

海船船员适任考试培训教材

# 航海英语

Nautical English

主编 沈江 丁自华 姜朝妍

for Second / Third Officer  
二/三  
副用

大连海事大学出版社

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图书在版编目(CIP)数据

航海英语:二/三副用/沈江,丁自华,姜朝妍主编. — 大连:大连海事大学出版社,  
2012.8(2013.7重印)

海船船员适任考试培训教材

ISBN 978-7-5632-2753-2

I. ①航… II. ①沈… ②丁… ③姜… III. ①航海—英语—资格考试—教材  
IV. ①H31

中国版本图书馆 CIP 数据核字(2012)第 203795 号

大连海事大学出版社出版

地址:大连市凌海路1号 邮政编码:116026 电话:0411-84728394 传真:0411-84727996

<http://www.dmupress.com> E-mail: cbs@dmupress.com

大连美跃彩色印刷有限公司印装 大连海事大学出版社发行

2012年8月第1版 2013年7月第3次印刷

幅面尺寸:185 mm × 260 mm 印张:23.25

字数:462千 印数:4001~5000册

策划:李明阳 李继凯 杨冠尧

责任编辑:陈亮 版式设计:星树

封面设计:王艳 责任校对:李继凯

ISBN 978-7-5632-2753-2 定价:59.00元

# 《海船船员适任考试培训教材》

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# 前言

《中华人民共和国海船船员适任考试和发证规则》(简称“11 规则”)已于 2011 年 12 月 8 日经交通运输部第 12 次部务会议通过,自 2012 年 3 月 1 日起施行。《STCW 公约马尼拉修正案过渡规定实施办法》第六条规定:自 2012 年 7 月 1 日起,举行按照“11 规则”进行的海船船员适任考试。

为了更好地指导船员进行适任考前培训和进一步提高船员适任水平,大连海事大学交通运输教材研究所组织国内相关航海类院校专家、教授、资深船长及海事机构人员共同编写了本套培训教材。本套教材按照《STCW 公约马尼拉修正案》和《中华人民共和国海船船员适任考试大纲》(2012 年 7 月 1 日实施)中对船舶二/三副的考试要求编写,知识点紧扣考试大纲,突出了考前培训和船员实际操作的特点,内容编排注意由浅入深,表述浅显易懂,并选用了最新版本的国内外各类公约、规则和规范,介绍了航海发展的新技术。

本套教材具有较强的针对性、实用性和前瞻性,是海船船员参加适任考试、培训的必备教材,也是航运管理相关人员良好的工作参考书。本套教材由航海英语、船舶操纵与避碰、航海学、船舶结构与货运、船舶管理组成。

本套教材的编写及出版工作,得到了各航海院校、海员培训机构、航运企业以及大连海事大学出版社等单位的关心和大力支持,特致谢意。

编委会

2012 年 6 月

# 编者的话

本教材按照《STCW 公约马尼拉修正案》对本课程的各项要求,并以中华人民共和国海事局颁布的《中华人民共和国海船船员适任考试大纲》为主线,设立全书章节,确定各章节的相关内容。为适应各层次学员的学习要求,本书的编写过程中力求概念清楚、理论正确、重点突出、条理清晰、文字通顺、理论结合实际,运用了相关操船实例和碰撞案例,写作时注重知识更新,介绍了有效的最新修订的相关公约、规则和相关法律、法规和规定以及本学科的一些新技术和发展动态。

本书编写旨在指导学员能够顺利通过适任证书的考试的同时,熟悉实际操作所必要的技能,并培养具备一定的分析和解决实际问题的能力为今后实际工作打下必要的基础。

全书共分十个单元:第一单元航海图书资料,第二单元航海仪器,第三单元航海气象,第四单元船舶操纵,第五单元国际海上避碰规则,第六单元船舶结构与设备,第七单元船舶货运技术,第八单元国际海事公约,第九单元国际安全管理规则,第十单元航海英语写作。

本书适用于无限航区和沿海航区各个等级二/三副适任证书考试培训使用,也可用作航运管理相关人员工作参考书。

本书由沈江、丁自华、姜朝妍主编,沈江统稿,在编写过程中得到了王海华、王英力、周福双、胡冰等老师的大力支持和热情指导,在此表示衷心的感谢。由于编者水平和时间所限,书中不妥之处在所难免,诚望前辈、同行和读者批评指正。

编 者

2012 年 6 月

# Contents

## **Unit 1 Nautical Publications / 1**

---

- Lesson 1 Sailing Directions / 1
- Lesson 2 Other Admiralty Publications / 14
- Lesson 3 Admiralty Charts / 26
- Lesson 4 Admiralty Notices to Mariners / 40

## **Unit 2 Aids to Navigation / 55**

---

- Lesson 1 Radar, APPA and Compass / 55
- Lesson 2 ECDIS, GNSS, VDR, AIS, SSAS and LRIT / 68

## **Unit 3 Marine Weather / 85**

---

- Lesson 1 Marine Weather / 85
- Lesson 2 Weather Reports / 98

## **Unit 4 Ship Maneuver / 111**

---

- Lesson 1 Ship Maneuverability / 111
- Lesson 2 Anchoring and Berthing / 125

## **Unit 5 COLREGs / 139**

---

## **Unit 6 Ship's Structure & Appliance / 155**

---

Lesson 1 Name of Ship's Structure / 155

Lesson 2 LSA and FFA / 167

## **Unit 7 Marine Cargo Operation / 181**

---

Lesson 1 Principles of Cargo Stowage / 181

Lesson 2 Ship Stability and Strength / 194

Lesson 3 Bulk Cargo and IMSBC Code / 206

Lesson 4 Transport of Container / 219

## **Unit 8 International Maritime Conventions / 233**

---

Lesson 1 SOLAS Convention / 233

Lesson 2 STCW Convention / 246

Lesson 3 MARPOL Convention / 261

Lesson 4 MLC, 2006 / 274

## **Unit 9 International Safety Management / 289**

---

## **Unit 10 Maritime English Writing / 301**

---

Lesson 1 Cargo Work Record / 301

Lesson 2 Deck Logbook / 308

Lesson 3 Shipboard Drill and Record / 320

Lesson 4 Maintenance Record / 335

Lesson 5 Comprehensive Writing Exercises / 344

## **Key to Exercises / 359**

## **References / 361**



# Unit 1

## Nautical Publications

### Lesson 1 Sailing Directions

#### Text

#### I. Admiralty Sailing Directions

*Admiralty Sailing Directions* are published in 74 volumes, providing world-wide coverage. The information in *Sailing Directions* is intended primarily for use by mariners in vessels of 150 GT or more. It may, however, like the information on charts, be useful to those in any vessel, but does not take into account the special needs of hovercraft, submarines under water, deep draught tows and other special vessels.

Of the vast amount of information needed to keep charts up-to-date in every detail, only the most important items can be used to update the charts by Notices to Mariners. Some less important information may not reach the chart until its next edition, but may nevertheless be included in New Editions. It is therefore possible that in some less important detail, *Sailing Directions* may be more up-to-date than the chart.<sup>[1]</sup>

Depths, heights, elevations and short distances are given in metric units. Where the reference chart quoted is in fathoms and feet, the depths and dimensions from the chart are given in brackets after the metric depth to simplify comparison between the chart and the book.

Distances at sea are given in sea miles and cables, and on land in kilometers.

#### II. Use of Sailing Directions

Before using *Admiralty Sailing Directions*, the mariner must always:

- Check that the most recent edition of the volume, and its Supplement where relevant, are held.
- Check that all the amendments in *Annual Notices to Mariners Part 2—Amendments to Sailing Directions* have been applied.

- Check that all amendments published at Section IV of *Weekly Editions of Admiralty Notices to Mariners* subsequent to the publication of the most recent edition of *Annual Notices to Mariners Part 2—Amendments to Sailing Directions* have been applied, using the most recent quarterly checklist at Section 1B of the weekly edition, and the most recent edition of *Cumulative List of Admiralty Notices to Mariners*.

Where it is found that the most up to date information is not held, the most recent editions of all Admiralty publications can be obtained from Admiralty Distributors, and back copies of *Weekly Editions of Admiralty Notices to Mariners* can also be downloaded from the UKHO website [www.ukho.gov.uk](http://www.ukho.gov.uk).

Sailing Directions are updated by a process of Continuous Revision, with titles republished as new editions at approximately three yearly intervals. Some volumes, indicated in the *Catalogue of Admiralty Charts and Publications* are on an extended cycle of approximately 5 years.

Some older volumes have, in the past, been updated by publication of a Supplement. Each Supplement was cumulative so that each successive supplement superseded the previous one.<sup>[2]</sup> These volumes have all now been taken into Continuous Revision, and no further Supplements will be published. Until these older volumes have been published as New Editions, any volume demanded for which a Supplement has been published, will automatically be supplied with the most recent Supplement.

To determine the current editions of Sailing Directions, and their latest supplements, if applicable, and for information regarding the publication dates of new editions, see *Annual Notices to Mariners Part 2—Amendments to Sailing Directions*. This information can also be found in *Catalogue of Admiralty Charts and Publications*, *Cumulative List of Admiralty Notices to Mariners*, and quarterly at Section 1B of *Weekly Editions of Admiralty Notices to Mariners*.

### III. Amendment by Notices to Mariners

Section IV of *Weekly Editions of Admiralty Notices to Mariners* contains amendments to Sailing Directions that cannot wait until the next new edition. These amendments will normally be restricted to those deemed navigationally significant, and information required to be published as a result of changes to national legislation affecting shipping, and to port regulations. Information that is made clear by a chart updating Notice will not always be repeated in a Section IV Notice unless it requires elaboration in Sailing Directions.

Extant amendments published in Section IV of *Weekly Editions of Admiralty Notices to Mariners* are listed in a Notice published quarterly in that Section. Those in force at the end of the year are reprinted in full in *Annual Notices to Mariners Part 2—Amendments to Sailing Directions*.

It is recommended that amendments are cut out and pasted into the parent book. Mariners may, however, prefer to keep amendments in a separate file, and annotate the text of the book in the margin to indicate the existence of an amendment.<sup>[3]</sup> This latter method is preferred in volumes which still have Supplements, and may be more appropriate in some other volumes where significant numbers of amendments, sometimes overlapping, may make the

cut-and-paste method unwieldy and confusing.

#### IV. Units and Terminology Used in Sailing Directions

- Latitude and longitude given in brackets are approximate and are taken from the chart quoted.
- Bearings and directions are referred to the true compass and when given in degrees are reckoned clockwise from  $000^{\circ}$  (North) to  $359^{\circ}$ . Bearings used for positioning are given from the reference object. Bearings of objects, alignments and light sectors are given as seen from the vessel. Courses always refer to the course to be made good over the ground.
- Winds are described by the direction from which they blow.
- Tidal streams and currents are described by the direction towards which they flow.
- Distances are expressed in sea miles of 60 to a degree of latitude and sub-divided into cables of one tenth of a sea mile.
- Depths are given below chart datum, except where otherwise stated.
- Heights of objects refer to the height of the structure above the ground and are invariably expressed as "... m in height".
- Elevations, as distinct from heights, are given above Mean High Water Springs or Mean Higher High Water whichever is quoted in *Admiralty Tide Tables*, and expressed as, "an elevation of ... m". However the elevation of natural features such as hills may alternatively be expressed as "... m high" since in this case there can be no confusion between elevation and height.
- Metric units are used for all measurements of depths, heights and short distances, but where feet/fathoms charts are referred to, these latter units are given in brackets after the metric values for depths and heights shown on the chart.
- Time is expressed in the four-figure notation beginning at midnight and is given in local time unless otherwise stated. <sup>[4]</sup> Details of local time kept will be found in *Admiralty List of Radio Signals Volume 2*.
- Bands is the word used to indicate horizontal marking.
- Stripes is the word used to indicate markings which are vertical, unless stated to be diagonal.
- Conspicuous objects are natural and artificial marks which are outstanding, easily identifiable and clearly visible to the mariner over a large area of sea in varying conditions of light. If the scale is large enough they will normally be shown on the chart in bold capitals and may be marked "conspic".
- Prominent objects are those which are easily identifiable, but do not justify being classified as conspicuous. <sup>[5]</sup>

## V. Navigational Dangers and Hazards (from NP 5)

The N coast of Brazil is generally very low lying, with few distinguishing features and widely spaced lights; mariners should therefore exercise extreme caution when approaching this coast.

Coral reefs extend along a large part of the E coast of Brazil. See *The Mariner's Handbook* for remarks on navigating amongst coral reefs, rates of coral growth and erosion.

Kelp, or Sargasso weed, grows on most of the dangers which have a rocky or stony bottom, especially off the coast of Argentina, S of Punta Delgada ( $42^{\circ}46'S$ ,  $63^{\circ}38'W$ ). These dangers cannot always be identified by the kelp, however, as heavy seas can sometimes tear the weed from a rock, or strong currents draw it under water and out of sight.

Growing kelp should invariably be considered as a sign of danger. It forms long streamers, level with or just below the surface of the water. A vessel should never pass through growing kelp if it can be avoided and should give it a wide berth, particularly where tides and currents are strong. A clear patch of water in the middle of a thick growth of weed often indicates the position of least depth. Dead kelp, which has broken away from the bottom, floats in curled masses, with leaves showing above the surface; it sometimes drifts in long lines.

Southern Right or Franca Whales, a protected species, may be encountered off the S coast of Brazil.

### (1) Traffic and operations

There are two major river systems in the area covered by this volume, La Plata with major ports and minor river ports, and Para and Amazonas with developing ports and the major port at Belem. In Brazil there are a number of significant ore ports, and major ports in the Rio de Janeiro and Santos area.

The Brazilian, Uruguayan and Argentine authorities have established several firing practice and naval exercise areas off their respective coasts. Detailed descriptions are not given in this book as warnings of firing practices and exercises are published in local notices to mariners and broadcast by coast radio stations.

Submarines exercise in several areas off the coasts of Brazil and Argentina; these areas are indicated on the respective charts and described in the body of the book. A good lookout for submarines should be kept when passing through these areas.

Surface vessels may accompany submerged submarines in these areas. They indicate their presence by means of the International Code Signals. Escorting vessels displaying such signals should be given a wide berth. In Brazilian waters submarines may show an orange flashing light.

Acts of piracy and armed robbery occur within Brazilian waters. The attention of mariners is drawn to the possible preventative measures outlined by the ICC International Maritime Bureau.

It is reported that the Brazilian authorities have set up NEPOMS, a special port security

unit, which at present operates in Rio de Janeiro and Santos.

## **(2) Aids to navigation and pilotage**

IALA Maritime Buoyage System Region B (red to starboard) has been implemented.

Private buoyage. In some areas, particularly access channels to private terminals or to yacht clubs, the Brazilian authorities have authorized of private buoyage. This type of buoyage is not corrected by Brazilian Notices to Mariners, and a warning note is placed on Brazilian charts where it is used.

Ocean Data Acquisition (ODAS) buoys. ODAS light-buoys (special) are moored offshore. Many are of a temporary nature and may not be charted. Mariners are advised not to moor to them, nor pick up drifting buoys. Fishing operations should be kept well clear. See *The Mariner's Handbook* for details of buoys including their charting.

Pilotage. In all Brazilian ports, pilotage is compulsory for all foreign vessels irrespective of tonnage, with the exception of government owned vessels and yachts. Pilotage is compulsory for Brazilian registered vessels over 2,000 GT at certain ports; and for Brazilian registered vessels over 2,000 GT carrying oil, propane or dangerous cargoes, at all ports.

Pilot boats and signals. Ports with an official pilot service have pilot boats painted red with a black letter "P" on either bow; they also display a red flag with a black "P". When approaching a Brazilian port and requiring a pilot, a vessel must indicate her draught using the International Code of Signal.

Anchoring or trawling or any other bottom activities are prohibited in the vicinity of submarine cables. Fouling such cables could have serious consequences. Submarine cables may carry very high voltages and contact with them, or proximity to them, poses an extreme danger. If a submarine cable is fouled it should never be cut.

Brazilian regulations state that anchoring and fishing are prohibited within 500 m of all submarine cables. Argentinean regulations state that anchoring and fishing are prohibited within 5 cables of submarine cables.

Mariners are advised not to anchor nor trawl in the vicinity of pipelines. Gas from a damaged oil or gas pipeline could cause an explosion, loss of a vessel's buoyancy or other serious hazard. Pipelines are not always buried and may effectively reduce the charted depth by up to 2 meters. They may also span seabed undulations and cause fishing gear to become irrecoverably snagged, putting a vessel in severe danger.

## **(3) Currents and wind**

The currents in the area covered by this volume form part of the general anticlockwise circulation of water in the South Atlantic. There are seasonal variations, which are locally important, but the main features are readily recognizable in all seasons.

- South equatorial current

This current sets to the W between about 2°N and 20°S but, in March, the N limit may extend on occasions to around 5°N. The average rate in the N is about 0.75 kn in most months with a high constancy. Between May and September, the average rate increases to

around 1 kn with a few reports of rates between 2 and 3 kn. To the S of 6°S the average rate decreases to around 0.5 kn, and the constancy of the current becoming low near 20°S between January and March, and 15°S between July and September.

From November to January, the predominantly W current divides at about 6°S 30°W with one branch setting WNW towards the Caribbean and the other setting SW to form the Brazilian Current. The current divides farther S at other times of the year and between May and July the division is near 8°S.

Near the coast the set of the current is more complex. Between January and March, the SW set of the current turns N near the coast at about 10°S and at around 15°S between July and September.

From November to April, the W set of the S half of the current extends to about 30°W before setting WSW but in June the WSW set occurs at about 20°W and in September at around 18°W.

- Land and sea breezes

Depending on the prevailing wind, these breezes may reinforce or moderate the strength of the prevailing wind.

Sea breezes normally set in by late morning, increase to a maximum of about force 3 to 4 by mid-afternoon and then die away by sunset. The land breeze is generally weaker and blows as a light offshore wind from around midnight to soon after dawn.

Land and sea breezes affect most of the coast covered by this volume, particularly to the N of Rio de Janeiro during the summer months. In the S of the area, S of 40°S, sea breezes are possible during the summer months but, in the extreme S, the main effect is a reduction in the prevailing W winds during the afternoon.

- Gales

Gales over the open sea are rare N of 5°S in July but steadily increase to around 30 per cent of occasions in the extreme SE of the area. In January, winds of force 7 and above are reported on less than 1 per cent of occasions over the open sea between about 5°N and 20°S but increase to near 2 per cent in the N of the area. In the extreme SE of the area, winds of force 7 and above are reported on about 25 to 30 per cent of occasions.

In coastal waters N of around 20°S, gusts to near gale force are most often associated with thunderstorm activity. Between 8° and 12°S, local winds to near 30 kn are frequently the result of the combined effect of a sea breeze and the deflection of the prevailing wind. Between 20° and 30°S, most winds of force 7 and above are associated with the passage of cold fronts, and with a percentage frequency of 5 per cent of occasions in winter and 2 per cent in summer. To the S of about 38°S, winds of force 7 and above are reported on about 5 to 10 per cent of occasions in the W but rapidly increase in frequency over open waters to the E, particularly in winter.

## Vocabulary and Expressions

Admiralty Sailing Directions 英版航路指南

volume *n.* 册

primarily *adv.* 主要

hovercraft *n.* 水翼船

submarine *n.* 潜艇

nevertheless *adv.* 然而

elevation *n.* 海拔

bracket *n.* 括号

comparison *n.* 比较,对照

cumulative *adj.* 累积的

distributor *n.* 发行人

UKHO 英国水道测量局

approximately *adv.* 大约

successive *adj.* 连续的

supersede *vt.* 替代

catalogue *n.* 目录

legislation *n.* 立法,法规

elaboration *n.* 详细细节

annotate *vt.* 注解,注释

overlap *vt. & vi.* 部分重叠

unwieldy *adj.* 难使用的

confuse *vt.* 混乱,搞乱

reckon *vt.* 计算

alignment *n.* 成直线

invariably *adv.* 总是,始终不变地

distinct *adj.* 截然不同的

notation *n.* 标记法

band *n.* 横纹

stripe *n.* 竖纹

diagonal *adj.* 倾斜的

conspicuous *adj.* 显著的,显眼的

artificial *adj.* 人造的,人为的

outstanding *adj.* 突出的

prominent *adj.* 显著的,突出的

distinguishing feature 特点,特征

exercise *vt.* 运用,行使

coral reef 珊瑚礁

erosion *n.* 磨损

kelp *n.* 大型海藻

Sargasso weed 马尾藻类海草

identify *vt.* 认出,识别

streamer *n.* 飘带

particularly *adv.* 特别是

curl *vt. & vi.* (使)弯曲,(使)卷曲

minor *adj.* 较小的,低级的

Amazonas 亚马孙

significant *adj.* 重要的,重大的

Rio de Janeiro 里约热内卢(巴西港市)

Santos 桑托斯(巴西港市)

respective *adj.* 各自的,各个的

description *n.* 描述,说明

accompany *vt.* 陪伴

piracy *n.* 海盗行为

robbery *n.* 抢夺,盗取

preventative *adj.* 预防性的

outline *vt.* 勾勒出……的轮廓,概述

implement *vt.* 执行,履行

acquisition *n.* 获得,得到

trawl *n.* 拖网

foul *vt.* 缠绕

proximity *n.* 接近,附近

bury *vt.* 埋入土中

effectively *adv.* 有效地

span *vt.* 跨越

undulation *n.* 波动状

irrecoverably *adj.* 不能恢复的

snag *vt.* 被刮破或钩坏

variation *n.* 变化,波动

occasion *n.* 场合,时机

constancy *n.* 稳定性

predominantly *adj.* 占主导地位的

Caribbean 加勒比海

prevailing wind 盛行风

thunderstorm *n.* 雷暴,大雷雨

deflection *n.* 偏斜, 偏离

## Notes

- [1] Some less important information may not reach the chart until its next edition, but may nevertheless be included in New Editions. It is therefore possible that in some less important detail, Sailing Directions may be more up-to-date than the chart.

某些不太重要的信息可能要等到海图再版时才能改正到海图上,但它们可能被包含在新版的《航路指南》上。因此对于某些不太重要的信息而言,《航路指南》提供的信息比海图更及时。

- [2] Some older volumes have, in the past, been updated by publication of a Supplement. Each Supplement was cumulative so that each successive supplement superseded the previous one.

过去,一些老的《航路指南》分册中是用补篇来对《航路指南》更新的。每一补篇都是对更新内容的累积,因而每一后续的补篇都取代了先前的补篇。

- [3] It is recommended that amendments are cut out and pasted into the parent book. Mariners may, however, prefer to keep amendments in a separate file, and annotate the text of the book in the margin to indicate the existence of an amendment.

推荐对《航路指南》的改正使用“剪切和粘贴”到其母本上。然而,航海人员可能更喜欢将改正的内容保存到一个单独的文档中,在书的扉页中加上注释以说明该改正内容的存在。

- [4] Time is expressed in the four-figure notation beginning at midnight and is given in local time unless otherwise stated.

除非另有说明,时间是以从午夜开始计算的用四位数字表示的当地时间。

- [5] Prominent objects are those which are easily identifiable, but do not justify being classified as conspicuous.

突出物标是指那些很容易识别的,但又不能笼统地归类到显著物标的那些物标。

## Multiple Choice

1. A set of world-wide coverage Admiralty Sailing Directions consists of \_\_\_\_\_.  
A. 1 volume  
B. 6 volumes  
C. more than 70 volumes  
D. about 34 volumes
2. The information in Sailing Directions is intended primarily for use by mariners of \_\_\_\_\_.  
A. 150 GRT  
B. 150 NT and above  
C. 3000 GT and above  
D. 150 GT and above
3. According to this text, less important information will be kept updated by \_\_\_\_\_.  
A. Revised Edition  
B. Notice to Mariner Weekly Edition  
C. New Edition  
D. Supplements



4. In Admiralty Sailing Directions, the distance unit used for sea is \_\_\_\_\_ kilometer used at land.  
A. longer than  
B. the same as  
C. shorter than  
D. none of the above
5. Before using Admiralty Sailing Directions, the mariner needs check the most recent edition of the volume via the \_\_\_\_\_.  
A. Section IV of Weekly Editions of Admiralty Notices to Mariners  
B. Section II of Weekly Editions of Admiralty Notices to Mariners  
C. Annual Notices to Mariners Part 2  
D. Section 1A of Weekly Editions of Admiralty Notices to Mariners
6. Regarding to latest edition of Admiralty Sailing Directions, the author suggests updating Admiralty Sailing Directions by \_\_\_\_\_ method.  
A. separate file  
B. noted in the preface page  
C. cut-and-paste  
D. overlapping
7. In Admiralty Sailing Directions, height of objects refers to the height of the structure above the \_\_\_\_\_.  
A. mean sea level  
B. Mean High Water  
C. Mean Higher High Water  
D. ground
8. In Admiralty Sailing Directions, elevations refer to the height above the \_\_\_\_\_.  
A. mean sea level  
B. Mean High Water Spring  
C. ground  
D. Mean Low Water Spring
9. If the scale is large enough, conspicuous objects will normally be shown on the chart in \_\_\_\_\_.  
A. bold capitals  
B. italic  
C. upright letters  
D. boldface letter
10. If no otherwise stated, the time used in Admiralty Sailing Directions is \_\_\_\_\_.  
A. GMT  
B. UTC  
C. LT  
D. SMT

## Reading Comprehension

### Passage 1

*Admiralty Sailing Directions* are intended for use by vessels of 12 m or more in length. They amplify charted detail and contain information needed for safe navigation which is not available from Admiralty charts, or other hydrographic publications. They are intended to be read in conjunction with the charts quoted in the text.

This volume of the *Sailing Directions* will be kept up-to-date by the issue of a new edition at intervals of approximately 3 years, without the use of Supplements. In addition important amendments which cannot await the new edition are published in Section IV of the *Weekly Edi-*