Structure (WBS/PBS) (basis)	- Project structure coding - WBS dictionary / product descriptions	n	p	p	p
b	Product flow diagram (Prince2©)	Swim lanes	n	p	p	p
T33 Configuration management						
a	Configuration management and configuration items	ISO 10007:2003 Configuration management©	p	p	p	p
b	Configuration item records and configuration management database		p	p	p	p
c	Configuration management plan		p	p	p	p
d	(Configuration) baselines		p	p	p	p
CE Practice 4: Time						
T41 Scheduling and phasing						
a	Gantt Chart		p	p	p	p
b	Precedence chart	- Critical path method - Total float - Scheduling restriction Finish-Start	p	p	p	p
c	Other scheduling restrictions	-Start-start, start-finish, finish-finish relationships - ALAP/ASAP, not earlier than etc.; lead, lag - Free float	n	c		
d	Milestones, phases and decision points		p	p	c	p
e	Phasing models	Linear phasing (waterfall), version phasing, development phasing, parallel phasing, time boxing, sub-project phasing	p	p	c	p
f	Shortening timescale	Crashing, fast tracking	p	p	c	p
CE Practice 5: Organisation and information						

No.	Subjects	Further information	B	C	D	P
T51	Project organisation					
a	Principle project owner/contracted party		c	c	c	c
b	Principle separation of technique and management		c	c	c	c
c	Project organisation, project management team, project management structure	Project organisation chart	p	p	c	c
d	Roles and role descriptions		p	p	p	p
e	Meeting structures and linking-pin principle		p	p	p	p
f	Responsibilities matrix (RACI model)		p	p	p	p
T52	Information and management systems					
a	Information versus data difference between information and data		c	c	c	c
b	Document management	Release levels, version management	p	p	c	p
c	I/O matrix		p	p	c	p
d	Information plan information (management) plan		p	p	c	p
e	Quality and security requirements of information and document management	Legal requirements	c	c	c	p
f	Structure of files	Management and specialist files	p	p	c	p
CE	Practice 6: Quality					
T61	Quality					
a	Process and product quality		c	c	c	c
b	Validation and verification		p	p	c	c
c	Quality management system	Quality planning, assurance, control and improvement	p	p	c	c
d	7 basic quality instruments	Run chart, histogram, fishbone diagram, Pareto analysis, control chart, scatter diagram, flow diagram	n	p		
e	Cost of quality (according to Juran)	Conformance & non-conformance cost	p	p	c	c
T62	Quality assessment, audit and evaluation					
a	Quality assessment, audit and evaluation	Difference between review (product quality), audit (process quality) and evaluation (following delivery)	p	p	c	c
b	Inspection methods and techniques		p	c		
c	Testing and test-based designing		p	c		c
d	Quality log, test register		p	p	c	p
CE	Practice 7: Finances					

No.	Subjects	Further information	B	C	D	P
T71	Cost estimation					
a	Cost breakdown	Incl. cost components, cost types, cost items and cost carriers	p	p	p	p
b	Linking the CBS with WBS and OBS	-Scheduling Package and work package -Control accounts	p	c	c	p
c	Responsibility Assignment Matrix (RAM)		p	p		
d	Reserves	Contingency and management reserves; risk budget, changes budget, contingency amount(s), margin, tolerance	p	c	c	c
T72	Cost management					
a	Project administration and procurement	Reporting standards	p	c	c	c
b	Harmonisation project and company administration		p	c	c	c
c	Estimating, budgeting, monitoring		p	p	p	p
d	Reporting standards		p	p	p	p
T73	Project financing					
a	Project financing	Internal and external financing; risk carrying and non-risk carrying financing options	c			
b	Financial control and liquidity planning		p	c		c
CE Practice 8: Resources						
T81	Capacity management					
a	Resource planning, allocation and management		p	p	p	p
b	Leveling (spreading, dividing, moving)		p	p	p	p
c	Capacity plan		p	p	c	p
d	Critical chain method	'Theory of constraints' – Goldrath: Student syndrome, Parkinson's law and multi-tasking, project buffers and feeding buffers	p	p		
CE Practice 9: Procurement						
T91	Procurement					
a	Make or buy: analysis and decision making	- Buy in or outsource - Role of corporate strategy	p	p	c	c
b	Procurement strategy and contracting plan		p	c		
c	Procurement process	- Longlist, shortlist - Selection and awarding criteria - Relationship between project and purchasing department	p	c	c	c

No.	Subjects	Further information	B	C	D	P
d	RFI, RFP, RFQ		p	c		
e	Letters of intent and preparatory /pre-agreements		p	c		
f	Partnerships	Consortium, co-makership, LLP, back-to-back agreement	c			
g	European tender	European Public Procurement Guidelines: pre-conditions, sectors, threshold amounts, procedures, selection and award criteria, sanctions for non-compliance	c			
T92 Agreements						
a	Contract types		p	c		
b	Customary contract clauses	General Terms and Conditions	p	p	c	c
c	Best effort and result obligations		p	p	c	c
d	Bank guarantees and letters of credit		p	c		
e	Contract management		p	c		
f	Claim management	Processes, methods and resources	p	c		
CE Practice 10: Planning and control						
T101 Project preparation						
a	Project mandate and project request		p	p	p	p
b	Project assignment (draft project management plan)		p	p	p	p
c	Project decision	Decision to Justify	p	p	p	p
T102 Project definition phase						
a	Start-up workshop and kick-off meeting	Differences and characteristics	p	p	p	p
b	Project management plan	(PID/Plan of Approach/Project contract)	p	p	p	p
c	Set up project support/temporary PMO		p	p		p
d	Project assessment and decision	(Decision to Fund)	p	p	p	p
T103 Estimating methods						
a	Gross-net (available) capacity		p	p	p	p
b	Estimation methods	Individual or multi-expert estimates (Delphi method), equal bet, velocity analysis, historical data, analogies, effort models, parametric estimates (function point method), three point estimates	n	p	c	c
c	Uncertainty analysis	PERT (average and standard deviation), z table	n	p		
T104 Control and reporting						
a	Management 'by Objectives'	Determine SMART objectives	n	p	c	c

No.	Subjects	Further information	B	C	D	P
b	Management 'by Exception'	Tolerances and escalations	n	p	c	c
c	Control of the phase or the project	- Exception procedure - Phase transition and phase plan	p	p	p	c
d	Deming's control cycle (Plan-Do-Check-Act)		p	p	p	p
e	Management and reporting levels		p	p	p	p
	<i>Management and reporting tools:</i>					
f	• Earned Value Analysis	Planned value (PV), earned value (EV), actual cost (AC), cost variance (CV), cost performance index (CPI), schedule variance (SV), schedule performance index (SPI), budget at completion (BAC), estimated cost at completion (EAC), estimated cost to complete (ETC)	n	n		
g	• Slip charts		n	n	p	p
h	Various reports in the project	Progress report, end of phase report, exception report, project end report, lessons learned report	p	p	c	p
T105 Change management						
a	Changes and project issues		p	p	p	p
b	Change procedure and issue log		p	p	p	p
c	Change authority and change budget		p	p	c	c
d	Priority and urgency		p	p	p	p
e	Relationship between change management and configuration management		p	p	p	p
T106 Close-out						
a	Handover of end result	- Statement of acceptance (users and operations management acceptance) - Delivery (handover, delivery protocol), including 'as built' documents - Commissioning	p	p	c	p
b	Evaluation	Project accountability (project completion report) and evaluation of the project (lessons learned report)	p	p	c	p
c	Dismantle the project	- Identify/recommend follow-up actions, incl. post-investment assessment - Dismantle project and project team, release (of project staff) - Clean up, close down and handover project file	p	p	c	p
d	Close-out and discharge		p	p	c	c
CE	Practice 11: Risks and opportunities					

No.	Subjects	Further information	B	C	D	P
T111	Risk management: concepts, definitions and categories					
a	Differentiation between risks/opportunities and issues		c	c	c	c
b	Differentiation between risks/opportunities and uncertainty in estimates		c	c	c	c
c	Risk exposure, readiness, aversion and tolerance		c	c	c	c
d	Opportunity/risk owner and opportunity/risk action-holder		p	p	c	c
e	Probability, impact and horizon		p	p	c	c
f	Risk and opportunity categories	- Internal and external risks and opportunities - Project and business risks and opportunities	p	p	c	c
T112	Risk management framework					
a	Risk management processes	Risk management standard ISO 31000©	n	n	p	p
	<i>Risk and opportunity responses:</i>					
b	The 8 risk responses (in ICB4 paragraph 4.5.11.4)	<ul style="list-style-type: none"> • avoiding • accepting/increasing the risk in order to make use of an opportunity • removal of the risk source • reducing the likelihood • reducing the consequences/impact • sharing the risk with another party • accepting the risk • contingency plan 	p	p	p	p
c	The 4 opportunity responses (in ICB4 par. 4.5.11.4)	<ul style="list-style-type: none"> • making the opportunity happen (exploit) • transferring to a third party (share) • increasing the probability and/or impact • ignoring 	p	p		
d	Inherent, remaining and secondary risk		c	c	c	c
T113	Risk management techniques					
a	Risk and opportunity register		p	p	c	p
b	Risk and opportunity identification techniques	Risk breakdown structure, fishbone diagram / cause and effect diagram, Pre-Mortem analysis	p	p		
c	Risk and opportunity assessment techniques	- Monte Carlo, scenario planning, sensitivity analysis, decision tree, expected monetary value - Probability calculation and statistical techniques	p	c		

No.	Subjects	Further information	B	C	D	P
CE	Practice 12: Stakeholders					
T121	Stakeholder analysis and stakeholder management					
a	Analysing stakeholders	Identify stakeholders, recognise mutual relationships, analyse interest and influence, establish attitude towards a project	p	p	p	p
b	Stakeholder management strategy and communications plan		p	p	c	p
c	Involving stakeholders	- Inform, retain interest, actively consult, actively involve - Expectations management	n	n	c	p
CE	Practice 13: Change and transformation					
T131	Organisational change					
	<i>Change management theories:</i>					
a	Kotter's 8-step change model		n	c	c	
b	Diffusion of innovations - Rogers		n	c		
c	Learning styles for individuals, groups and organisations	Disciplines of the Learning Organisation/The fifth discipline - Senge	p	c		
d	Handling resistance	- Survival Anxiety, Learning Anxiety - Schein - Change paradigms - De Caluwé / Vermaak	p			