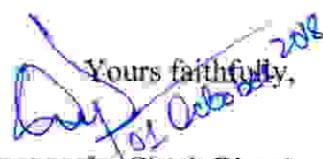


Directorate General of Shipping, Ministry of Shipping, Govt. of India, Mumbai		
	TRAINING BRANCH	IS / ISO Clause
Ref.: QMS -7.0 Page 1	Subject-Guidelines for Assessment, Examination and Certification of Seafarers (AECS) Course	File No. TR/POL/8(11)/2018
Approved by : Director General of Shipping, GOI	Circular No. : STCW 2010 CIRCULAR NO. 27 OF 2018	Dated 01.10.2018

1. The standards of competence that have to be met by seafarers are defined in Part A of the Seafarers' Training and Certification and Watch keeping (STCW) Code of the International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW), 1978, as amended.
2. This course has been developed to support the implementation of the Convention and Code. It addresses the requirements of regulation I/6 of the Convention and section A-I/6 of the STCW Code. The course is also relevant to the requirements of regulation I/8 of the Convention and section A-I/8 of the Code.
3. It covers the legal, administrative, supervisory and operational frameworks and processes of assessing, examining and certifying seafarers within the context of the Convention.
4. To specify the requirement of individuals/entities involved in these processes as administrators, supervisors, monitors and/or assessors of seafarers for certification, the Directorate General of Shipping has formulated the following guidelines for the conduct of the "Assessment, Examination and Certification of Seafarers (AECS)" course as profiled in the annex to this circular.
5. The ID No. assigned for the "Assessment, Examination and Certification of Seafarers (AECS)" Course is XXX. The duration of this course is 70 hours (10 days) and the frequency of the course shall not exceed 48 in a calendar year.
6. DGS approved training institute, eligible to conduct this course and complying with the details specified in the annex will be eligible to apply for the conduct of this course along with a prescribed processing fee of Rs.75,000/-.
7. This issues with the approval of Director General of Shipping & Secretary to the Govt. of India.

Yours faithfully,  
  
 01 October 2018

(Deependra Singh Bisen)  
 Asstt. Director General of Shipping (Training)

## **ANNEX**

### **GUIDELINES FOR ASSESSMENT, EXAMINATION AND CERTIFICATION OF SEAFARERS**

#### **1. AIMS –**

This course is intended to meet the *Mandatory minimum requirements of providing knowledge to enhance skills of would be examiners to administer, supervise and monitor training, and assessment, examination and certification of seafarers* in accordance with the provisions of Regulation I/6 “Training and Assessment” of the STCW Convention 1978, as amended and section A-I/6 of the STCW Code. This course is also designed to meet the requirements of IMO Model course 3.12, “*Assessment, Examination and Certification of Seafarers (AECS)*”.

#### **2. OBJECTIVES –**

A trainee successfully completing this course will be able to:

- 2.1 Apply the provisions of the STCW Convention concerning the training, assessment, examination and certification of Masters, officers and ratings;
- 2.2 Evaluate and apply the processes necessary to implement these provisions under national law;
- 2.3 Analyse national assessment, examination, and certification process needs;
- 2.4 Determine appropriate assessment methods;
- 2.5 Organise, administer and conduct assessments / examinations; and
- 2.6 Demonstrate the ability to issue certificates and control the certification process.

#### **3. INFRASTRUCTURE AND EQUIPMENT REQUIREMENT**

- 3.1 **Class Room** – The lectures shall take place in a classroom, size and ambience governed as per DGS Order 5 of 2016.
- 3.2 A suitable classroom is required with desks or tables and chairs. It should be possible to move the furniture around so that a variety of room arrangements can be used. Ideally, extra breakaway rooms will be available for when the class is split into groups, since each group should have a separate space in which to work.
- 3.3 The main room should be provided with a whiteboard, a flip overboard (flip chart), writing materials, and an overhead LCD projector for computer-based presentations. Electrical sockets should be located so that the equipment can be positioned safely.
- 3.4 Group rooms should be provided with tables, chairs, some form of board and writing materials.

#### **4. ELIGIBILITY FOR MARITIME TRAINING INSTITUTE**

DGS Approved training institute conducting a minimum of 5 DGS approved maritime courses.

5. **ENTRY STANDARDS –**

- 5.1 Every candidate qualified to conduct assessments and examinations of seafarers for certificates of competency issued in accordance of the STCW convention, 1978, as amended should possess a certificate of competency no lower than the certificate or qualification, which he/she is to examine and certify on behalf of the Directorate General of Shipping.
- 5.2 Shall hold a Certificate of Competency, issued by the Govt of India, or equivalent, either as :
- Master (FG) or
  - MEO Class I (FG) or
  - ETO or
  - GMDSS (GOC)

**And**

- 5.3 Hold a certificate for "Training Course for Trainers and Assessors", (TOTA);
- 5.4 Have Fluency (both spoken and written) in the language in which the course will be conducted

6. **COURSE INTAKE LIMITATIONS –**

- 6.1 The course intake is limited to a maximum of 20 trainees.
- 6.2 The maximum trainee - instructor ratio shall be 20 to 1 for classroom lectures and 12 to 1 for Group activities.
- 6.3 Ideally, the trainees should include personnel from both Maritime Administrations and training institutions, or those who conduct assessments and examinations on behalf of the Administration.
- 6.4 There should also be sufficient representation in the deck department and engineering department to make the activities in the course productive and more balanced. The successful outcome of the course depends on active participation and contribution by the trainees.

7. **FACULTY REQUIREMENTS –**

- 7.1 **The qualifications and experience of Course-in-charge & Faculty;**
- 7.1.1 Holding Certificate of Competency as Master (FG) or MEO Class I (FG)
- 7.1.2 Have successfully completed the DG approved "Assessment, Examination and Certification of Seafarers (AECS)" course.
- 7.1.3 Have a minimum of 5 years experience in maritime education and training or in the administration.

8. **FACULTY/INSTRUCTOR STRENGTH –**

Not less than two faculty (as appropriate) (inclusive of the course-in-charge). A minimum of 50% of the entire portion must be covered by full-time faculty.

9. **REQUIRED ATTENDANCE –**

100% attendance is required for successful completion of the course. However, in exceptional circumstances, a trainee is allowed absence of up to one day subject to his attending the lectures missed out during the next subsequent batches at the same institute within a period of 3 months. The institute shall keep proper records of such cases.

If a trainee is absent for more than a day, he will need to repeat the entire course.

10. **COURSE OUTLINE, TIME TABLE AND DETAILED LEARNING OBJECTIVE –**

10.1 Course duration: 70 hrs [10 days]

10.2 Course outline: As per Appendix – 1

10.3 Course Time Table: As per Appendix – 2

10.4 Learning Objectives- As per Appendix – 3

**Note**

Throughout the course, safe working practices are to be clearly defined and emphasized with reference to current international requirements and regulations. It is expected that the institution implementing the course will insert references to national and/or regional requirements and regulations as necessary.

11. **HOLIDAYS –**

Sundays shall be holidays. Independence Day (15<sup>th</sup> August) and Republic Day (26<sup>th</sup> January) shall be compulsory holidays.

Trainees shall normally enjoy the holidays observed by the Govt. of the State in which the institute is located.

12. **ASSESSMENT AND FEEDBACK –**

**Evaluation and Assessment** shall be as per guidance provided in **Part E** of the IMO Model course 3.12.

Provisions shall be made by the institutes for unsuccessful trainees to be provided additional hands on training and records of same shall be maintained.

Unsuccessful trainees shall be re-assessed on the subsequent batch assessments.

13. **COURSE CERTIFICATE** –

A Course Certificate, the format of which is appended at **Appendix – 4** shall be issued by the DGS approved maritime training institute to all trainees who have successfully completed the DGS approved “Assessment, Examination and Certification” Course.

14. **QUALITY STANDARDS** – As per DGS Order No. 5 of 2016

15. **INSPECTION** – As per DGS Order No. 5 of 201-6

16. **FEES TO GOVERNMENT** – As per DGS Order No. 5 of 2016

17. **COST OF INSPECTIONS** – As per DGS Order No. 5 of 2016

18. **TEACHING AIDS**

A1 **Instructor's Manual to be prepared** as per guidance provided in **Part D** of the IMO Model course 3.12.

A2 Audio-visual equipment and material appropriate for classroom size and number of trainees.

A3 IMO Model course 3.12 – 2017 Edition

A4 IMO Model course 6.09 – 2017 Edition

A5 IMO Model course 1.30 – 2017 Edition

Other equipment appropriate to the activities and elements described in the Detailed Learning Objectives listed in **Appendix 3**.

19. **BIBLIOGRAPHY (B)**

**Note:** Bibliography may be used as deemed fit by the faculty.

B1 Fletcher, Shirley, *Competence-Based Assessment Techniques* 2nd ed. (London, Kogan Page, 2001) (ISBN 9780749434229)

B2 Holder, Len, *Training and Assessment on Board* 4th ed. (London, Witherby & Co Ltd, 2011) (ISBN 9781856094511)

B3 P. Race, S. Brown and B. Smith, *500 Tips on Assessment* 2nd ed. (London, Routledge Falmer, 2005) (ISBN 9780415342791)

B4 The Nautical Institute, *Maritime Education and Training* (London, The Nautical Institute, 1997) (ISBN 9781870077415)

B5 International Shipping Federation, *ISF Guidelines on the IMO STCW Convention including the 2010 'Manila Amendments'* 3rd ed. (London, International Shipping Federation, 2012)

B6 International Shipping Federation, *ISF On Board Training Record Book for Deck Cadets* 3rd ed. (London, International Shipping Federation, 2012)

- B7 International Shipping Federation, *ISF On Board Training Record Book for Engine Cadets* 3rd ed. (London, International Shipping Federation, 2013)
- B8 International Shipping Federation, *ISF Personal Training and Service Record Books* (London, International Shipping Federation, 1998)
- B9 E. S. Ebert II, C. Ebert & M. L. Bentley, *The Educator's Field Guide: An Introduction to Everything from Organization to Assessment* (New York, Skyhorse Publishing, 2014) (ISBN 9781628737479)
- B10 E. Raeng, *Assessing Seafarers' Competence* (FAME/MARTA, Manila, 1999. Tel: +632 635 4820; Fax: +632 638 7961)
- B11 D. Kennedy, *Writing and using learning outcomes: A practical guide*, (Cork, Ireland, University College Cork, 2007)

20. **IMO and REGULATORY REFERENCES (R)**

**Note: Below books are mandatory**

- R1 The International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978, as amended (STCW Convention) (available from IMO Publications)
- R2 International Safety Management Code (ISM Code) (available from IMO Publications)
- R3 International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS) (available from IMO Publications)
- R4 IMO Information Sources on STCW (available from IMO Knowledge Centre)

21. **INTERNET WEBSITE REFERENCES (W)**

**Note:** Some useful references may be:

IMO Maritime Knowledge Centre (MKC)

<http://www.imo.org/en/KnowledgeCentre/Pages/Default.aspx>

- W1 STCW Circulars  
<http://www.imo.org/en/OurWork/HumanElement/TrainingCertification/Pages/STCWCirculars.aspx>
- W2 ILO Sector Activities: Shipping, ports, fisheries and inland waterways sector  
<http://www.ilo.org/global/industries-and-sectors/shipping-ports-fisheries-inland-waterways/lang--en/index.htm>
- W3 ILO Database of International Labour Standards  
<http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:1:0>
- W4 Marine Inquiry 11-204: Container ship MV Rena grounding on Astrolabe Reef, 5 October 2011.



[http://www.taic.org.nz/ReportsandSafetyRecs/MarineReports/tabid/87/ctl/Detail/mid/484/InvNumber/2011-204/language/en-US/Default.aspx?SkinSrc=%5BG%5Dskins%2FtaicMarine%2Fskin\\_marine](http://www.taic.org.nz/ReportsandSafetyRecs/MarineReports/tabid/87/ctl/Detail/mid/484/InvNumber/2011-204/language/en-US/Default.aspx?SkinSrc=%5BG%5Dskins%2FtaicMarine%2Fskin_marine)

- W5 Costa Concordia marine casualty on January 13, 2012: Report on the safety technical investigation.  
[http://3kbo302xo3lg2ilrj8450xje.wpengine.netdna-cdn.com/wp-content/uploads/2013/05/Costa\\_Concordia\\_-\\_Full\\_Investigation\\_Report.pdf](http://3kbo302xo3lg2ilrj8450xje.wpengine.netdna-cdn.com/wp-content/uploads/2013/05/Costa_Concordia_-_Full_Investigation_Report.pdf)

## APPENDIX – 1

### COURSE OUTLINE (L-Lecture, A- Practical Activity)

Subject Area with Learning Objectives	L	A	TOTAL Time Hours
<b>Course Introduction</b>	0.25		0.25
<b>1 The STCW Convention, 1978 as amended</b>	7.75	1.0	8.75
1.1 Background to STCW			
1.2 The need for revision			
1.3 Overview of the revised STCW Convention			
1.4 Process overview			
1.5 International instruments			
1.6 General objectives			
1.7 Certification of fishermen and for high-speed craft			
1.8 STCW certificate requirements			
1.9 National legislative and administrative framework			
<b>2 Quality System</b>	3.0	2.0	5.0
2.1 Quality standards			
2.2 Quality management system			
2.3 ISM Code			
<b>3 Assessing Applications</b>	2.0	2.0	4.0
3.1 Information for applications			
3.2 Procedures for assessing applications			
<b>4 Requirements in Training and Assessment</b>	3.0	--	3.0
4.1 Regulation on training and assessment			
4.2 Roles and responsibilities in training and assessment			
4.3 On board training and assessment			
<b>5 Approving Training, Assessment and Records</b>	2.75	1.25	4.0
5.1 Specification of standards			
5.2 Evaluation against standards			
5.3 Maintenance of standards			
<b>6 Competence-Based Standards</b>	4.0	6.0	10.0
6.1 Competence-based training			
6.2 Table of competence in the STCW Code as amended			
6.3 Competence-based assessment			
6.4 Collecting and matching evidence to standards			



6.5 Review and follow-up			
6.6 Quality assurance			
<b>7 Developing Written Tests</b>	<b>3.75</b>	<b>5.0</b>	<b>8.75</b>
7.1 Examination methodology			
7.2 Quality of tests			
7.3 Subjective-type tests			
7.4 Supply-type tests			
7.5 Objective-type tests			
7.6 Calculations			
7.7 Compiling tests			
7.8 Simulator-based tests			
<b>Subject Area with Learning Objectives</b>	<b>L</b>	<b>A</b>	<b>TOTAL Time Hours</b>
<b>8 Invigilation of Tests</b>	<b>1.5</b>	<b>0.5</b>	<b>2.0</b>
8.1 Written tests			
8.2 Publications and equipment			
8.3 <b>Communications</b>			
<b>9 Scoring Tests</b>	<b>2.0</b>	<b>0.5</b>	<b>2.5</b>
9.1 Scoring subjective tests			
9.2 Scoring objective tests			
9.3 Reviewing marginal cases			
<b>10 Oral and Practical Tests</b>	<b>1.0</b>	<b>1.0</b>	<b>2.0</b>
<b>11 Shipboard Assessment</b>	<b>0.5</b>	<b>--</b>	<b>0.5</b>
<b>12 Maintenance of Standards</b>	<b>3.0</b>	<b>4.0</b>	<b>7.0</b>
12.1 Review of test material			
12.2 Failure			
12.3 Appeals			
12.4 Recognizing certificates			
12.5 Dispensations, exemptions and equivalents			
12.6 Revalidation of certificates			
12.7 Suspension and revocation			
<b>13 Administration</b>	<b>1.5</b>	<b>3.75</b>	<b>5.25</b>
13.1 Issuing and replacing certificates			
13.2 Enforcement of standards			
13.3 Upholding the responsibilities of companies			
<b>14 Course review and practical evaluation activity</b>	<b>2.0</b>	<b>5.0</b>	<b>7.0</b>
<b>TOTAL</b>	<b>38.0</b>	<b>32.0</b>	<b>70.0</b>

## APPENDIX – 2

### TIMETABLE

TIME	SUBJECT
<b>WEEK 1</b>	
<b>DAY 1</b>	
0845 –0900	Course Entry formalities.
0900-1100	<b>Introduction to the course</b> <b>1. The STCW Convention as amended</b> 1.1 Background to STCW 1.2 Need for revision 1.3 Overview of the revised STCW Convention
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>1. The STCW Convention as amended (cont'd)</b> 1.4 Process overview 1.5 International instruments 1.6 General objectives
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>1. The STCW Convention as amended (cont'd)</b> 1.7 Certification of fishermen and for high speed craft ▪ Practical activity 1.7.13
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	1.8 STCW Certificate requirements
<b>DAY 2</b>	
0900-1100	<b>1. The STCW Convention as amended (cont'd)</b> ▪ Practical activity 1.8.8 ▪ Practical activity 1.8.10 1.9 National legislative and administrative framework
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>2. Quality system (cont'd)</b> 2.1 Quality standards 2.2 Quality management system
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>2. Quality system (cont'd)</b> ▪ Practical activity 2.2.3 ▪ Practical activity 2.2.6
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	<b>2. Quality system (cont'd)</b> 2.3 The ISM Code

TIME	SUBJECT
<b>DAY 3</b>	
0900-1100	<b>3. Assessing applications</b> 3.1 Information for applicant • Practical activity 3.1 (a-c)
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>3. Assessing applications</b> 3.2 Procedures for assessing applications • Practical activity 3.2.2
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>4. Requirements in training and assessment</b> 4.1 Regulation on training and assessment 4.2 Roles and responsibilities in training and assessment
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	<b>4. Requirements in training and assessment</b> 4.3 On board training and assessment
<b>DAY 4</b>	
0900-1100	<b>5. Approving training, assessment and records</b> 5.1 Specification of standards • Practical activity 5.1.5 • Practical activity 5.1.14
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>5. Approving training, assessment and records</b> 5.2 Evaluation against standards. 5.3 Maintenance of standards
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>6. Competence-based standards</b> 6.1 Competence-based training 6.2 Table of competence in the STCW Code as amended • Practical activity 6.2.3
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	<b>6 Competence-based standards</b> • Practical activity 6.2.6
<b>DAY 5</b>	
0900-1100	<b>6 Competence-based standards</b> 6.3 Competence-based assessment • Practical activity 6.3.4
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>6. Competence-based standards</b> • Practical activity 6.3.5 • Practical activity 6.3.18
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>6 Competence-based standards</b> 6.4 Collecting and matching evidence to standards • Practical activity 6.4.8
<i>1615-1630</i>	<i>Tea Break</i>

TIME	SUBJECT
1630-1730	<b>6 Competence-based standards</b> 6.5 Review and follow-up 6.6 Quality assurance
<b>WEEK 2</b>	
<b>DAY 6</b>	
0900-1100	<b>7 Developing written tests</b> 7.1 Examination methodology 7.2 Quality of tests 7.3 Subjective-type tests <ul style="list-style-type: none"> <li>• Practical activity 7.3.6</li> </ul> 7.4 Supply-type tests
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>7 Developing written tests (cont'd)</b> <ul style="list-style-type: none"> <li>• Practical activity 7.4.5</li> </ul> 7.5 Objective-type tests <ul style="list-style-type: none"> <li>• Practical activity 7.5.6</li> <li>• Practical activity 7.5.10</li> <li>• Practical activity 7.5.19</li> </ul>
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>7 Developing written tests (cont'd)</b> <ul style="list-style-type: none"> <li>• Practical activity 7.5.20</li> <li>• Practical activity 7.5.21</li> </ul> 7.6 Calculations <ul style="list-style-type: none"> <li>• Practical activity 7.6.7</li> </ul>
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	7.7 Compiling tests <ul style="list-style-type: none"> <li>• Practical activity 7.7.14</li> </ul>
<b>DAY 7</b>	
0900-1100	<ul style="list-style-type: none"> <li>• Practical activity 7.7.15</li> </ul> 7.8 Simulator-based tests <b>8 Invigilation of tests</b> 8.1 Written tests 8.2 Publications and equipment
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	8.3 Communications <ul style="list-style-type: none"> <li>• Practical activity 8.3.3</li> </ul> <b>9 Scoring tests</b> 9.1 Scoring subjective tests <ul style="list-style-type: none"> <li>• Practical activity 9.1.13</li> </ul>
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	9.2 Scoring objective tests 9.3 Reviewing marginal cases <b>10 Oral and practical tests</b>
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	<ul style="list-style-type: none"> <li>• Practical activity 10.8</li> </ul>

TIME	SUBJECT
<b>DAY 8</b>	
0900-1100	<b>11 Shipboard assessment</b> <b>12 Maintenance of standards</b> 12.1 Review of test material • Practical activity 12.1.5
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>12 Maintenance of standards (cont'd)</b> • Practical activity 12.1.12 • Practical activity 12.1.13 12.2 Failure 12.3 Appeals
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>12 Maintenance of standards (cont'd)</b> 12.4 Recognizing certificates • Practical activity 12.4.2 12.5 Dispensation, exemptions and equivalents • Practical activity 12.5.2 • Practical activity 12.5.7
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	12.6 Revalidation of certificates 12.7 Suspension and revocation • Practical activity 12.7.3
<b>DAY 9</b>	
0900-1100	<b>13 Administration</b> 13.1 Issuing and replacing certificates • Practical activity 13.1.2
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>13 Administration</b> • Practical activity 13.1.5 13.2 Enforcement of standards • Practical activity 13.2.4
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>13 Administration</b> 13.3 Upholding the responsibilities of companies • Practical activity 13.3.3
<i>1615-1630</i>	<i>Tea Break</i>
1630-1730	<b>13 Administration</b> • Practical activity 13.3.7
<b>DAY 10</b>	
0900-1100	<b>14 Course review</b>
<i>1100-1115</i>	<i>Tea Break</i>
1115-1315	<b>14 Practical evaluation activity</b>
<i>1315- 1400</i>	<i>Lunch Break</i>
1400-1600	<b>14 Practical evaluation activity</b>
<i>1615-1630</i>	<i>Tea Break</i>

TIME	SUBJECT
1630-1730	14 Practical evaluation activity
1730-1745	Assessment
1745-1800	Feedback

## APPENDIX – 3

### LEARNING OBJECTIVES

The detailed teaching syllabus has been written in learning objective format in which the objective describes what the trainee should do to demonstrate that knowledge has been transferred. All objectives are understood to be prefixed by the words, "The expected learning outcome is that the trainee..."

Before commencing with instruction on the detailed teaching syllabus, there shall be a course overview to introduce the learning objectives and main topics to the trainees.

In order to assist the instructor, reference publications are shown against the learning objectives in addition technical material and teaching aids, which the instructor may wish to use when preparing course material.

The material listed in the course framework has been used to structure the detailed teaching syllabus; in particular,

Teaching aids (indicated by **A**) and references indicated by

Bibliography (**B**),

IMO References (**R**), or

Internet Website References (**W**)

will provide valuable information to instructors.

A description of the teaching material is listed at the end of Part A (Course Framework) of this document.

Detailed Learning Objectives Knowledge, understanding and proficiency	IMO Reference	Textbooks, Bibliography	Teaching Aids
<p><b>Course introduction</b> (0.25 hour)</p> <ol style="list-style-type: none"> <li>1) explain the scope and objectives of the course</li> <li>2) explain the relationship of this course to other IMO model courses</li> <li>3) explain that use is made during the course of individual and group activities to develop skills in preparing assessment and examination materials</li> <li>4) explain the need to supplement what is learned on the course with practical experiences in developing assessment/examination material and conducting assessment/examination, initially for lower grade certificates</li> <li>5) explain that Part D of the model course provides guidance on the reference material necessary for the course, arranged according to subject areas, but is also intended to serve as a reference manual</li> <li>6) Explain that the course draws on the practices of several IMO Member States as examples of how competence-based assessment and examination systems may be conducted and emphasizes the common fundamentals and principles</li> </ol>	<p>R1 Reg. A-I/6 Sec. A-I/6</p>		<p>A1</p>
<p><b>1 The STCW Convention, 1978, as amended</b> (8.75 hours)</p> <p><b>1.1 Background to STCW</b> (0.5 hour)</p> <ol style="list-style-type: none"> <li>1) explain that IMO has, since its inception, endeavoured to improve the safety of ships and their equipment, as well as to raise the training standards of seafarers</li> <li>2) state that the IMO conference convened in 1978 on the STCW Convention resulted in one of the most important maritime safety conventions ever developed</li> <li>3) explain that the 1978 STCW Convention was the first attempt to establish global minimum professional standards for seafarers, which previously were established by individual governments without reference to practice in other countries</li> <li>4) state that the 1978 STCW Convention prescribed minimum standards which countries were obliged to meet or exceed</li> </ol>	<p>R1</p>	<p>B4,B5</p>	<p>A1 &amp; Activity 1, W1, W2</p>
<p><b>1.2 The need for revision</b> (0.5 hour)</p> <ol style="list-style-type: none"> <li>1) state factors that reduced the effectiveness of the 1978 STCW Convention including: <ul style="list-style-type: none"> <li>• changes in the structure of the world merchant fleet in management and manning of ships</li> <li>• reduction in crew members on board, faster turn-round, more frequent crew changes</li> <li>• mix of different education and training backgrounds from multi-national manning</li> </ul> </li> </ol>	<p>R1, R7</p>	<p>B4, B5</p>	<p>A1 &amp; Activity 1, W1, W2</p>

<ul style="list-style-type: none"> <li>• changes in traditional organization of duties and responsibilities on board ships</li> <li>• public concern regarding human related causes of shipping disasters</li> </ul> <p>2) describe the nature of the 1995 amendments as:</p> <ul style="list-style-type: none"> <li>• being essentially a complete revision</li> <li>• retaining the articles of the 1978 Convention</li> <li>• substantially amending the Annex (regulations) to the Convention</li> <li>• Introducing a new Seafarers' Training, Certification and Watch keeping (STCW Code)</li> <li>• transferring all detailed technical requirements to this associated Code</li> <li>• focusing on identifiable and verifiable skills and outcome-based competence</li> <li>• requiring respective Administrations to maintain direct control and endorse the qualifications of personnel serving their ships enhancing control procedures</li> <li>• making Parties to the Convention accountable to each other, through IMO, for proper implementation and activities as required in the Convention and covering three important areas: <ul style="list-style-type: none"> <li>- responsibilities of shipping companies</li> <li>- uniform standards of competence</li> <li>- implementation by Parties</li> </ul> </li> <li>• introducing a new structure of the Convention</li> </ul> <p>3) explain that in support of the above major areas, the revised Convention included new provisions, such as:</p> <ul style="list-style-type: none"> <li>• the qualifications of trainers and assessors</li> <li>• quality standards system</li> </ul>			
<p><b>1.3 Overview of the the STCW Convention, 1978, as amended (0.75 hour)</b></p> <p>1) state that the structure and goals of the Convention and Code as amended remains the same as that of the 1995 amendments</p> <p>2) state that included in the 2010 Manila amendments are a number of important changes to the annex to the Convention and Code, such as:</p> <ul style="list-style-type: none"> <li>• improved measures to prevent fraudulent practices associated with certificates of competency and strengthen the evaluation process (monitoring of parties' compliance with the Convention);</li> <li>• revised requirements on hours of work and rest and new requirements for the prevention of drug and alcohol abuse, as well as updated standards relating to medical fitness standards for seafarers;</li> <li>• new certification requirements for able seafarers;</li> <li>• new requirements relating to training in modern</li> </ul>	R1, R4	B5	A1



<p>technology such as electronic charts and information systems (ECDIS);</p> <ul style="list-style-type: none"> <li>• new requirements for marine environment awareness training and training in leadership and teamwork;</li> <li>• new training and certification requirements for electro-technical officers;</li> <li>• updating of competence requirements for personnel serving on-board all types of tankers, including new requirements for personnel serving on liquefied gas carriers;</li> <li>• new requirements for security training, as well as provisions to ensure that seafarers are properly trained to cope if their ship comes under attack by pirates;</li> <li>• introduction of modern training methodology including distance learning and web-based learning;</li> <li>• new training guidance for personnel serving on-board ships operating in polar waters; and</li> <li>• new training guidance for personnel operating Dynamic Positioning Systems</li> <li>• new security training requirements</li> <li>• explicit definitions for near-coastal voyages</li> </ul> <p>3) identify key milestones in the timeline for full implementation of the 2010 amendments</p> <p>4) discuss in detail the structure and parts of the STCW Convention and Code, as amended</p> <ul style="list-style-type: none"> <li>• state the general obligations of the Convention</li> <li>• outline the articles of the Convention</li> <li>• outline the 8 chapters of the annex to the Convention and discuss the regulations in them</li> <li>• outline the 8 chapters of part A of the STCW Code and discuss the standards in them</li> <li>• reflect on the relevant guidance of part B of the STCW Code</li> <li>• state the importance and purpose of the competence tables in part A of the STCW Code</li> <li>• explain the use of the competence tables in part A of the STCW Code</li> <li>• recall that the 2010 STCW Conference resolutions includes the following: <ul style="list-style-type: none"> <li>- The Manila Amendments to the annex to the International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW), 1978</li> <li>- Verification of certificates of competency and endorsements</li> <li>- Standards of training and certification and ships' manning levels</li> <li>- Development of guidelines to implement international standards of medical fitness for</li> </ul> </li> </ul>			
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<p>seafarers</p> <ul style="list-style-type: none"> <li>- Revision of existing model courses published by the International Maritime Organization and development of new model courses</li> <li>- Attracting new entrants to, and retaining seafarers in, the maritime profession</li> <li>- Future amendments and review of the STCW Convention and Code</li> <li>- Day of the seafarer</li> </ul>			
<p><b>Process overview (0.75 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that the assessment and certification process must ensure that candidates meet all minimum national and international requirements in respect of: <ul style="list-style-type: none"> <li>• experience</li> <li>• age</li> <li>• medical fitness</li> <li>• training</li> <li>• qualification</li> <li>• assessments/examinations</li> <li>• standards of competence</li> </ul> </li> <li>2) state that the process must test knowledge and competence actually used in the position concerned</li> <li>3) state that the STCW Convention contains specific criteria detailing the standards of knowledge, understanding and proficiency to achieve for each element of competence for the various functions</li> <li>4) state that assessments/examinations must be properly administered, supervised and monitored</li> <li>5) state that the trainers, assessors and examiners must be appropriately qualified</li> <li>6) state that the process must apply the same minimum standard at all locations and at all times until standards are changed</li> <li>7) state that assessment/examination process must be seen to be fair, up to date and have clear application to the job/position to be attained by the candidate</li> <li>8) states that the process should allow candidates to appeal against decision of the assessor/examiner</li> <li>9) state that the process must allow for revocation of certificates for specified causes</li> <li>10) state that the process must provide for periodic revalidation: <ul style="list-style-type: none"> <li>• of certificates issued</li> <li>• of assessment/examination content</li> </ul> </li> <li>11) state that process must be able to maintain security and confidentiality of assessment/examination content</li> <li>12) state that process must ensure that approved training courses remain up to date and valid</li> <li>13) state that the process requires successful completion of</li> </ol>	R1, R4	B5	A1, W1, W2

<p>applicable courses which have been approved by the Administration</p> <p>14) explain the need to ensure a common standard of training and assessment to make the qualification process work in accordance with the STCW Convention</p> <p>15) explain that in theory, a seafarer may receive education, training, seagoing service, certificate, and employment on-board, each from different States</p> <p>16) state that the qualification process will only work if the different States involved are confident that the education, training, assessment/examination in the other States are implemented in accordance with the standards specified in the STCW Convention, as amended</p> <p>17) explain that there is a need for a procedure in recognizing standards to serve as a basis:</p> <ul style="list-style-type: none"> <li>• for acceptance by the other States</li> <li>• to facilitate delegation of responsibility to individual maritime education and training institution</li> <li>• for agreements on cooperation with other States/institutions</li> </ul>			
<p><b>1.5 International instruments (1,0 hour)</b></p> <p>1) list the principal international instruments governing training and certification of seafarers as:</p> <ul style="list-style-type: none"> <li>• the United Nations Convention on the Law of the Sea (UNCLOS)</li> <li>• the STCW Convention 1978, as amended</li> <li>• the ITU Radio Regulations</li> <li>• the Maritime Labour Convention, 2006</li> <li>• various IMO assembly resolutions</li> </ul> <p>2) state – for the <b>United Nation Convention on the Law of the Sea (UNCLOS)</b> – that:</p> <ul style="list-style-type: none"> <li>• Article 94 (Duty of the Flag State) requires that Flag States:</li> <li>• effectively exercise their jurisdiction and control in administrative, technical and social matters over ships flying its flag</li> <li>• ensure that on each the master and officers possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship;</li> <li>• ensure that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction</li> </ul>	R1, R4		A1, W1, W2, W3, W4

<p>and control of marine pollution, and the maintenance of communications by radio.</p> <ul style="list-style-type: none"> <li>• conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.</li> </ul> <p>3) state – for the ITU Radio Regulations – that:</p> <ul style="list-style-type: none"> <li>• the International Telecommunication Union is the UN specialized agency responsible for regulations governing the use of the radio spectrum</li> <li>• the provisions concerning certificates for personnel of ship stations and ship earth stations and for personnel of stations in the maritime mobile and maritime mobile satellite service are set out in articles S47 and S48, respectively, of the Radio Regulations</li> <li>• as of 3 October 1989, articles S47 and S48 of the Radio Regulations provide for the issue and use of GMDSS (Global Maritime Distress and Safety System) certificates as follows: <ul style="list-style-type: none"> <li>• first-class radio electronic certificate</li> <li>• second-class radio electronic certificate</li> <li>• general operator's certificate</li> <li>• restricted operator's certificate</li> </ul> </li> <li>• the conditions of issue and the knowledge and experience required for each GMDSS certificate are set forth in article S47 of the Radio Regulations</li> <li>• Article S48 of the Radio Regulations stipulates the class and minimum number of operators or personnel for ship stations and ship earth stations</li> <li>• although different, the ITU and IMO requirements are held to be compatible</li> </ul> <p>4) state – for the Maritime Labour Convention (MLC), 2006 – the inter-relation between MLC hours of work and STCW hours of rest, and the process of recording hours of rest</p> <p>5) refer to the list of IMO assembly resolutions on training</p> <ul style="list-style-type: none"> <li>• A.703 (17) – Training of radio personnel in the Global Maritime Distress and Safety System (GMDSS)</li> <li>• A.771 (18) – Training requirements for crews of fast rescue boats</li> <li>• A.921 (22) – Assembly resolutions superseded by the 1995 amendments to the 1978 STCW Convention</li> <li>• A.1079 (28) – Recommendations for the training and certification of personnel on mobile offshore units (MOUs)</li> </ul> <p>6) explain the differences in and purpose of conventions,</p>			
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<p>resolutions and circulars adopted by the IMO Assembly</p> <p>7) state further requirements for the training of all personnel on ships carrying certain types of cargoes and operating in extreme conditions per different Codes including:</p> <ul style="list-style-type: none"> <li>• for ships carrying dangerous chemicals in bulk, the IBC Code (Section 16.3 of 2015 Consolidated Edition)</li> <li>• for ships carrying liquefied gases in bulk, the IGC Code (Section 18.7 of 2015 Consolidated Edition)</li> <li>• for ships falling under the IGF Code for ships falling under the Polar Code</li> </ul>			
<p><b>1.6 General objectives (0.25 hour)</b></p> <p>1) summarize that the obligations of States/contracting parties in administering, supervising and monitoring the systems and processes that support seafarer competence, the general objectives behind these instruments as they relate to examination of personnel as being:</p> <ul style="list-style-type: none"> <li>• to develop and maintain a global minimal standard of safety and pollution prevention for merchant ship operation</li> <li>• to assess and validate the competence of seafarers to perform shipboard duties in a safe and effective manner by means of statutory examination</li> <li>• to issue an authoritative document to provide evidence of seafarer competence that confirms the qualification of a seafarer and which is subject to inspections by port State control</li> </ul>	R1	B4, B5	A1, W1, W2
<p><b>1.7 Certification of fishermen and for high-speed craft (2.0 hours)</b></p> <p>1) state the requirements to establish:</p> <ul style="list-style-type: none"> <li>• standards of qualifications for certificates</li> <li>• issuing of certificates</li> <li>• examinations for certificates, as required</li> <li>• means of enforcement</li> </ul> <p>2) state that the International Convention on Standards of Training, Certification and Watch keeping for Fishing Vessel Personnel (STCW-F) covers the respective requirements</p> <p>3) state that the training and certification requirements of personnel on high-speed craft are governed by the SOLAS Convention and the High-Speed Craft (HSC) Code.</p> <p>4) note the similarities and differences in the training requirements for high-speed crafts and for merchant ships</p>	R1, R2, R5, R7, R8, R10	T1, T4, TR4	A1, A2, A4, A5, A6, A7

<p>5) state that provisions for safety measures for high-speed craft are incorporated in chapter X of the SOLAS Convention</p> <p>6) outline the three regulations in chapter X of the SOLAS Convention as:</p> <ul style="list-style-type: none"> <li>• Regulation 1 on Definitions</li> <li>• Regulation 2 on Application</li> <li>• Regulation 3 on <i>Requirements for high-speed craft</i></li> </ul> <p>7) state that the HSC Code means the International Code of Safety for High-Speed Craft adopted by the Maritime Safety Committee by Resolution MSC.36 (63), as may be amended.</p> <p>8) outline chapter 18 of the HSC Code which specifies the training and qualification requirements</p> <p>9) state that, among other things, the HSC Code requires the Administration to issue type rating certificates to master and officers following appropriate training and examination commensurate with the operational tasks on board</p> <p>10) list the coverage of the type rating training which includes:</p> <ul style="list-style-type: none"> <li>• knowledge of all on-board propulsion and control systems</li> <li>• failure mode of the systems</li> <li>• handling characteristics of the craft and their limitations</li> <li>• bridge communication and navigational procedures</li> <li>• stability and survivability of the craft in damage conditions</li> <li>• life-saving appliances</li> <li>• escape routes, and evacuation procedures for passengers</li> <li>• fire protection and fire-extinguishing appliances and systems</li> <li>• damage control equipment and systems</li> <li>• cargo and vehicle stowage and securement systems</li> <li>• control and communications with passengers, related to emergency</li> <li>• location and use of all items listed in training manuals</li> <li>• others, such as: <ul style="list-style-type: none"> <li>• maintenance</li> <li>• passenger handling for service and safety</li> <li>• medical</li> <li>• route / passage familiarization</li> </ul> </li> </ul> <p>11) list criteria for revalidation of type rating certificate</p>			
<p><b>1.8 STCW certificate requirements (2.0 hours)</b></p> <p>1) describe the structure of certificates for the master and the deck department, outlining the requirements for</p>	R1	B5	W1, W2

<p>each certificate</p> <ol style="list-style-type: none"> <li>2) describe the structure of certificate for the engine department, outlining the requirements for each certificate</li> <li>3) identify the mandatory training provisions</li> <li>4) identify the special requirements for personnel on certain types of ships</li> <li>5) define near-coastal voyage</li> <li>6) describe the applicability of delimiting near-coastal voyages in accordance with the STCW Convention</li> <li>7) explain the purpose and the intent of establishing what constitutes approved sea-going service</li> <li>8) generate a description of approved seagoing for various certificates</li> <li>9) describe the effects of varying the certificate structure from that embodied in the Convention</li> <li>10) generate a certificate structure to meet given needs</li> </ol>			
<p><b>1.9 National legislative/administrative framework (1.0hr)</b></p> <ol style="list-style-type: none"> <li>1) describe generally the national legislation required to give full effect to the STCW Convention</li> <li>2) outline, in terms suitable to own country: <ul style="list-style-type: none"> <li>• enabling legislation governing the certification of masters, ships' officers and ratings</li> <li>• subsidiary legislation governing: <ul style="list-style-type: none"> <li>▪ the conduct of examinations</li> <li>▪ the issue of certificates</li> <li>▪ the revalidation of certificates</li> <li>▪ the suspension and cancellation of certificates</li> <li>▪ policy and fines</li> </ul> </li> </ul> </li> <li>3) classify examinations as being: <ul style="list-style-type: none"> <li>• internal if conducted by the training institution or by personnel of such institution</li> <li>• external if conducted solely by an Administrative Authority independent of the training institution</li> </ul> </li> <li>4) summarize the advantages and disadvantages of the internal examination system</li> <li>5) summarize the advantages and disadvantages of the external examination system</li> <li>6) describe the organization of an Administration, which operates an external examination system</li> <li>7) describe the organization of an Administration, which delegates the examining function to training institutions</li> <li>8) detail the process to be followed to establish an external examination and certification system</li> <li>9) detail the process to be followed to establish an internal examination and certification system</li> <li>10) detail the process of assessments for the award of certificates of competency by Administrations</li> </ol>	<p>RI</p>		

<p><b>2 Quality System (5.0 hours)</b>  <b>2.1 Quality standards (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) recall the requirements of regulation I/8 of the annex to the STCW Convention, 1978, as amended</li> <li>2) state that a quality standards system must be in place to ensure achievement of defined objectives in areas including: <ul style="list-style-type: none"> <li>• training</li> <li>• assessment of competence</li> <li>• certification</li> <li>• endorsement</li> <li>• revalidation</li> <li>• qualification and experience of instructors and assessors</li> </ul> </li> <li>3) state that the quality standards are applicable to: <ul style="list-style-type: none"> <li>• the Administration's system for control, approval and certification</li> <li>• maritime education and training institutions, and their assessment/examination system</li> </ul> </li> <li>4) state that the quality standards system must include an evaluation process, and the evaluation to be conducted by qualified persons not involved in the activities concerned</li> <li>5) outline the scope and objectives to be covered in the quality standards, including but not limiting to: <ul style="list-style-type: none"> <li>• the administration of the certification system</li> <li>• training programmes and courses, their objectives and related standards of competence to be achieved</li> <li>• assessments and examinations, on the appropriate levels of knowledge, understanding and proficiency/skills required</li> <li>• qualifications and experience of instructors and assessors</li> <li>• controls and internal quality assurance reviews</li> <li>• an independent evaluation process</li> </ul> </li> <li>6) explain that the independent evaluation pursuant to regulation I/8 is to ensure and verify that: <ul style="list-style-type: none"> <li>• all internal management control, monitoring measures and follow-up actions comply with documented procedures and are effective in achieving objectives as planned</li> <li>• the results of each evaluation are documented, made known to the appropriate personnel, and timely corrective actions taken</li> </ul> </li> <li>7) state that the report of the independent evaluation should include the terms of reference for the evaluators, and the qualification and experience of the evaluators</li> <li>8) state that the training and assessment of seafarers required under the Convention must be administered,</li> </ol>	<p>R1</p>		<p>A1 &amp; Activity 2</p>
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<p>supervised and monitored, and that the trainers and assessors are qualified, as stipulated in regulation I/6 of the STCW Convention, and section A-I/6 of STCW Code</p> <p>9) state that quality standards are stipulated in regulation I/8 of the STCW Convention and section A-I/8 of STCW Code</p>			
<p><b>2.2 Quality standards system (3.0 hours)</b></p> <p>1) state that all activities under the requirements of the Convention are to be continuously monitored through a quality standards system whether the activities are carried out by the Administration, within a Government ministry/department/organization, or other entities under its authority</p> <p>2) outline the essential principles to ensure quality standards as:</p> <ul style="list-style-type: none"> <li>• establishing clear policies/objectives, standards governing staff quality and conduct of activities</li> <li>• adopting realistic approach to ensure effective implementation and control measures, including adequate funding</li> <li>• developing procedures which allow for achievable performances, and result of the activities to be monitored</li> <li>• involving the participation of all affected staff at all levels in the development, implementation and maintenance of the system</li> </ul> <p>3) generate procedures for conducting assessment of competence-based standards for navigating /engineering officers and ratings</p> <p>4) outline the main parts in the quality standards, including:</p> <ul style="list-style-type: none"> <li>• clear guidelines to ensure quality assurance</li> <li>• activities that are developed in a structured manner and verified to meet requirements, for example, the development of simulator exercises</li> <li>• maintenance of operational functions, such as identifying staff development needs and equipment servicing</li> <li>• the result phase, such as focusing on procedures to determine assessment/examination criteria and awarding of certificates</li> </ul> <p>5) define the key elements in the quality standards model, including:</p> <ul style="list-style-type: none"> <li>• an expressed quality policy, means for implementation to achieve stated aims and objectives, and commitment so as to gain recognition by relevant authority</li> <li>• incorporation of the quality management functions,</li> </ul>			<p>A1 &amp; Activity 2</p>

<p>and organizational structure, responsibilities, process, resources</p> <ul style="list-style-type: none"> <li>• techniques and activities for quality control at all levels</li> <li>• systematic monitoring arrangements</li> <li>• arrangements for periodic external quality evaluation</li> </ul> <p>6) design a feedback form for monitoring of quality standards</p> <p>7) state that the quality standards model for assessment of knowledge, understanding and proficiency should take account of the general framework of either:</p> <ul style="list-style-type: none"> <li>• the national scheme for education and training accreditation/quality standards, or</li> <li>• an alternative model acceptable to IMO</li> </ul> <p>8) state that it is recommended for the administration of national certification system to adopt arrangements that:</p> <ul style="list-style-type: none"> <li>• are sufficiently flexible to take account of the varying needs of the industry, as well as the application of new technology</li> <li>• cover all matters that give effect to the various provisions of the Convention on issues related to certificates, such as endorsements, suspensions and cases of fraud</li> <li>• encompass responsibilities for approving training and assessment, including from undergraduate type and upgrading courses to certificates of competency to short vocational courses</li> <li>• incorporate process for internal reviews and external evaluation</li> </ul> <p>9) explain that the establishment of quality standards for education, training and assessment programmes should consider the following:</p> <ul style="list-style-type: none"> <li>• utilize existing provisions for national accreditation/education quality standards to courses incorporating the competence requirements of the Convention in all levels</li> <li>• whether to use real or simulated equipment, where acquisition of skill/accomplishment of task is the primary objective, taking into account the qualifications and experience of the assessors</li> <li>• the internal quality assurance evaluations should involve a comprehensive self-study of programmes, addressing all aspects of activities, from design, to presentation, to teaching</li> </ul> <p>state that guidance regarding quality standards are given in section B-1/8 of STCW Code.</p>			
<p><b>2.3 ISM Code (1.0 hour)</b></p> <p>1) state the purpose and objectives of the ISM Code</p>	R2		

<ol style="list-style-type: none"> <li>2) state that the ISM Code is a requirement for mandatory application, incorporated in chapter IX of the SOLAS Convention</li> <li>3) explain that the ISM Code fundamentally addresses quality management systems as applied to ship management and operation</li> <li>4) state that compliance with other quality management systems does not necessarily ensure compliance with the ISM Code</li> <li>5) state that the ISM Code does not provide detailed and prescriptive requirements, but acts as an "umbrella" regulation encompassing the STCW Convention, MARPOL Convention, SOLAS Convention, and other standards</li> <li>6) state that the implementation of a training programme by virtue of being under the requirements of the ISM Code may not necessarily meet the STCW criteria</li> <li>7) clarify paragraph 2.3.6 above with examples: <ul style="list-style-type: none"> <li>• ISM Code requires newly assigned crew members to be familiarized with the vessel</li> <li>• generally familiarization training given to the crew would satisfy the requirements of both ISM and STCW Convention</li> </ul> <p>for certain vessels, such as tankers and passenger ships, the ISM Code requirement for shipboard familiarization is not sufficiently detailed to meet the respective requirements of the STCW Convention, as amended</p> </li> </ol>			
<p><b>3 Assessing Applications (4.0 hours)</b></p> <p><b>3.1 Information for applications (2.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) generate a list of information needed on application for the following: <ul style="list-style-type: none"> <li>• first and subsequent certificate of competency</li> <li>• revalidation of certificate of competency</li> <li>• endorsement of service</li> </ul> </li> <li>2) list the information about seafarer required for application to include: <ul style="list-style-type: none"> <li>• identification</li> <li>• age</li> <li>• medical fitness</li> <li>• sea-service</li> <li>• education, training, qualification as relevant</li> </ul> </li> <li>3) state applicable conventions and guidelines as: <ul style="list-style-type: none"> <li>• International Convention on Standards of training, Certification and Watch keeping, 1978, as amended</li> <li>• ITU Radio Regulations</li> <li>• IMO-ILO Guidelines on medical examination of seafarers, 2013</li> </ul> </li> </ol>	RI		A1 & Activity 3

<p><b>3.2 Procedures for assessing application (2.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) identify a procedure for assessing applications</li> <li>2) given an application, determine the required documentary evidence necessary to complete the review of the application</li> <li>3) explain how seafarers' documentation and sea service may be verified</li> <li>4) explain the effect of fraudulent practices on the certification process and its outcomes and IMO's work in this regard</li> <li>5) describe the authority required for accepting equivalencies</li> </ol>			A1 & Activity 3
<p><b>4 Requirements in Training and Assessment (3.0 hours)</b></p> <p><b>4.1 Regulation on training and assessment (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that regulation I/6 covers the provisions on training and assessment for seafarers for certification</li> <li>2) state that relevant requirements are specified in section A-I/6 of STCW Code, and that section B-I/6 of STCW Code provides guidance for the requirements</li> <li>3) outline the requirements on training and assessment in section A-I/6 of STCW Code as follows: <ul style="list-style-type: none"> <li>• achievement of the prescribed standard of competence by ensuring structure in accordance with written programmes including for delivery, procedures and course material</li> <li>• the prescribed qualification, experience and knowledge of persons conducting, monitoring, evaluating and supporting the training and assessment, which are carried out: <ul style="list-style-type: none"> <li>- on-board or ashore</li> <li>- in-service or involving the use of simulators</li> <li>- within a recognized training institution, where quality standards are applied</li> </ul> </li> <li>• the effect on the normal operation of the ship, and the dedication of time and attention on persons involved in the training assessment</li> <li>• explain the critical importance of having appropriately qualified instructors, assessors and supervisors and the associated challenges for administrations and maritime education and training institutions</li> </ul> </li> </ol>	R1		
<p><b>4.2 Roles and responsibilities in training and assessment (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) state the roles and responsibilities in the training and assessment regime for various functions including: <ul style="list-style-type: none"> <li>• the training supervisor</li> <li>• instructor</li> <li>• assessor</li> </ul> </li> </ol>			

<ul style="list-style-type: none"> <li>• training and assessment on-board</li> <li>• internal verifier or auditor</li> <li>• external verifier or auditor</li> </ul> <p>2) state that the training and assessment regime should ensure that the various functions are performed by suitably qualified persons in respect of:</p> <ul style="list-style-type: none"> <li>• the level of competence required, as specified in the STCW tables of competence</li> <li>• the types of competence/characteristics required in the functions, such as for delivery of lectures (in training ) and degree of objectivity (in assessment)</li> <li>• their motivation, attitude and understanding of the roles assumed</li> <li>• courses attended or training/instructional techniques received</li> <li>• their experience in the functions</li> </ul>			
<p><b>4.3 On-board training and assessment (1.0 hour)</b></p> <p>1) state that the senior sea staff have responsibility for ensuring the efficiency and safety of the operations and welfare of personnel</p> <p>2) state that the responsibility includes:</p> <ul style="list-style-type: none"> <li>• familiarizing crew members with the ship and equipment</li> <li>• implementing safe procedures for routine operations including the prevention of pollution</li> <li>• providing emergency response training</li> <li>• encouraging career development for all crew members</li> </ul> <p>3) state that the requirement for persons conducting on-board training and/or assessment are specified in section 1/6 of the STCW Code and as given in sub-sections 4.1 and 4.2 above.</p> <p>4) list the considerations for on-board training and assessment, including the following:</p> <ul style="list-style-type: none"> <li>• time requirement</li> <li>• condition of ship and environment/voyage factors</li> <li>• cultural/language issues</li> <li>• determining specific performance outcomes</li> <li>• methods to be used</li> <li>• resources, such as: <ul style="list-style-type: none"> <li>- the necessary skills and qualification of trainers and assessors</li> <li>- equipment and space</li> <li>- manuals</li> <li>- training aids</li> <li>- the relevant forms, record sheets or training record books</li> </ul> </li> </ul>	R1	B2	

<p><b>5 Approving Training, Assessment and Records (4.0 hours)</b></p> <p><b>5.1 Specification of standards (2.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) state that a written specification should be prepared for the approval of training courses leading to required international or national qualifications</li> <li>2) state that specifications should cover: <ul style="list-style-type: none"> <li>• facilities</li> <li>• equipment</li> <li>• staff qualifications and experience</li> <li>• trainee entry standards</li> <li>• course programme and syllabus</li> <li>• minimum performance standards of trainees for the issue of a certificate or other document attesting success</li> </ul> </li> <li>3) state that trainee intake limitations should be specified in the light of facilities and equipment available</li> <li>4) state that the capabilities and performance standards of necessary equipment should be specified</li> <li>5) list the factors to consider for the use of simulators in conducting training and assessment</li> <li>6) state that the qualifications and experience of instructors must be laid down</li> <li>7) explain that the provision of support staff and technicians capable of servicing equipment may be taken into account when considering course approvals</li> <li>8) state that entry standards for trainees should be prescribed</li> <li>9) explain that provision to allow the admission of trainees who do not fully meet the prescribed entry standard can be included in the specifications on condition that they undergo extra initial training</li> <li>10) state that guidelines on the course programme, content of the syllabus and minimum period of training should be specified, but the detailed course curriculum and syllabus may be submitted by the training establishment as part of the application for approval</li> <li>11) state that the form of examination or continuous assessment and the criteria for their successful completion should be laid down</li> <li>12) state that conditions for reassessment may be included</li> <li>13) state that the form of document attesting success should be specified</li> <li>14) draw up a specification of standards for a module of a training and assessment programme to satisfy a given requirement or recommendation of the STCW Convention</li> <li>15) explain that, when equipment specifications are updated, approvals for existing equipment should be continued for a reasonable time to allow for replacement or updating</li> </ol>			<p>AI &amp; Activity 5</p>
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<p>explain how IMO model courses can be used to assist in drawing up specifications</p>			
<p><b>5.2 Evaluation against standards (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that a formal application to the Administration for approval or re-approval of training should be required from a training establishment</li> <li>2) state that the application should contain sufficient information on facilities, equipment, staff and the intended course programme to enable evaluation against the specified standards</li> <li>3) state that, before approval, a visit to the training establishment should be made by an officer of the Administration to: <ul style="list-style-type: none"> <li>• check the facilities and that necessary equipment is in place and functioning satisfactorily</li> <li>• discuss the training programme and syllabus with the course organizer and, if possible, the instructors who will be involved</li> <li>• ensure that the intended assessment procedure are satisfactory</li> </ul> </li> <li>4) explain why, in the case of internally examined courses for certificates of competency, it is advisable to require submission of specimen examination papers, model answers and marking schemes as part of the approval procedure</li> <li>5) state that specimen examination papers may be produced by the Administration as guidance to training establishments on the type of assessment expected</li> <li>6) state that approval for new training courses should initially be conditional upon satisfactory completion of the first course state that examiner from the Administration should monitor the first course or selected parts of it</li> </ol>			<p>A1 &amp; Activity 5</p>
<p><b>5.3 Maintenance of standards (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that approvals may be granted for a limited period, after which re-approval should be sought</li> <li>2) state that approvals should: <ul style="list-style-type: none"> <li>• require notification of changes in courses, equipment or instructors</li> <li>• reserve the right to monitor all or part of a course without notice</li> <li>• include arrangements for moderation of assessments</li> <li>• stipulate the records to be kept and reports to be made to the Administration</li> </ul> </li> <li>3) explain that moderation may be carried out by the Administration or by independent moderators, appointed either by the Administration or, subject to</li> </ol>			

<p>their approval, by the training establishment</p> <p>4) state that moderators should:</p> <ul style="list-style-type: none"> <li>• approve examination papers, marking schemes and arrangements for continuous assessment in advance</li> <li>• have the right to substitute a question or questions of their own in an examination paper</li> <li>• scrutinize marked scripts and adjust the marks if necessary</li> <li>• be a member of the board of examiners if such a board is established</li> <li>• submit reports to the Administration</li> </ul> <p>5) state that the Administration has the right to inspect assessment/examination scripts</p> <p>6) explain how the Administration can use an oral test, forming part of the overall assessment, as an indicator of course standards</p> <p>7) state that training establishments should refer all proposals to accept trainees who do not meet the entry standards to the Administration</p> <p>8) state that training establishments should be asked to comment on unusually high or low pass rates</p> <p>9) explain how standards can be maintained and improved by periodic meetings of teachers and examiners from the Administration</p>			
<p><b>6 Competence-Based Standards (10.0 hours)</b></p> <p><b>6.1 Competence-based training (0.75 hour)</b></p> <p>1) state that certificates of competency have been a feature of employment at sea for many years</p> <p>2) state that traditionally, the education and training programmes built around the requirements for the various grades of certificates include:</p> <ul style="list-style-type: none"> <li>• practical experience at sea</li> <li>• the skills, knowledge and understanding that underpin satisfactory performance of shipboard duties</li> </ul> <p>3) explain that the system outlined in paragraphs 6.1.1 and 6.1.2 has been in use prior to the 2010 Manila Amendments to the STCW Convention</p> <p>4) explain that the 2010 amendments to the STCW Convention, define the requirements of the competence in more explicit terms, together with the outcomes to be achieved, measured and assessed</p> <p>5) state that the objective is to establish a clearly defined single set of standards of competence recognized by all concerned</p> <p>6) state that competence standards enable:</p> <ul style="list-style-type: none"> <li>• the industry to specify its requirements and the training to be based on them</li> <li>• training to be responsive to the needs of the industry</li> <li>• establishment of benchmarks for delivery of training.</li> </ul>	R1	B5, B6, B7, B8	A1 & Activity 6



<p>certification and recognition of individual capability</p> <p>7) state that the broad approach to competence capability should also reflect personal effectiveness in acquiring general and relevant skills, knowledge and understanding of the performance of required tasks taking into account:</p> <ul style="list-style-type: none"> <li>• the ability to cope with the demands of the working environment, including the ability to work with other people</li> <li>• the ability to cope with emergencies and allowing for all contingencies that may arise</li> </ul> <p>8) state that the development of competence-based qualifications for seafarers involves:</p> <ul style="list-style-type: none"> <li>• making the desired learning outcome explicit</li> <li>• ensuring that assessment incorporates performance ability and application in practice</li> <li>• providing a range of learning opportunities to individuals to facilitate access to new qualifications and career advancement</li> </ul>			
<p><b>6.2 Table of competence in the STCW Code (2.25 hours)</b></p> <p>1) state that the competence standards are grouped within a framework of seven functions at three levels of responsibility</p> <p>2) state the format of the table of competence as consisting:</p> <ul style="list-style-type: none"> <li>• the title of a general area of competence (Column 1 of table)</li> <li>• the description of outcomes (Column 2 of table)</li> <li>• the range of contexts and activities to which the performance criteria for the desired outcomes apply (Column 3 of table)</li> <li>• the performance criteria (Column 4 of table)</li> </ul> <p>3) construct the comparison table showing compliance with standards</p> <p>4) explain that competences may be applicable for different functions, and this flexibility led to chapter VII on "Alternative Certification"</p> <p>5) list an example to paragraph 6.2.4 above as:</p> <ul style="list-style-type: none"> <li>• some competences found in the function <i>Controlling the operation of the ship and care for persons on-board at the operational level</i> are common to both officer in charge of a navigational watch and officer in charge of an engineering watch</li> </ul> <p>6) develop applicable competence for special training requirements</p> <p>7) state that the higher the level of responsibility, the more of the following will be required:</p> <ul style="list-style-type: none"> <li>• breadth and range of competence</li> <li>• depth and breadth of knowledge and understanding</li> </ul>	R1		A1 & Activity 6

<ul style="list-style-type: none"> <li>• capability in dealing with complexity and difficulty</li> <li>• specialized capabilities</li> <li>• ability to transfer competence from one work context to another</li> <li>• ability to innovate and cope with non-routine activities</li> <li>• ability to recognize and plan work</li> <li>• ability to supervise and lead others</li> </ul>			
<p><b>6.3 Competence-based assessment (4.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) explain that traditionally, seafarer training and qualification arrangements have been based on: <ul style="list-style-type: none"> <li>• the sea service requirement, to gain adequate experience and acquire skills</li> <li>• written examinations, to test knowledge and understanding of subject relevant to the work involved</li> </ul> </li> <li>2) state that one of the key components of competence-based standards and qualifications is the assessment process</li> <li>3) state that the assessment must effectively evaluate competence in performance of tasks in line with the performance criteria</li> <li>4) given a specific function, analyse tasks involved</li> <li>5) given a specific task, analyse the knowledge and skills required</li> <li>6) state that assessment is the process of obtaining and comparing evidence with the standards</li> <li>7) state that the assessment must aim to ensure that sufficient, reliable and verifiable evidence is available</li> <li>8) explain that the traditional methods of seafarer training and certification stated in paragraph 6.3.1 above have their drawbacks</li> <li>9) state that performance aboard ship can be a valuable source of evidence of competence alongside some of the more familiar and traditional methods of evaluating competence</li> <li>10) state that the STCW Convention specifies the methods and criteria for demonstrating and evaluating competences listed in the competence tables</li> <li>11) describe and provide examples of the criterion-referenced assessment and the norm-referenced assessment</li> <li>12) state that tables of competence in the STCW Convention most closely resemble the criterion-referenced model</li> <li>13) explain that all forms of assessment concern the collection of evidence to match against defined standards</li> <li>14) explain that it is the purpose of the assessment which</li> </ol>	R1	B1, B5, B6, B7, B8, B10, B11	A1 & Activity 6

<p>determine the nature and process of the assessment system</p> <p>15) define the purpose of competence-based assessment</p> <p>16) describe key principles in the competence-based assessment approach, including:</p> <ul style="list-style-type: none"> <li>• focus on outcome</li> <li>• individualized assessment</li> <li>• no percentage rating</li> <li>• no comparison with other individuals' results</li> <li>• all standards/requirements must be met</li> <li>• on-going process, leading to further development and assessment</li> <li>• only "competent" or "not yet competent" judgements made</li> </ul> <p>17) list the three key aspects of competent performance provided by the standards of competence, as:</p> <ul style="list-style-type: none"> <li>• what has to be achieved (outcomes)</li> <li>• how well it must be achieved (performance criteria)</li> <li>• in what context/condition/activities (range statement)</li> </ul> <p>18) given a general training objective, or knowledge or skill required, generate detailed learning outcomes on which tests items may be based</p> <p>19) state that the competence-based assessment process includes establishing and agreeing on the assessment plan between the assessor and the candidate</p> <p>20) list the various influences on the assessment process including:</p> <ul style="list-style-type: none"> <li>• a sense of direction</li> <li>• illusion of validity</li> <li>• stereotyping</li> <li>• halo and horns effects</li> <li>• the 'Hawthorne' effect</li> <li>• contrast effect</li> <li>• recency effect</li> </ul> <p>21) state that in a competence-based assessment and certification system, individuals achieve a certificate when they can demonstrate performance which meets all the required standards</p> <p>22) list other uses of competence-based assessment system, including:</p> <ul style="list-style-type: none"> <li>• a basis of performance appraisal</li> <li>• identification of training needs</li> <li>• a tool for skills audit</li> <li>• a base for staff selection and recruitment</li> <li>• evaluating training effectiveness</li> </ul>			
<p><b>6.4 Collecting and matching evidence to standards (2.0 hours)</b></p> <p>1) state that assessment is about making judgements, and involves reviewing evidence presented to make a</p>	R1	B4, B5, B6, B7, B8, B10, B11	A1 & Activity 6

<p>confident decision of "competent" or "not yet competent"</p> <ol style="list-style-type: none"> <li>2) describe the various methods of assessment including: <ul style="list-style-type: none"> <li>• observation of performance</li> <li>• skills test</li> <li>• simulation exercises</li> <li>• project or assignment</li> <li>• oral questioning</li> <li>• written examination</li> <li>• multiple-choice question</li> </ul> </li> <li>3) discuss the strengths and weaknesses of each method indicated in paragraph 6.4.2</li> <li>4) list the four key components that influence choice of methods as: <ul style="list-style-type: none"> <li>• the required standards of competence</li> <li>• the assessment framework</li> <li>• the context of assessment</li> <li>• skills of assessor</li> </ul> </li> <li>5) explain that the use of various methods should take into account: <ul style="list-style-type: none"> <li>• the evidence required</li> <li>• the amount of the evidence required</li> <li>• the quality of the evidence generated from the method</li> </ul> </li> <li>6) state that some of the methods provide evidence of performance, while others provide evidence of knowledge and understanding (refer to Bloom's Taxonomy)</li> <li>7) state that it is the application of knowledge and understanding that is of key interest in a competence-based assessment system</li> <li>8) construct a table of specifications and explains its use in drawing up an assessment/examination</li> <li>9) outline the considerations under which multiple assessors may be used</li> <li>10) list the sources of evidence of a candidate's performance</li> <li>11) explain the different types of evidence, including: <ul style="list-style-type: none"> <li>• performance evidence</li> <li>• knowledge evidence</li> <li>• direct or primary evidence</li> <li>• indirect evidence</li> <li>• supporting evidence</li> <li>• supplementary evidence</li> <li>• historical evidence</li> </ul> </li> <li>12) state that the assessment plan should be flexible so as to assess the candidate in variety of ways, taking into account operational constraints</li> <li>13) state that wherever possible, assessment should take place in the workplace with observation of normal</li> </ol>			
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<p>workplace activity</p> <p>14) state that workplace assessment may not always be possible, either:</p> <ul style="list-style-type: none"> <li>• because of lack of opportunity to assess the full range of activity, or</li> <li>• the environment is not conducive, such as noise level too high or safety may be compromised</li> </ul> <p>15) state that in such cases mentioned in paragraph 6.4.14 above, other forms/combination/location of assessment will need to be set-up and managed to gather sufficient high quality evidence</p> <p>16) state that in all methods and forms of assessment there should be transparency, validity and reliability in the system</p> <p>17) state that to ensure quality, all evidence collected should be valid, authentic, current, and in sufficient amount</p> <p>18) state that in the matching and judging stages of competence-based assessment, the following guidelines are helpful:</p> <ul style="list-style-type: none"> <li>• all standards to be assessed</li> <li>• evidence should relate clearly to standards</li> <li>• sufficient evidence is generated in normal or realistic conditions</li> <li>• the assessment process is individualized, with no comparison to other candidates</li> <li>• evidence should be traceable to source and kept on record</li> <li>• the assessment process should not put additional pressure on both assessor and candidate</li> </ul>			
<p><b>6.5 Review and follow-up (0.5 hour)</b></p> <p>1) explain that the assessment process may reveal the candidate's performance "gaps"</p> <p>2) state that "gaps" indicate either a lack of opportunity to demonstrate competence or lack of experience/skills/knowledge</p> <p>3) state that the candidate is to be provided with feedback on the "gaps", and his/her training and development needs identified as necessary</p> <p>4) state that there should be properly laid out procedures for recording the assessment, including the plan, evidence collected, result of assessment, training and development recommendations, etc.</p> <p>5) state that there should be properly laid out procedures for providing the follow-up actions, including awarding the certificate to candidate or plan for re-assessment</p>			A1 & Activity 6
<p><b>6.6 Quality assurance (0.5 hour)</b></p> <p>1) state that an effective quality assurance model is</p>	R1		A1 & Activity 6

<p>required to be in place to ensure that the standards and the credibility of the competence-based assessment system is maintained</p> <ol style="list-style-type: none"> <li>2) explain how the selection, training and monitoring of assessors affect quality assurance in the competence-based assessment system</li> <li>3) outline the requirements and characteristics that are essential in the proper selection, training and monitoring of assessors</li> <li>4) outline the framework to ensure that quality control is maintained in the system</li> <li>5) define the role and responsibilities of the internal verifier or auditor</li> <li>6) define the role and responsibilities of the external verifier or auditor, and the organization he/she represents</li> </ol>			
<p><b>7 Developing Written Tests (8.75 hours)</b>  <b>7.1 Examination methodology (0.75 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that the purpose of examination is to assess the adequacy and suitability of the experience, the adequacy of training and the knowledge, skill and practical competence of seafarers</li> <li>2) state that the seafarers, in addition to paragraph 7.1.1 above, must also be certified medically fit for sea duty</li> <li>3) explain the function of job analysis in determining the knowledge and skills required to discharge the responsibilities, duties and functions of an identified post competently</li> <li>4) differentiate between an examination syllabus and teaching syllabus and between general training objectives and detailed learning outcomes</li> <li>5) identify sources of the international mandatory minimum knowledge requirements as being the revised STCW regulations and their annexes, the IBC, Polar and IGC Codes, the ITU Radio Regulations and Maritime Labour Convention, as appropriate</li> <li>6) explain the status of IMO Assembly resolutions and MSC circulars</li> <li>7) explain what is meant by minimal interpretation of mandatory instruments</li> <li>8) explain how IMO model courses may be used as guidance so that the minimum standards of competence implemented may be as uniform as possible</li> <li>9) state that the examination format may consist of written, oral and practical tests, and continuous assessment</li> <li>10) state that written tests may be of the subjective or</li> </ol>		B4, B9	A1 & Activity 7

<p>objective type</p> <ol style="list-style-type: none"> <li>11) describe the subjective-type test as demanding an essay or précis response, the quality and completeness of which must be subjectively assessed by the scorer</li> <li>12) describe an objective-type test as demanding completion or selection of a response which involves little or no subjective assessment of its completeness and quality by the scorer</li> <li>13) list the types of objective tests as true/false, matching, multiple-choice or coded multiple-choice items</li> <li>14) state that supply-type questions consisting of completion or short answer test may be regarded as falling between the definitions of subjective and objective tests</li> </ol>			
<p><b>7.2 Quality of tests (0.75 hour)</b></p> <ol style="list-style-type: none"> <li>1) describe the desired qualities of an examination as relating to: <ul style="list-style-type: none"> <li>• content validity</li> <li>• criterion-related validity</li> <li>• item validity</li> <li>• reliability</li> <li>• discrimination</li> <li>• usability</li> </ul> </li> <li>2) explain that the content validity (balance) of a test is a measure of how well the test content is representative of the range of tasks to be measured</li> <li>3) explain that the weighting of the test in measuring knowledge, comprehension and application of concepts should equate to the practical use made of the topic in the task concerned</li> <li>4) explain that the criterion-related validity of a test is a measure of how well the test estimates or predicts the candidate's on-the-job performance</li> <li>5) outline the performance criteria for seafarers given in the STCW Code</li> <li>6) explain the need to establish the criterion-related validity of the examination process for seafarers</li> <li>7) explain that item validity is a measure of the appropriateness of that individual item in the area concerned</li> <li>8) explain that a test item may prove to be invalid because of: <ul style="list-style-type: none"> <li>• inappropriate level of difficulty</li> <li>• poor construction</li> <li>• inappropriateness of learning outcome tested</li> </ul> </li> <li>9) explain that the reliability of a test is a measure of its ability to produce consistency of results</li> </ol>		B9	A1 & Activity 7

<p>10) explain the link between examination reliability and comprehensiveness</p> <p>11) explain that the discrimination power of a test item is a measure of its ability to discriminate between the more competent and the less competent candidates</p> <p>12) explain that the discrimination power of an examination is a measure of its ability to pass those who are competent and to fail those who are not</p> <p>13) explain the factors, which affect discrimination</p> <p>14) state that examinations should be easy and economical to administer</p>			
<p><b>7.3 Subjective-type tests (0.75 hour)</b></p> <p>1) state that good subjective-type examination should test:</p> <ul style="list-style-type: none"> <li>• breadth of knowledge</li> <li>• depth of knowledge</li> <li>• comprehension of principles, concepts and methodology</li> <li>• ability to apply principles, concepts and methodology</li> <li>• ability to organize facts, idea and arguments</li> </ul> <p>2) state that a good subjective question:</p> <ul style="list-style-type: none"> <li>• is as brief as possible</li> <li>• is clear</li> <li>• is complete</li> <li>• contains no extraneous information</li> <li>• measures an outcome that is essential to the job</li> </ul> <p>3) give examples of uses to which subjective test items may best be put</p> <p>4) describe the advantages of an essay-type test</p> <p>5) describe the weaknesses of an essay-type test</p> <p>6) generate subjective-type questions to test achievement of specific learning outcomes</p>		B4	A1 & Activity 7
<p><b>7.4 Supply-type tests (0.5 hour)</b></p> <p>1) explain that supply-type tests may be of the 'completion' or 'short-answer' types</p> <p>2) give examples of uses to which supply-type test items may best be put</p> <p>3) describe the advantages of an supply-type test item</p> <p>4) describe the weaknesses of an supply-type test item</p> <p>5) generate supply-type test item to test that specific learning outcomes have been achieved</p>			A1 & Activity 7
<p><b>7.5 Objective-type tests (3.0 hours)</b></p> <p>1) explain that objective tests may be of the 'true/false', 'matching', or 'multiple-choice' types</p> <p>2) give examples of uses to which the true/false test item may best be put</p>		B9, B16	A1 & Activity 7



<ol style="list-style-type: none"> <li>3) explain the advantages of the true/false test item</li> <li>4) explain the weaknesses of the true/false test item</li> <li>5) explain what is meant by the guess factor and how this can be compensated for in scoring this type of test</li> <li>6) generate true/false test items to test that specific learning outcomes have been achieved</li> <li>7) give examples of uses to which a test item of matching test may best be put</li> <li>8) explain the advantages of the matching-test item</li> <li>9) explain the weaknesses of the matching-test item</li> <li>10) generate items for a matching test to determine if specific learning outcomes have been achieved</li> <li>11) state that the answer to multiple-choice question may be of the 'best answer' type or the 'correct answer' type</li> <li>12) state that in its most widely used form a multiple-choice item consists of a stem, which poses the situation, followed by a number of alternative responses, one of which is 'best' or 'correct' in the situation</li> <li>13) give examples of uses to which a multiple-choice-type test item may best be put</li> <li>14) describe the advantages of the multiple-choice-type test item</li> <li>15) describe the weaknesses of the multiple-choice-type test item</li> <li>16) state that, where selection of the 'best' response is called for, that response may not be 'correct' or 'true' in all situations</li> <li>17) state that the remaining responses are 'distracters' or 'foils', which must be plausible</li> <li>18) describe how to construct plausible distracters</li> <li>19) generate multiple-choice items which: <ul style="list-style-type: none"> <li>• pose the situation in the stem</li> <li>• measure outcomes essential to the job</li> <li>• has only indisputable answer</li> <li>• contain no clues in the stem</li> <li>• are grammatically consistent</li> <li>• discriminate misconceptions, through pertinent, reasonable, plausible, distinct, but incorrect distracters</li> <li>• have responses arranged in a logical order</li> <li>• have responses of approximately equal length</li> <li>• use negative words only when appropriate</li> <li>• are free of irrelevant response</li> <li>• have the best response randomly placed</li> <li>• use only standard accepted abbreviations</li> <li>• avoid absolute terms such as 'never' and 'always'</li> </ul> </li> <li>20) given specific learning outcomes, generate multiple-</li> </ol>			
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<p>choice items which test:</p> <ul style="list-style-type: none"> <li>• knowledge of facts, principles, concepts or methodology</li> <li>• comprehension of principles, concepts or methodology</li> <li>• application of principles, concepts or methodology</li> </ul> <p>21) generate coded and illustration-type multiple-choice items and identify suitable areas of application for test items of this nature</p>			
<p><b>7.6 Calculations (0.75 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that ability to perform calculations may be assessed by requiring the complete solution of selected problems (gross sampling)</li> <li>2) state that ability to perform calculations may also be assessed by detailed sampling</li> <li>3) describe a procedure for gross sampling</li> <li>4) describe a procedure for detailed sampling</li> <li>5) differentiate between procedural items and step test items</li> <li>6) discuss advantages and disadvantages of gross and detailed sampling</li> <li>7) given an item for a gross sampling test, compile a series of items for a 'detailed sampling' test that covers all procedure and steps</li> </ol>			A1 & Activity 7
<p><b>7.7 Compiling tests (2.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) explain why the types of test items used in a test should be as consistent as possible and that, if varied, like items should be grouped together</li> <li>2) state that the type of test used should be that which best assesses the learning outcome or ability</li> <li>3) explain why the number of alternative responses used in an examination consisting of a series of multiple-choice test items should not be varied within a discrete section of the examination</li> <li>4) state that the number of alternative responses used in a multiple-choice test varies the 'guess factor'</li> <li>5) state that instructions for completion of tests should be concise and clear</li> <li>6) explain how test items should be distributed in a test according to their level of difficulty</li> <li>7) explain how the sequence of correct responses in a multiple-choice test should not form a recognizable pattern on the answer sheet</li> <li>8) state that a table of specifications should be constructed and used for each topic area</li> <li>9) state that the compiled test should be comprehensive</li> <li>10) state that data banks of test items may be kept in card form or in computerized form</li> <li>11) state that series of tests may also be kept as</li> </ol>		B4, B9	A1 & Activity 7

<p>examination papers or booklets</p> <ol style="list-style-type: none"> <li>12) state that completed answer sheets for multiple-choice tests may be scored manually, by electronic scanning equipment or by computer-based testing software</li> <li>13) state that plastic templates may be used to score the answer sheets of multiple-choice tests manually</li> <li>14) given a subject area of an examination syllabus, generate a subjective-type examination paper to effectively assess competence</li> <li>15) given a subject area of an examination syllabus, generates a test to measure the competence of candidates efficiently, effectively and economically</li> <li>16) explain security measures necessary to prevent compromising of test material</li> <li>17) state that if the topic coverage of a databank of test items for a multiple-choice-type test is comprehensive, the examinee's prior knowledge of individual test items need not compromise the outcome of such a test</li> </ol>			
<p><b>7.8 Simulator-based tests (0.25 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that testing with simulators allows for collecting evidence of competence related to: <ul style="list-style-type: none"> <li>• psychomotor skills</li> <li>• cognitive skills</li> <li>• decision-making skills</li> <li>• teamwork skills</li> </ul> </li> <li>2) discuss the advantages and disadvantages of simulator-based testing including: <ul style="list-style-type: none"> <li>• limitations in time</li> <li>• economy of resources</li> <li>• replication of reality/fidelity</li> </ul> </li> <li>3) design simulation exercise <ul style="list-style-type: none"> <li>• define performance outcomes/standards</li> <li>• define range of performance acceptability</li> <li>• define criteria for assessing performance</li> </ul> </li> <li>4) state the factors to be considered for selection of type and class of simulator for assessment including: <ul style="list-style-type: none"> <li>• competence to be examined for</li> <li>• fidelity of simulation required</li> </ul> </li> <li>5) State that the simulator-based assessment should be indicted on a written document showing:</li> <li>6) state the importance of the following: <ul style="list-style-type: none"> <li>• assessor rehearsal of simulation exercise</li> <li>• trainee familiarization with simulator</li> <li>• briefing of trainees of the simulator exercise scenario</li> <li>• competence in line with the performance criteria</li> </ul> </li> <li>7) differentiate between the performance outcomes required for:</li> </ol>			

<ul style="list-style-type: none"> <li>• evidence of performance</li> <li>• evidence of knowledge and understanding</li> </ul> <p>8) differentiate between tests to ascertain:</p> <ul style="list-style-type: none"> <li>• knowledge</li> <li>• skill</li> <li>• teamwork</li> </ul> <p>9) given a specific function, analyse tasks involved for incorporation in a simulator-based test</p> <p>10) given a specific task, analyse the knowledge and skills required</p> <p>11) state the importance of simulator familiarization training before simulator-based test</p>			
<p><b>8 Invigilation of Tests (2.0 hours)</b></p> <p><b>8.1 Written tests (0.5 hour)</b></p> <ol style="list-style-type: none"> <li>1) distinguish between open-book and closed-book test</li> <li>2) state that an examinations officer should be appointed to take charge of all administration for each examination, including its invigilation</li> <li>3) state that the examinations officer should provide invigilators with written instructions on the general conduct of examinations and the special requirements for particular tests</li> <li>4) state that instructions on the general conduct of examinations should include: <ul style="list-style-type: none"> <li>• means of positive identification of candidates</li> <li>• policy on late arrivals</li> <li>• the earliest time at which candidates may leave</li> <li>• security of examination papers, answer books and papers, their collection and their return</li> <li>• a list of permitted personal publications, and calculators</li> <li>• conditions under which a candidate may temporarily leave the examination room</li> <li>• rules on permitted communications</li> <li>• guidelines on the disposal of rough working and cancelled answers</li> <li>• what to do about damage or detachment of examination publications and equipment</li> <li>• procedure in the event of suspect cheating or other irregularities</li> <li>• telephone number(s) (or other contact information) to use in case of queries or difficulties</li> </ul> </li> <li>5) explain why there should always be a minimum of two invigilators per examination room</li> <li>6) state that invigilators should not undertake any other tasks during the invigilation of an examination</li> <li>7) state that the times of starting and of finishing, by the clock in the examination room, should be clearly displayed</li> </ol>			<p style="text-align: right;">A1 &amp; Activity 8</p>

<p>8) describe how to prepare an examination room regarding the spacing of desks and the seating of candidates for a written test state the benefits of and issues surrounding the use of closed-circuit television (CCTV) cameras</p>			
<p><b>8.2 Publications and equipment (0.5 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that publications and equipment to be provided by the examining authority should be indicated at the head of examination papers</li> <li>2) explain that the examinations officer must know requirements in advance, to ensure that an adequate supply of publications or of equipment is available</li> <li>3) state that necessary and permitted personal publications and equipment should be included in the published examination rules available to candidates</li> <li>4) describe the checks which invigilators should make of personal publications and equipment</li> <li>5) explain how to deal with cases of damage to or defacement of examination property</li> </ol>			
<p><b>8.3 Communications (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that, in general, no communication between candidates, whether verbal or written, should be allowed and any queries must be directed to an invigilator</li> <li>2) explain how sharing of publications, equipment and calculators has potential for cheating and states that it should be prohibited</li> <li>3) draw up a written statement of the administrative arrangements for an examination, including a set of instructions to invigilators on the conduct of an examination</li> </ol>			
<p><b>9 Scoring Tests (2.5 hours)</b></p> <p><b>9.1 Scoring subjective tests (1.5 hours)</b></p> <ol style="list-style-type: none"> <li>1) distinguish between credit scoring and deductive scoring</li> <li>2) define: <ul style="list-style-type: none"> <li>• error of principle</li> <li>• major errors</li> <li>• clerical errors</li> </ul> </li> <li>3) explain how weighing can be applied in deductive scoring to: <ul style="list-style-type: none"> <li>• errors of principle</li> <li>• major errors</li> <li>• clerical errors</li> </ul> </li> <li>4) state that deductions may exceed the score for a question, in which case a zero score is assigned</li> <li>5) explain how credit scoring can be weighted with</li> </ol>		B4, B9	A1 & Activity 9

<p>respect to method and clerical accuracy</p> <ol style="list-style-type: none"> <li>6) state that calculation problems should be broken down into steps, with scores being assigned to method, to extraction of data from tables or other sources and to correct answer at each step</li> <li>7) state that accuracy limits for a correct answer should form part of the scoring scheme</li> <li>8) state that criteria for credit for neatness and orderliness of working (if any) should be stated in the scoring scheme</li> <li>9) state that deduction for errors or lack of accuracy should be unambiguously defined in deductive scoring schemes</li> <li>10) state that a well-defined scoring scheme will give the same score when applied by different markers</li> <li>11) explain how to deal with answer produced by a calculator, not showing the method used</li> <li>12) describe how a scoring scheme can be produced for an essay question</li> <li>13) given an essay question, produces scoring schemes for both credit scoring and deductive scoring</li> <li>14) explain how to deal with doubtful responses</li> <li>15) state that scores for questions may be weighted to reflect their importance or difficulty</li> <li>16) explain the use of compulsory and optional questions in a paper</li> <li>17) state that optional questions should all be of similar standard and be weighted equally</li> <li>18) state that the pass mark is set at the lowest score for which sufficient skills and knowledge have been demonstrated for the examinee to be judged to be competent in the subject being tested state that the pass mark is often fixed for administrative convenience, and explain how that affects the development of tests</li> </ol>			
<p><b>9.2 Scoring objective tests (0.5 hour)</b></p> <ol style="list-style-type: none"> <li>1) state that simple credit scoring is usually employed</li> <li>2) state that deductions may be made for: <ul style="list-style-type: none"> <li>• nil response</li> <li>• multiple response</li> <li>• wrong response</li> </ul> </li> <li>3) state that credits and deductions may be weighted</li> <li>4) explain that a criterion-referenced test is intended to measure how many learning outcomes have been realized, and that a deductive scoring scheme complicates the interpretation of results and the setting of a pass mark</li> <li>5) explain how different types of objective tests, forming part of the same paper, may be weighted</li> <li>6) explain how chance scoring affects total scores in</li> </ol>			

<p>simple credit scoring</p> <p>7) state that the pass mark should be the number of criteria, which it is necessary to satisfy for the examinee to be judged to have demonstrated competency in the subject of the test explain how the pass mark can be adjusted to take account of chance scores</p>			
<p><b>9.3 Reviewing marginal cases (0.5 hour)</b></p> <p>1) define a marginal case as a score within 5% either side of the pass mark</p> <p>2) state that all marginal cases should be reviewed for:</p> <ul style="list-style-type: none"> <li>• completeness of marking</li> <li>• correct recording of scores</li> </ul> <p>3) state that, for objective tests, the score after review is accepted</p> <p>4) state that marginal subjective tests should be independently marked by a second marker, as a check on the correct application of the scoring scheme</p> <p>5) describe how to re-mark and adjust scores after the decision on whether to pass or fail has been made</p>			
<p><b>10 Oral and Practical Tests (2.0 hours)</b></p> <p>1) state that Administrations may require an oral and practical test on topics essential to safety, as part of the examination, for issue of certificates of competency</p> <p>2) explain advantages and disadvantages of such a requirement</p> <p>3) explain how an oral test and how a practical test should be conducted</p> <p>4) summarize a process for assuring proper coverage of the syllabus and a fair assessment</p> <p>5) explain the use of objective tests for screening</p> <p>6) outline a procedure for conducting communications</p> <p>7) explain the use which may be made of models and simulators</p> <p>draw up a test specification and a scoring scheme for a given oral or practical examination</p>			<p>A1 &amp; Activity 10</p>
<p><b>11 Shipboard Assessment (0.5 hour)</b></p> <p>1) define shipboard assessment</p> <p>2) define performance outcome</p> <p>3) define performance measure</p> <p>4) define performance standard</p> <p>5) list the issues to take into account when preparing and conducting shipboard assessment</p> <p>6) state that shipboard assessment should be carried out in accordance with regulation I/6 of the STCW Convention and section A-I/6 of STCW Code</p>			

7) list the stages of developing shipboard assessment methods indicate that IMO Model Course 1.30 on "Shipboard Assessment" covers this topic in detail			
<p><b>12 Maintenance of Standard (7.0 hours)</b></p> <p><b>12.1 Review of test material (3.0 hours)</b></p> <ol style="list-style-type: none"> <li>1) explain a procedure for initial review of the content of new and revised test item</li> <li>2) explain how the adequacy of a test may be evaluated against task criteria</li> <li>3) explain how a statistical review of items for an objective test may be carried out</li> <li>4) explain the meaning and use of: <ul style="list-style-type: none"> <li>• level of difficulty (<i>P</i>-value) of a test item</li> <li>• cumulative and composite <i>P</i>-values</li> <li>• discrimination index (<i>D</i>-value) (coefficient of correlation) of a test item</li> <li>• population</li> <li>• frequency distribution of test results</li> </ul> </li> <li>5) given statistics on the results of a series of tests: <ul style="list-style-type: none"> <li>• calculate the <i>P</i>-values of individual test items</li> <li>• calculate the cumulative <i>P</i>-values of individual test items</li> <li>• calculate the (<i>D</i>-value) (coefficient of correlation) of a test item</li> <li>• plot the frequency distribution of results of the test and discuss the discrimination performance of the test as a whole</li> </ul> </li> <li>6) explain the usefulness of <i>P</i>- and <i>D</i>-values in assessing the quality of test items in criterion-related tests</li> <li>7) discuss desired <i>P</i>-values</li> <li>8) discuss desired <i>D</i>-values</li> <li>9) describe the content of a test-item label</li> <li>10) state that, to allow efficient and effective compilation of examination sets, test items drawn from a data bank must be coded for: <ul style="list-style-type: none"> <li>• subject topic</li> <li>• ability tested</li> <li>• level of difficulty</li> </ul> </li> <li>11) describe how <i>P</i>-values can be used to maintain a consistent standard of examination</li> <li>12) given flawed test items, identify and corrects weakness in them</li> <li>13) appraise various methods and ranges for evaluating competence</li> </ol>		B4, B9	A1 & Activity 12
<p><b>12.2 Failures (0.5 hour)</b></p> <ol style="list-style-type: none"> <li>1) describe an effective procedure for controlling the</li> </ol>			



<p>re-examination of candidates who have failed</p> <ol style="list-style-type: none"> <li>2) describe advantages and disadvantages of awarding partial passes in an examination system</li> <li>3) explain how failing candidates may be advised of weaknesses demonstrated in their answers</li> <li>4) state that any weakness demonstrated by many candidates should be brought to the attention of the training institution concerned</li> </ol>			
<p><b>12.3 Appeals (0.5 hour)</b></p> <ol style="list-style-type: none"> <li>1) outline procedures for dealing effectively and fairly with appeals concerning: <ul style="list-style-type: none"> <li>• acceptance of sea service</li> <li>• medical fitness</li> <li>• attendance at approved training courses</li> <li>• written tests</li> <li>• oral and practical tests</li> </ul> </li> </ol>			
<p><b>12.4 Recognizing certificates (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) describe a procedure for recognizing certificates issued by another flag Administration in accordance with STCW Convention, regulation I/10</li> <li>2) given an applicant for a certificate who already holds a certificate issued by another Administration, identify criteria to determine: <ul style="list-style-type: none"> <li>• the equivalence of the foreign certificate</li> <li>• such further actions as may be necessary to allow an appropriate certificate to be issued</li> </ul> </li> <li>3) describe how the validity of certificates issued by other Administrations may be verified</li> <li>4) explain difficulties, which may arise concerning administrative control</li> </ol>			A1 & Activity 12
<p><b>12.5 Dispensations, exemptions and equivalents (1.0 hour)</b></p> <ol style="list-style-type: none"> <li>1) describe condition under which dispensations may be issued under the STCW Convention</li> <li>2) generate examples of 'circumstances of exceptional necessity'</li> <li>3) generate example of circumstances of 'force majeure' giving rise to the need for dispensation</li> <li>4) describe how to deal with an application for a dispensation for an officer to temporarily fill a post more senior than that which he/she is certificated to fill</li> <li>5) describe how to deal with an application for a dispensation for an uncertificated seafarer to temporarily fill a post for which a certificated person is required</li> <li>6) state that the STCW Convention requires</li> </ol>			A1 & Activity 12

<p>Administrations to ensure that a post filled by a person holding a dispensation is filled by the holder of an appropriate certificate as soon as possible</p> <ol style="list-style-type: none"> <li>7) generate a document suitable for issue as a dispensation</li> <li>8) describe the circumstances under which an Administration can vary the mandatory minimum requirements for certificates issued under the STCW Convention</li> <li>9) discuss the use which may be made of equivalents under the STCW Convention</li> </ol>			
<p><b>12.6 Revalidation of certificates (0.25 hour)</b></p> <ol style="list-style-type: none"> <li>1) explain requirements of the STCW Convention regarding revalidation</li> <li>2) explain the process to be applied to confirm competence for revalidation</li> <li>3) refer to Table B-1/2 in the STCW Code as indicating a list of certificates or documentary evidence required under the STCW Convention together with the requirement for endorsement, registration and revalidation</li> </ol>			
<p><b>12.7 Suspension and revocation (0.75 hours)</b></p> <ol style="list-style-type: none"> <li>1) describe the authority which is necessary in order to revoke or suspend certificates for specified causes</li> <li>2) outline procedures for dealing effectively and fairly with cases of alleged: <ul style="list-style-type: none"> <li>• misconduct</li> <li>• incompetence</li> <li>• incapacity</li> </ul> </li> <li>3) given a case study, identify those factors which should result in revocation or suspension of a certificate</li> </ol>			A1 & Activity 12
<p><b>13 Administration (5.25 hours)</b></p> <p><b>13.1 Issuing and replacing certificates (1.75 hours)</b></p> <ol style="list-style-type: none"> <li>1) explain the need for centralized control over the issue and replacement of certificates</li> <li>2) generate a central record for certificates issued, including updates, and list the basic information to be recorded</li> <li>3) explain the procedure for verifying eligibility prior to issue</li> <li>4) explain the procedure for endorsing certificates and for removing limitations</li> <li>5) from given data, complete the endorsement as required by the STCW Convention</li> </ol> <p>explain the procedure for replacing lost certificates and the associated precautions which should be taken</p>			A1 & Activity 13

<p><b>13.2 Enforcement of standards</b> (1.25 hours)</p> <ol style="list-style-type: none"> <li>1) outline the content of a typical set of administrative instructions and guidance aimed at achieving uniformity and treatment of assessment of candidates</li> <li>2) describe the means by which the requirements for certification and documentation of ship's personnel may be enforced</li> <li>3) describe administrative procedures which may be adopted to help prevent wrongful use of certificates which have been stolen, revoked or suspended</li> <li>4) generate the control procedures which may be applied under the provisions of article X and of regulation I/4 of the STCW Convention</li> <li>5) outline the practical training which examiners should undergo following completion of the present course</li> </ol>			<p>AI &amp; Activity 13</p>
<p><b>13.3 Upholding the responsibilities of companies</b> (2.25 hours)</p> <ol style="list-style-type: none"> <li>1) state that each Administration shall hold companies responsible for the assignment of seafarers for service in their ships in accordance with the provisions of the STCW Convention</li> <li>2) outline such responsibilities, with respect to: <ul style="list-style-type: none"> <li>• appropriate certificates to hold by the seafarers</li> <li>• safe manning requirements</li> <li>• the relevant documentation and data of the seafarers</li> <li>• the seafarer's familiarization of the ship, equipment and procedure</li> <li>• the seafarer's coordination on safety and pollution prevention</li> </ul> </li> <li>3) given a watch keeping schedule, comments on its suitability</li> <li>4) state that regulation I/14 of the STCW Convention and section A-I/14 of STCW Code specify the responsibilities of companies</li> <li>5) state that Section 4 of the ISM Code also specifies company responsibilities and authority</li> <li>6) state that section B-I/14 of STCW Code provides guidance on the responsibilities of companies and masters with regards to newly employed seafarers, and the obligations of seafarers who are newly assigned to the ships state that section B-II/1 of STCW Code provides comprehensive advice on training matters for on board training of officers in charge of a navigational watch, and that much of the concept is applicable to on board training of all ship personnel</li> </ol>			<p>AI &amp; Activity 13</p>
<p><b>14 Practical Evaluation Activity</b> (5.0 hours)</p> <ol style="list-style-type: none"> <li>1) given the general objectives and detailed teaching</li> </ol>			

syllabus of a course, constructs a series of tests to evaluate the outcome of that course 2) conduct a field test of the series of tests constructed under objective 14.1 3) review the results of the field test and evaluates the test against specified criteria.			
<b>TOTAL COURSE HOURS = 38.0 Lectures + 32.0 Activities = 70.00 HOURS</b>			

<b>LIST OF ACTIVITIES</b>	<b>HOURS</b>
<b>1 THE STCW CONVENTION, 1978 AS AMENDED</b> Activity 1.8.8 Generate sea-service rules Activity 1.8.10 Generate a certificate structure	<b>1.0 HRS</b> 0.5 hour 0.5 hour
<b>2 QUALITY SYSTEM</b> Activity 2.2.3 Generate documented procedures for conducting assessment Activity 2.2.6 Design feedback form for monitoring quality standards	<b>2.0 HRS</b> 1.0 hour 1.0 hour
<b>3 ASSESSING APPLICATIONS</b> Activity 3.1a List the information needed for first and subsequent certificate of competency Activity 3.1b List the information needed for revalidation of certificate of competency Activity 3.1c List the information needed for endorsement of service Activity 3.2.2 Define requirements for persons employed or engaged on seagoing ships	<b>2.0 HRS</b> 0.5 hour 0.5 hour 0.5 hour 0.5 hour
<b>5 APPROVING TRAINING, ASSESSMENT AND RECORDS</b> Activity 5.1.5 List the factors to consider for the use of simulators Activity 5.1.14 Draw up a specification of standards	<b>1.25 HRS</b> 0.5 hour 0.75 hour
<b>6 COMPETENCE BASED STANDARDS</b> Activity 6.2.3 Construct comparison table showing compliance with Standards Activity 6.2.6 Develop competence for special training requirements Activity 6.3.4 Perform a task analysis Activity 6.3.5 Perform a knowledge and skills analysis Activity 6.3.18 Write detailed learning outcomes to demonstrate competence Activity 6.4.8 Draw up a table of specifications	<b>6.0 HRS</b> 0.75 hour 1.0 hour 1.0 hour 1.0 hour 1.0 hour 1.25 hour
<b>7 DEVELOPING WRITTEN TESTS</b> Activity 7.3.6 Generate subjective-type questions Activity 7.4.5 Generate supply-type questions Activity 7.5.6 Generate true/false questions Activity 7.5.10 Generate matching questions Activity 7.5.19 Generate multiple-choice questions Activity 7.5.20 Generate items to satisfy test specifications Activity 7.5.21 Generate coded and illustrated multiple-choice items Activity 7.6.7 Convert a gross sampling item into detail sampling items Activity 7.7.14 Generate a subjective test for a subject area Activity 7.7.15 Generate an efficient test for subject area	<b>5.0 HRS</b> 0.35 hour 0.35 hour 0.35 hour 0.35 hour 0.35 hour 0.75 hour 0.5 hour 0.5 hour 0.5 hour 1.0 hour
<b>8 INVIGILATION OF TESTS</b> Activity 8.3.3 Draw up administrative arrangements for examination	<b>0.5 HRS</b> 0.5 hour
<b>9 SCORING TESTS</b> Activity 9.1.13 Produce a scoring scheme for an essay-type question.	<b>0.5 HRS</b> 0.5 hour
<b>10 ORAL AND PRACTICAL TESTS</b> Activity 10.8 Draw up a test specification and a scoring scheme for oral and practical tests	<b>1.0 HRS</b> 1.0 hour
<b>12 MAINTENANCE OF STANDARDS</b> Activity 12.1.5 Calculate and use examination statistics Activity 12.1.12 Correct flawed test items Activity 12.1.13 Appraise various methods and ranges for evaluating competence Activity 12.4.2 Determine the equivalence of a foreign certificate Activity 12.5.2 Generate examples of circumstances of exceptional necessity Activity 12.5.7 Generate a dispensation document Activity 12.7.3 Identify factors which should result in revocation or suspension of a certificate	<b>3.75 HRS</b> 0.75 hour 0.75 hour 0.75 hour 0.5 hour 0.25 hour 0.25 hour 0.5 hour

LIST OF ACTIVITIES	HOURS
<b>12 MAINTENANCE OF STANDARDS</b> Activity 12.1.5 Calculate and use examination statistics Activity 12.1.12 Correct flawed test items Activity 12.1.13 Appraise various methods and ranges for evaluating competence Activity 12.4.2 Determine the equivalence of a foreign certificate Activity 12.5.2 Generate examples of circumstances of exceptional necessity Activity 12.5.7 Generate a dispensation document Activity 12.7.3 Identify factors which should result in revocation or suspension of a certificate	<b>4.0 HRS</b> 0.75 hour 0.75 hour 0.75 hour 0.5 hour 0.25 hour 0.5 hour 0.5 hour
<b>13 ADMINISTRATION</b> Activity 13.1.2 Draw up an efficient record keeping information system Activity 13.1.5 Complete STCW endorsements Activity 13.2.4 Define measures in enforcing standards Activity 13.3.3 Deliberate on appropriateness, given a watch-keeping schedule Activity 13.3.7 Generate administrative arrangements in upholding the responsibilities of companies	<b>3.75 HRS</b> 0.75 hour 0.5 hour 0.75 hour 0.75 hour 1.0 hour
<b>14 COURSE REVIEW AND PRACTICAL EVALUATION ACTIVITY</b> Activity 14 Practical evaluation activity	<b>5.0 HRS</b> 5.0 hour
<b>ACTIVITIES TOTAL</b>	<b>32.0 HRS</b>

**APPENDIX – 4**

**CERTIFICATE (SAMPLE)**



**NAME and ADDRESS of the D. G. Approved Training Institution**

**MTI No:                      Tel:                      Fax:                      E-mail:**

**Certificate No:** \_\_\_\_\_

THIS IS TO CERTIFY THAT *[full name of candidate]*

Date of Birth ..... (dd/mm/yyyy)

Holder of C.D.C. No. ....

Certificate of Competency / Proficiency, (if any) Grade: ..... No. ....

Indian National Database of Seafarers (INDoS No.) .....

has successfully completed a training course in:

**ASSESSMENT, EXAMINATION AND CERTIFICATION OF SEAFARERS**

held from .....to ..... and has been found qualified.

The course meets the requirements of IMO Model Course 3.12 and is approved by the Directorate General of Shipping and meets the requirements relevant to the said course as laid down in:

Regulation I/6 of the STCW Convention 1978, as amended, and Section A-I/6 of the STCW Code.

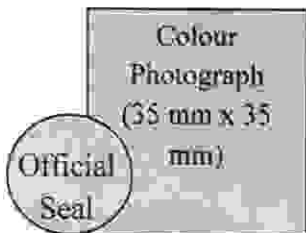
The candidate has also met the additional criteria specified in the STCW Convention, applicable to the issue of the certificate. This certificate is issued under the authority of the Directorate General of Shipping Ministry of Shipping, Government of India.

\_\_\_\_\_  
Signature of Candidate

\_\_\_\_\_  
Name and Signature of Course In-charge

Date of Issue: \_\_\_\_\_

Date of Expiry: UNLIMITED



\_\_\_\_\_  
Name and Signature of Dean / Principal