

# --- intestazione Istituto ---

Prova di Verifica

## PROVA NAZIONALE INGLESE TECNICO

Data	
Allievo	
Classe	Quarta CAIM
Materia	Lingua inglese
Docente	
Tempo Assegnato	120 minuti
Criteri di valutazione	Vedasi tabella sotto riportata

TIPOLOGIA	PESO	PUNTEGGIO
READING COMPREHENSION	25%	25 marks
CLOZE TEST	20%	20 marks
MULTIPLE CHOICE	10%	10 marks
MATCHING	10%	10 marks
COMPLETION*	15%	15 marks
TRANSLATION**	20%	20 marks
_____ total marks		

### COMPLETION\*

3 marks = frase completata con tre parole  
2 marks = frase completata con due parole  
1 mark = frase completata con una sola parola  
0 = frase non completata

### TRANSLATION\*\*

2 marks = frase tradotta correttamente  
1.5 marks = frase tradotta correttamente con qualche errore lessicale e strutturale che non ne oscura il significato  
1 mark = frase tradotta parzialmente e corretta dal punto di vista lessicale e strutturale  
0.5 mark = frase tradotta parzialmente con qualche errore lessicale e strutturale  
0 = frase non tradotta o completamente incomprensibile

TABELLA DI CONVERSIONE PUNTEGGIO-VOTO		VOTO ATTRIBUITO
PUNTEGGIO in centesimi	VOTO in decimi	
Minore o uguale 40	4	Firma docente _____
41-54	5	
55-64	6	
65-73	7	
74-82	8	
83-91	9	
92-100	10	



**READING COMPREHENSION (25 marks)**

**Read the text**

A diesel engine is a type of internal combustion engine, which means that the burning process takes place inside the main part of the engine, i.e. the cylinders. This way the system is more efficient and less energy is wasted because everything happens in the same place.

Petrol and diesel engines both work by internal combustion, but in slightly different ways. In petrol engines fuel and air are injected into small metal cylinders. A piston compresses the mixture, making it explosive, and a small electric spark from a sparking plug sets it on fire. That makes the mixture explode, generating power that pushes the piston down the cylinder and through the crankshaft and gears turns the wheels.

Diesel engines are similar, but simpler. First, air is allowed into the cylinder and the piston compresses it. In a petrol engine, the fuel-air mixture is compressed to about a tenth of its original volume, but in a diesel engine the air is compressed by from 14 to 25 times. Once the air is compressed, a mist of fuel is sprayed into the cylinder typically by an electronic fuel-injection system. The air is so hot that the fuel instantly ignites without any need for a spark plug. This controlled explosion makes the piston push back out of the cylinder, producing the power that drives the vehicle or machine. When the piston goes back into the cylinder, the exhaust gases are pushed out through an exhaust valve and the process repeats itself!

**Choose the best option. There is only ONE possible answer. (2 marks for each correct answer – 10 marks)**

**1. Where does the combustion take place in a diesel engine?**

a. In the piston	b. In the crankshaft	c. In the cylinder	d. Not specified
------------------	----------------------	--------------------	------------------

**2. Which component is usually present in a petrol engine and absent in a diesel one?**

a. The sparking plug	b. The piston	c. Text doesn't say	d. The exhaust valve
----------------------	---------------	---------------------	----------------------

**3. Diesel engines are definitely ..... petrol engines.**

a. as simple as	b. not as complex as	c. more complex than	d. simpler as
-----------------	----------------------	----------------------	---------------

**4. The word 'burning' is a synonym for .....**

a. injection	b. compression	c. exploitation	d. combustion
--------------	----------------	-----------------	---------------

**5. Exhaust gases are usually expelled through a ..... valve.**

a. suction	b. discharge	c. not specified	d. exhausted
------------	--------------	------------------	--------------



QUALITÀ 4.0  
FORMAZIONE MARITTIMA

**--- intestazione Istituto ---**

**Decide whether the following statements are TRUE (T) or FALSE (F). (1 mark for each correct answer – 5 marks)**

	<b>TRUE</b>	<b>FALSE</b>
6. In a diesel engine combustion happens outside the cylinders.	_____	_____
7. In petrol engines the air-fuel mixture is ignited by a sparking plug.	_____	_____
8. Petrol engines are simpler than diesel ones.	_____	_____
9. Thanks to the electronic fuel-ignition system a mist of fuel is sprayed into the cylinder.	_____	_____
10. When the piston goes back into the cylinder and the exhaust gases are pushed out, the process starts again.	_____	_____

**Fill in the gaps with the missing words. (2 points for each correct answer – 10 marks)**

11. Diesel engines are the most versatile engines in \_\_\_\_\_ today.
12. Compared to \_\_\_\_\_ engines they are more efficient and more economical.
13. Pollution is one of the \_\_\_\_\_ drawbacks of diesel engines. They produce a lot of dirty soot particles, which are hazardous to health.
14. In theory, they produce fewer carbon dioxide emissions and contribute less to \_\_\_\_\_ warming.
15. In 2011 the US Department of Energy predicted \_\_\_\_\_ future engines could increase in efficiency from today's 40 percent to 60 percent or more.

**CLOZE TEST(20 marks)**

**Fill in the gaps with the given words in scrambled order. There are TWO EXTRA WORDS. (2 marks for each gap – 20 marks)**

- 1) vessels 2) stress 3) capacity 4) knowledge 5) ship 6) maintenance 7) version 8) emergency  
9) warnings 10) communications 11) misunderstanding 12) shore

The SMPC builds on a basic 1) ..... of the English language. It was drafted on purpose in a simplified 2) ..... of Marine English to reduce grammatical, lexical and idiomatic varieties to a tolerable minimum, using standardized structures for the sake of its function aspects, i.e. diminishing 3) ..... in safety related verbal 4) ....., thereby endeavouring to reflect present Maritime English language usage on board 5) ..... and in ship-to-6) ..... /ship-to-7) ..... communications. This means, in phrases offered for use in 8) ..... and other situations developing under



## --- intestazione Istituto ---

considerable pressure of time or psychological 9) ..... as well as in navigational 10) ....., a block language was applied which sparingly uses, or frequently omits, a/an, is/are as done in seafaring practice.

### MULTIPLE CHOICE (10 marks)

Choose the right option (1 mark for each right answer – 10 marks)

1. The on board automatic telephone is a:
  - a. one-way communication system
  - b. two-way communication system
  - c. radio-telephony system
  - d. telegraph system
2. The organizations responsible for defining and regulating maritime telecommunication systems are:
  - a. IHO and NOAA
  - b. UNO and IMO
  - c. UNO and ITU
  - d. ITU and IMO
3. Intership communications refer to:
  - a. on-board communications
  - b. bridge to bridge communications
  - c. ship to shore radio stations communications
  - d. shore radio stations to ship communications
4. "Stand by engine" means
  - a. Finito in macchina
  - b. Pronti in macchina
  - c. Indietro tutta
  - d. Attenzione in macchina
5. Routine communications:
  - a. happen on channel 15
  - b. happen on channel 16
  - c. start on channel 15 and then are switched on a "working" channel
  - d. start on channel 16 and then are switched on a "working" channel



**--- intestazione Istituto ---**

6. A thermal engine:
- transforms the heat energy into electrical energy
  - converts the chemical energy stored in heat into mechanical energy
  - transforms the chemical energy stored in fossil fuels into mechanical energy
  - converts the mechanical energy into heat
7. In petrol or diesel reciprocating engines , scavenging:
- is the first stroke
  - takes place during the exhaust stroke
  - takes place before the power stroke
  - does not take place during the fourth stroke
8. The diameter of the piston is called
- piston
  - diameter
  - stroke
  - bore
9. A steel shafting is a piece of machinery which supplies the needs of the main engines. It is used to:
- apply the main power to the propeller
  - transmit the electrical power to the shaft
  - operate the rudder
  - transmit the power to the engine
10. The Engine Room Logbook is compiled by:
- the Third Officer
  - The Cadet
  - The Chief Engineer
  - The Firemen



**MATCHING (10 marks)**

Match a word to its right definition (1 mark for each right matching – 10 marks)

1.	Channel 13	
2.	MMSI	
3.	Gudgeon pin	
4.	Connecting rod	
5.	Camshaft	
6.	Crankshaft	
7.	DSC	
8.	PAN PAN	
9.	Channel 70	
10.	Distress	

- A. Service used to make the first contact in ship-to-ship or ship-to-shore Communications
- B. It connects the piston to the crankshaft
- C. It converts the reciprocating motion of the piston into the rotary motion necessary to drive the propeller
- D. It controls the opening of the valves
- E. Channel used for bridge-to-bridge communications
- F. A 9 digit number used in radio communications to identify the ship
- G. It connects the piston to the connecting rod
- H. Emergency situation where immediate assistance is required
- I. Signal used to announce an urgency message
- J. Channel available exclusively for DSC calls



**COMPLETION (15 marks)\***

Read the text and complete the sentences (1-5) using a maximum of **THREE WORDS**. Write your answers in the spaces provided. (15 marks)

**RADIOCOMMUNICATIONS**

All vessels must be able to transmit and receive on the 2182kHz marine frequency band, corresponding to VHF Channel 16. This is the international calling channel for transmission and reception of Distress, Urgency and Safety calls. All ships are requested to keep a continuous listening watch on this channel, as well as on DSC distress Channel 70. Note that distress calls are conducted on Channel 16 until it is certain that the ship in distress has received assistance and until this happens, radio traffic interfering with rescue operations is forbidden. Urgency, Safety and routine calls, on the other hand, only use Channel 16 for a short time and the caller should change to a working frequency as soon as possible.

**RECIPROCATING ENGINES**

A marine engine converts heat produced by burning fuel into mechanical energy to turn a propeller shaft. The fuel is mixed with air and burnt in closed cylinders inside the engine -hence the term “internal combustion”. Either petrol or diesel fuel may be used, and the form of the engine in each case has basic similarities, although there are important differences in the fuel system. Inside each cylinder is a moving piston. When the fuel/air mixture is burnt it expands and the resulting pressure on top (crown) of the piston drives it down on its power stroke. The pistons are linked by connecting rods to the crankshaft, so that their up-and-down motion is transformed into rotary motion to the crankshaft which in turn transmits the power to the gearbox and to the propeller shaft. For every pound of fuel that is burnt in the cylinder, about fifteen pounds of air are needed to give efficient combustion. In order to get this air into the combustion chamber at the top of the cylinder, and in order to remove the exhaust gases after they have been burnt, inlet valves and exhaust valves are fitted in the cylinder head at the top of the cylinder.

1. All Distress calls are conducted on an international calling channel whose complete name is...

2. It is necessary, during rescue operation, to forbid...

3. In a reciprocating engine we find a moving piston ...

4. A propeller shaft is made to move by the conversion of thermal energy...

5. Pistons are linked to the crankshaft ...



**TRANSLATION (20 marks)\*\***

**Translate the following sentences into Italian (2 marks for each sentence – 10 marks)**

1) Diesel engine intake only air

---

2) The action called scavenging cleans the cylinder

---

3) Both diesel and petrol engines can operate either in a two strokes or a four strokes cycle.

---

4) Where is the fire? The fire is in the engine room

---

5) “Finished with engines” means movement of engines no long required.

---

**Translate the following sentences into English (2 marks for each sentence – 10 marks)**

1) L'IMO e l'ITU regolano sistemi di telecomunicazione marittima.

---

2) Pan Pan indica che la stazione chiamante ha un messaggio molto urgente da trasmettere riguardo la sicurezza della nave o di una persona.

---

3) I motori a 4 tempi sono dotati di valvole di aspirazione e di scarico.

---

4) I motori a pistone sono motori a combustione interna

---

5) Il pistone è collegato all'albero motore dalla biella

---

