

Waterford 3 Examination Question

Examination Question Number

1

QUESTION ID: 5958 A STATUS: Revision LAST USED
DESCRIPTION: Reactor Trip Recovery
AUTHOR: avest REVISION 3 REVISION DATE 6/26/2003
APPROVAL: APPROVAL DATE:
REFERENCE VERIFIED: avest VERIFICATION DATE: 5/14/2003
TYPE: Multiple Choice TIME: 5 POINTS: 1
QUIZ ONLY: CLOSED REFERENCE: X OPEN REFERENCE
SPECIAL REFERENCES: SIMULATOR SETUP
PLANT SYSTEM: PPE CATEGORY: PROCEDURE
SRO LEVEL
REFERENCE: REVISION: CHANGE: DATE:
OP-902-009 1.1 00 12/13/2002
NRC KA NUMBER: RO SRO TRAINING MATERIAL: OBJECTIVE
4.1-E7-EK3.01 4.0 4.6 WLP-OPS-PPE01 15

QUESTION

The reactor was at 100% power. Two CEAs fell into the core and the reactor was manually tripped. During Standard Post Trip Actions, the following items were reported:

- Feedwater Pump A tripped on low lube oil pressure.
- Startup Feedwater Regulating Valve B had to be manually placed to 20% open.
- Startup Transformer A differential current trip was detected and EDG A failed to start.
- Pressurizer Pressure dropped to a low value of 1950 psia and all Pressurizer Backup Heaters had to be manually started.

Assuming all other indications responded as expected for an uncomplicated trip. As CRS, which Emergency Operating Procedure would you transition to and why?

- OP-902-001, Reactor Trip Recovery, because procedure supports loss of power to one train of offsite power.
- OP-902-003, Loss of Offsite Power/Loss of Forced Circulation Recovery, due to loss of electrical busses.
- OP-902-006, Loss of Main Feedwater Recovery, due to loss of the feedwater pump.
- OP-902-008, Functional Recovery, due to not meeting all safety functions in OP-902-000.

ANSWER

A

COMMENTS

Provide examinee with current revision of OP-902-009, Standard Appendices, Appendix 1, Diagnostics Flowchart
B is wrong because the plant must lose all offsite power or all RCPs to reach it via diagnostics.
C is wrong because Feed pump B is still operating.
D is wrong because listed conditions do not require entry.

Cognitive Level: Comprehension/Analysis
10CFR Part 55 Content: 43.5

Tier/Group: 1/1

Question Source: Modified

Examination Question Number 3

QUESTION ID: 6059 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Small Break LOCA Knowledge of Symptom Based EOP mitigation strategies
AUTHOR: avest **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: avest **VERIFICATION DATE:** 6/2/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: PPE **CATEGORY:** PROCEDURE
SRO LEVEL
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
OP-902-002 09 00 4/12/2001
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
2-4-6 3.1 4.0 WLP-OPS-PPE02 18

QUESTION

Given the following:

- Containment Pressure = 18.0 psia
- S/G 1 pressure = 800 psia; S/G 2 pressure = 780 psia
- S/G 1 level = 70% WR; S/G 2 Level = 68% WR
- EFAS-1 and 2 were manually initiated and controllers are in Auto
- Representative CET temperature is 380°F
- RCS pressure = 250 psia
- RVLMS indicates 0% head level and 100% plenum level
- RAS has occurred
- LOCA occurred at 1520; Current time is 1800

Which of the following actions would be appropriate at this time?

- A. Reset Containment Spray Actuation Signal to minimize corrosion of containment components and H₂ generation.
- B. Align one train of Shutdown Cooling for operation and commence RCS cooldown.
- C. Restart one Reactor Coolant Pump in each loop to maximize heat removal capability.
- D. Depressurize the S/Gs to restore them as a heat sink and cool the RCS to restore subcooled margin.

ANSWER

D

COMMENTS

A is incorrect because RAS has occurred and containment pressure is above CSAS setpoint.

B is incorrect because Shutdown Cooling entry conditions are not met.

C is incorrect because RCP operating curves are not met and CSAS has isolated CCW to the RCP seals for greater than 10 minutes.

D is correct because subcooled margin is < 28°F and the S/Gs are currently hotter than the RCS so they must be steamed to get them to equilibrium conditions with the RCS before the RCS can be cooled down.

Cognitive Level: Comprehension/Analysis

Tier/Group: 1/ 1

Question Source: New

10CFR Part 55 Content: 43. 5

Examination Question Number

5

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|----------------------------|--------------------------|------------------|---------------------------|------------------|----------------------|-----------|
| QUESTION ID: | 2894 | A | STATUS: | Revision | LAST USED | |
| DESCRIPTION: | NRC notifications | | | | | |
| AUTHOR: | avest | | REVISION | 3 | REVISION DATE | 6/26/2003 |
| APPROVAL: | | | APPROVAL DATE: | 9/22/1997 | | |
| REFERENCE VERIFIED: | avest | | VERIFICATION DATE: | 6/2/2003 | | |
| TYPE: | Multiple Choice | | TIME: | 5 | POINTS: | 1 |
| QUIZ ONLY: | CLOSED REFERENCE: | | OPEN REFERENCE | | X | |
| SPECIAL REFERENCES: | | | | | | |
| SIMULATOR SETUP | | | | | | |
| PLANT SYSTEM: | EP | CATEGORY: | PROCEDURE | | | |
| | PPA | | SRO LEVEL | | | |
| REFERENCE: | REVISION: | CHANGE: | DATE: | | | |
| EP-001-020 | 26 | 01 | 4/20/2003 | | | |
| UNT-006-010 | 17 | 02 | 5/23/2002 | | | |
| NRC KA NUMBER: | RO | SRO | TRAINING MATERIAL: | OBJECTIVE | | |
| 2-4-41 | 2.3 | 4.1 | W-3-LP-EP-SS | 64 | | |

QUESTION

Which one of the following events requires a notification to the NRC via ENS within ONE hour?

- A. Exposure of .5 REM to the hands of a Radiation Technician while handling special nuclear material.
- B. The reactor failed to trip automatically when TWO RC pressure instruments exceeded their reactor trip setpoint.
- C. An unplanned reactor trip occurs from 100% power, due to failure of a main feedwater pump turbine.
- D. One train of HPSI is inoperable for two hours due to inadvertently isolating a train while hanging clearance tags.

ANSWER

B

COMMENTS

A is incorrect, the threshold for a 1 hour report to the NRC for Personnel exposure to extremities is >250 Rad UNT 006-010 7.3.1

B is correct this is an Alert requiring 1 hour notification

C is incorrect, 4 hour report to NRC UNT 006-010 7.2.8

D is incorrect, 8 hour report to NRC UNT 006-010 7.3.12

Cognitive Level: Memory

Tier/Group: 1/ 1

Question Source: Bank

10CFR Part 55 Content: 43.5

Examination Question Number 7

QUESTION ID: 6037 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Reduction of loads on Station Battery during Station Blackout
AUTHOR: evines **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: evines **VERIFICATION DATE:** 5/22/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: DC **CATEGORY:** PROCEDURE
 PPE SRO LEVEL
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
OP-902-005 11 00 4/12/2001
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
4.1-E55-EA1.04 3.5 3.9 WLP-OPS-PPE05 03

QUESTION

Given the following Conditions:

- At 0800 a Station Blackout occurred
- Restoration of AC power is not anticipated until 1130.

Which of the following describe when you as the CRS must instruct the NPO to have the steps for reducing unnecessary station Battery loads completed?

- A. 0815
- B. 0830
- C. 0845
- D. 0900

ANSWER

B

COMMENTS

A is correct OP-902-005 step 14 requires reducing station loads if power is not expected to be restored within 30 minutes

B is incorrect must reduce loads within 30 minutes

C is incorrect must reduce loads within 30 minutes

D is incorrect must reduce loads within 30 minutes

Cognitive Level: Comprehension/Analysis
10CFR Part 55 Content: 43. 5

Tier/Group: 1/ 1

Question Source: New

Examination Question Number 8

QUESTION ID: 6033 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Required Time and reason for downpower after a dropped CEA
AUTHOR: evines **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: evines **VERIFICATION DATE:** 5/20/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: CED **CATEGORY:** PROCEDURE
 TS SRO LEVEL
 PPO
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
 TS 3.1.3
 TS BASES 03 02 8/7/2001
 OP-901-102
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
 4.2-A3-AK3.04 3.8* 4.1* WLP-OPS- PPO10 03
 WLP-OPS- PPO10 05

QUESTION

While at 80% power, a shutdown bank CEA drops into the core. In accordance with the Tech Spec COLR, a downpower must be completed within _____ minutes to a maximum power level of _____, to ensure _____.

- A. 60, 50%, the potential effect of CEA misalignment limited to acceptable levels.
- B. 45, 60%, the potential effect of CEA misalignment limited to acceptable levels.
- C. 60, 50%, values used in CPCs for azimuthal power tilt remain valid.
- D. 45, 60%, values used in CPCs for azimuthal power tilt remain valid.

ANSWER

B

COMMENTS

Provide examinee with copy of COLR 3/4 1-18A " Required power reduction after single CEA deviation

- A. Incorrect time and power level
- B. Correct time, correct power level, correct basis
- C. Incorrect time, power level and reason
- D. Incorrect reason

Cognitive Level: Comprehension/Analysis
10CFR Part 55 Content: 43. 2

Tier/Group: 1/ 2

Question Source: New

Examination Question Number 9

QUESTION ID: 6062 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Ability to monitor RPI for a stuck/inoperable CEA
AUTHOR: avest **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: avest **VERIFICATION DATE:** 6/3/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: CED **CATEGORY:** PROCEDURE
 TS SRO LEVEL
 PPO
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
TS 3.1.3
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
4.2-A5-AA1.05 3.4 3.4 WLP-OPS-PPO10 05

QUESTION

The reactor is at 90% power. While performing OP-903-005, Control Element Assembly Operability Check, the following indications are noted while inserting CEA 41:

- CEAC 1 PID 041 = 144.25"
- CEAC 2 PID 041 = 143.5"
- CEA 41 Pulse Counter indication = 148.5"

All other CEA PIDs indicate 150.0" on CEAC 1 and CEAC 2 and Pulse Counter indication. Attempts to withdraw CEA 41 with I&C personnel monitoring CEA 41 at the CEDMCS panel results in the following indication:

- CEAC 1 PID 041 = 144.25"
- CEAC 2 PID 041 = 143.5"
- CEA 41 Pulse Counter indication = 150.75"
- I&C reports CEA 41 ACTM card is malfunctioning

Based on these indications, what actions are required?

- A. Enter 3.1.3.1 action a only
- B. Enter 3.1.3.1 action a and 3.1.3.1 action d
- C. Enter 3.1.3.5 only
- D. Enter 3.1.3.5 and 3.1.3.1 action d

ANSWER

C

COMMENTS

Supply a copy of OP-903-005 and TS 3.1.3.1 and TS 3.1.3.5 to examinee.

A is incorrect because there is no indication of being untrippable or having mechanical interference or excessive friction.
B is incorrect because there is no indication of being untrippable or having mechanical interference or excessive friction and CEA misalignment is < 7 inches.

C is correct because CEA 41 is a Shutdown Bank B CEA and is < 145" withdrawn.

D is incorrect because CEA misalignment is < 7 inches.

Cognitive Level: Comprehension/Analysis
10CFR Part 55 Content: 43. 6

Tier/Group: 1/ 2

Question Source: New

Examination Question Number 14

QUESTION ID: 6042 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Predict impacts and use procedures to mitigate loss of air for CCW
AUTHOR: evines **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: evines **VERIFICATION DATE:** 5/22/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: CVC **CATEGORY:** PROCEDURE
 PPO SRO LEVEL
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
OP-500-007 15 00 4/11/2003
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
3.8-008-A2.05 3.3* 3.5 WLP-OPS-PPO10 03

QUESTION

Given the following conditions:

- LETDOWN HX OUTLET TEMP HI (G-B1), annunciator in alarm.
- Letdown heat exchanger Temperature control CC-636 has failed closed due to a broken instrument air line.
- LD HX Tube Outlet Temperature CVC-ITI-0224, currently reads 200 °F and steady.

All of the following actions are applicable for the conditions given **EXCEPT**:

- A. Remove purification filter from service within 1 hour.
- B. Verify ion exchangers bypassed.
- C. Dispatch NAO to slowly open CC-636 Letdown HX TCX.
- D. Isolate charging and letdown.

ANSWER

D

COMMENTS

OP-005-007 B1 to be given to examinee
A is incorrect purification filter must be removed from service within 1 hour if temp >180
B is incorrect Ion exchangers must be verified bypassed when temp > 140
C is incorrect NAO must locally open CC-636
D is correct Charging and letdown are not isolated until temp 230

Cognitive Level: Comprehension/Analysis **Tier/Group:** 2/ 1 **Question Source:** New
10CFR Part 55 Content: 43. 5

Examination Question Number 15

QUESTION ID: 5811 **A** **STATUS:** Revision **LAST USED**
DESCRIPTION: Time remaining to initiate SDC
AUTHOR: avest **REVISION** 3 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: avest **VERIFICATION DATE:** 6/2/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: EFW **CATEGORY:** PROCEDURE
 PPE SRO LEVEL
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
 OP-902-009 1.1 00 12/13/2002
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
 3.4-061-A1.04 3.9 3.9 W-3-LP-OPS-PPE04 7

QUESTION

A Main Steam Line Break has occurred. A cooldown is desired. The following conditions exist:

- The reactor tripped one hour ago
- Two RCPs are operating
- T_h is 450°F
- Condensate Storage Pool level is 72.7%
- DWST level is 45%
- EFW is supplying the intact Steam Generator

Evaluate Condensate inventory and determine the maximum time remaining to place Shutdown Cooling in service.

- A. 8 hrs
- B. 11 hrs
- C. 15 hrs
- D. 22 hrs

ANSWER

C

COMMENTS

Supply Attachments 2-D through 2-G of OP-902-009

A is incorrect 8 hours would correspond to 190,000 gals required calculated from 100 % T-hot using four pump curve.

B is incorrect 11 hours based on correct inventory required using 4 pumps operating curve.

C is correct 15 hours based on correct inventory required using correct 2 pumps operating curve.

D is incorrect 22 corresponds to correct inventory required using no pumps operating curve

Cognitive Level: Comprehension/Analysis

Tier/Group: 2/ 1

Question Source: Bank

10CFR Part 55 Content: 43.5

Examination Question Number 18

QUESTION ID: 6052 **A** **STATUS:** Revision **LAST USED**

DESCRIPTION: Ability to predict impacts and use procedures to mitigate consequences of fire protection malfunctions

AUTHOR: evines **REVISION** 1 **REVISION DATE** 6/26/2003

APPROVAL: **APPROVAL DATE:**

REFERENCE VERIFIED: evines **VERIFICATION DATE:** 5/28/2003

TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1

QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**

SPECIAL REFERENCES: **SIMULATOR SETUP**

PLANT SYSTEM: ANP **CATEGORY:** PROCEDURE
FPD SRO LEVEL

REFERENCE: **REVISION:** **CHANGE:** **DATE:**

TRM 3.3.3

NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
3.8-086-A2.03 2.7 2.9 W-3-LP-OPS-FP00 06

QUESTION

ANP 102 goes closed due to Safety Injection actuation relay circuit failure, causing Annulus Negative Pressure (ANP) fans to secure.

Which of the following describe the compensatory measures required to be implemented.

- A. Establish a fire watch within 1 hour.
- B. Return a ANP fan to service within 8 hours
- C. After 14 days establish a fire watch within 1 hour.
- D. Verify annulus temperature less than 120°F once per hour.

ANSWER

A

COMMENTS

TRM 3.3.3.8.1

A is correct fire watch must be established within 1 hour if Annulus negative pressure system not in operation.
 B is incorrect fire watch must be established within 1 hour if Annulus negative pressure system not in operation.
 C is incorrect fire watch must be established within 1 hour if Annulus negative pressure system not in operation.
 D is incorrect fire watch must be established within 1 hour if Annulus negative pressure system not in operation.

Cognitive Level: Memory
10CFR Part 55 Content: 43.5

Tier/Group: 2/ 2

Question Source: New

Examination Question Number 20
QUESTION ID: 4202 **D** **STATUS:** Revision **LAST USED**
DESCRIPTION: Ultimate Heat Sink Tech Spec
AUTHOR: avest **REVISION** 1 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: avest **VERIFICATION DATE:** 6/13/2003
TYPE: Multiple Choice **TIME:** 5 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** X **OPEN REFERENCE**
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: CC **CATEGORY:** PROCEDURE
TS SRO LEVEL
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
TS 3.7.4
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
2-1-33 3.4 4.0 W-3-LP-OPS-CC00 10

QUESTION

The plant is operating at 100% power with Dry Cooling Tower Fans 2B, 6B, 7B, and 15A out of service. The control room is monitoring dry bulb temperatures every two hours. The last set of readings were taken 5 minutes ago and indicate as follows:

Dry Bulb Temperature = 84.3°F

You are informed via the Civil Defense Radio that National Weather has issued a Severe Thunderstorm Warning and a Tornado Watch for Tangipahoa, St. Tammany, Jefferson, Orleans, St. Charles and St. John parishes. Assuming no other equipment is out of service, which of the following describes the required actions to be taken?

- A. Enter TS LCO 3.7.4 Action a and perform actions within the required time frames.
- B. Enter TS LCO 3.7.4 Action b and perform actions within the required time frames.
- C. Enter TS LCO 3.7.4 Action c and perform actions within the required time frames.
- D. Remain in TS LCO 3.7.4 Action d and continue actions within the required time frames.

ANSWER

C

COMMENTS

Provide TS 3.7.4 to and SD-CC Figure 4 to examinee

This question was modified from 4202B

A and B are incorrect because Action 3.7.4.c covers the prescribed condition.

C is correct. The number of fans OOS were within requirements until the Tornado watch was issued. At that point 3.7.4.c should be entered because Fans 7B and 15A are under the missile shield and are required to be operable with a Tornado Watch in effect.

D is incorrect because a Tornado Watch is in effect.

Cognitive Level: Comprehension/Analysis

Tier/Group: 3

Question Source: Modified

10CFR Part 55 Content: 43.2

Examination Question Number 23

QUESTION ID: 448 **B** **STATUS:** Revision **LAST USED**
DESCRIPTION: Emergency exposure limits per EP-002-030
AUTHOR: avest **REVISION** 2 **REVISION DATE** 6/26/2003
APPROVAL: **APPROVAL DATE:**
REFERENCE VERIFIED: avest **VERIFICATION DATE:** 6/13/2003
TYPE: Multiple Choice **TIME:** 2 **POINTS:** 1
QUIZ ONLY: **CLOSED REFERENCE:** **OPEN REFERENCE** X
SPECIAL REFERENCES: **SIMULATOR SETUP**
PLANT SYSTEM: EP **CATEGORY:** PROCEDURE
 RAD
REFERENCE: **REVISION:** **CHANGE:** **DATE:**
 EP-002-030 09 00 4/8/2003
NRC KA NUMBER: **RO** **SRO** **TRAINING MATERIAL:** **OBJECTIVE**
 2-3-4 2.5 3.1 W-3-LP-EP-SS 55

QUESTION

Given the following:

- A Large Break LOCA has occurred
- HPSI Pump A has developed a 40 gpm leak on the pump suction
- Attempts to isolate HPSI Pump A from the Safeguards Valve Gallery failed due to a broken reach rod on the suction isolation valve
- All ESF Pumps are taking a suction from the SI Sump
- An Emergency Team member has volunteered to enter Safeguards Pump Room A to close HPSI Pump A suction valve locally

The maximum allowed TEDE exposure that the Emergency Coordinator can authorize the Emergency Team member to receive while performing this evolution is:

- A. 10 REM
- B. 25 REM
- C. 75 REM
- D. 100 REM

ANSWER

A

COMMENTS

A is correct per EP-002-030, 10 REM is limit (TEDE) for corrective actions for accident mitigation
 B is incorrect because 25 REM is limit (TEDE) for lifesaving measures per EP-002-030
 C is incorrect because the limit is 10 REM per EP-002-030; however 75 REM was the previous limit for corrective action limit for accident mitigation.
 D is incorrect because the limit is 10 REM per EP-002-030; however 100 REM was the previous limit for lifesaving measures.

Cognitive Level: Comprehension/Analysis
10CFR Part 55 Content: 43.4

Tier/Group: 3

Question Source: Bank

