

***** EXAMINATION *****

ENERGY FROM OFFSHORE WIND

1. **Wind energy installations in the U.S. has grown from about:**
 - a) 1,400 MW in 1990 to about 8,800 MW in 2005
 - b) 1,600 MW in 1990 to about 9,000 MW in 2005
 - c) 1,800 MW in 1990 to about 9,200 MW in 2005
 - d) 2,000 MW in 1990 to about 9,400 MW in 2005

2. **Estimated growth of wind installations by the end of 2007 is**
 - a) 14,000 MW
 - b) 16,000 MW
 - c) 18,000 MW
 - d) 20,000 MW

3. **The NREL estimate offshore wind resources to be greater than:**
 - a) 900 GW
 - b) 1000 GW
 - c) 2000 GW
 - d) 3000 GW

4. **Cost of offshore wind energy varies depending on the:**
 - a) wind
 - b) availability of gas
 - c) availability of electricity
 - d) project

5. **The synergy between offshore wind and offshore oil is:**
 - a) already underway in Europe
 - b) already underway in Hawaii
 - c) already underway in Holland
 - d) already underway in India

6. **Offshore wind energy began in the shallow waters of the:**
 - a) North Pacific
 - b) North Sea
 - c) North Atlantic
 - d) Northern hemisphere

7. **Over 11 GW of new offshore wind projects are planned before:**
- a) the year 2008
 - b) the year 2010
 - c) the year 2010
 - d) the year 2012
8. **All installations have been in water depths less than:**
- a) 48 m
 - b) 38 m
 - c) 28 m
 - d) 18 m
9. **The distances from shore range from:**
- a) 1km to 14km
 - b) 15 km to 25 km
 - c) 25 km to 35 km
 - d) 35 km to 45 km
10. **A single unit make:**
- a) 10,000 MVVh per year
 - b) 15,000 MVVh per year
 - c) 20,000 MVVh per year
 - d) 25,000 MVVh per year
11. **Tripods, jackets, and truss-type towers will replace:**
- a) monopiles
 - b) structures
 - c) gravity bases
 - d) both a and c
12. **Monopiles are used in:**
- a) deep depths
 - b) shallow depths
 - c) dark water
 - d) clear water
13. **Monopiles are depth-limited due to their:**
- a) weight
 - b) height
 - c) inherent flexibility
 - d) none of the above
14. **Transitional substructure technology can be deployed up to:**
- a) depths 60m or greater
 - b) depths 80 m or greater
 - c) depths 100 m or greater
 - d) depths 120 m or greater

15. **The design of wind platforms will use the same issues that:**
- a) govern oil platforms
 - b) govern gas platforms
 - c) govern land platforms
 - d) both a and b
16. **Floating wind turbines are necessary to unlock an additional:**
- a) 400-GW
 - b) 500-GW
 - c) 600-GW
 - d) 700-GW
17. **Promise for all platform types has been shown by**
- a) boat anchors
 - b) ground anchors
 - c) deployable gravity anchors
 - d) none of the above
18. **Lightweight concrete aggregates can reduce weight**
- a) the weights of platforms and foundations by 40%
 - b) the weights of platforms and foundations by 50%
 - c) the weights of platforms and foundations by 60%
 - d) the weights of platforms and foundations by 70%
19. **Over the next 30 years offshore wind could result in over:**
- a) 90 billion dollars revenue
 - b) 100 billion dollars revenue
 - c) 200 billion dollars revenue
 - d) 300 billion dollars revenue
20. **Two key agencies involved with ocean boundary jurisdictions:**
- a) are FERC and NASA
 - b) are HUD and NOAA
 - c) are FERC and NOAA
 - d) none of the above

GEOGRAPHIC INFORMATION SYSTEMS
 GEOGRAPHIC INFORMATION CENTER
 PO BOX 5839
 MC ALLEN, TEXAS 78502-5839

1-800-522-0139
 kh@acnet.net
 Copyright 2010

*** ANSWER SHEET *** U442 ENERGY FROM OFFSHORE WIND	<u>STATE BOARD</u>	<u>COURSE NO.</u>	<u>VALUE</u>
			8 PDH
Office Use Only			

FILL IN ONE BOX FOR EACH ANSWER.

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

I hereby certify that I studied the course materials, and the above answers are my own. No one has helped me to complete this exam.

 Signature Date

 Printed or typed name

 Seal or Number

**GEOGRAPHIC INFORMATION SYSTEMS
GEOGRAPHIC INFORMATION CENTER
PO BOX 5839
MC ALLEN, TEXAS 78502-5839**

(800) 522-0139

**kh@acnet.net
Copyright 2010**

Name _____

Company _____

Address _____

City _____ **State** _____ **Zip** _____

Telephone _____ **E-Mail** _____

Fax _____ **24-Hour Fax**

Yes **No** **If fax and telephone are the same number, shall we call first?**

Mail the certificates to above address _____ **check address** _____ **envelope address**

State + Specialty + PE Registration number (i.e. TX EE 12389) _____

State + Professional Land Surveying registration number _____

NC (North Carolina) + Specialty + PE Registration number _____

NC (North Carolina) + Professional Land Surveying registration number _____

Professional Affiliations _____

Return this page with your answer sheet and a check or money order for \$100 per course. Use one check for each registrant (in your company) taking one or more courses. We accept company checks (if they are your employer's). We do not accept third-party checks or checks outside of your city of residence. Using third-party checks that do not include your name or company name may invalidate your professional development hours being reviewed by an audit process. Add \$5 for same day processing and priority shipping.

Make checks or money orders payable to Geographic Information Systems.

