



EAST AFRICAN SCHOOL OF AVIATION

END-TERM EXAMINATION

ACM- 04

SUBJECT: DRG RADIOACTIVE MATERIAL

Duration: 2 HRS

DATE:

TIME: 1400-1600HRS

INSTRUCTIONS TO ALL CANDIDATES

- 1. Answer all questions*

Question 1, Part A (3 marks)

Shipment Information:

Requested Routing: Mexico City, Mexico to Hong Kong, China on Cathay Pacific, AWB 160-43658701

Radionuclide: Au-195 (Metal solid, special form). Activity: 1,500 TBq, Transport Index 0.7, Surface Radiation Level 0.9 mSv/h

Packaging: One Type B(M) Package, gross weight 62kgs, dimensions (L)30 x (W)30 x(H)40 cm

This shipment is being offered for transport on a Cargo Aircraft Only

Two (2) copies of the DGD of the DGD below are submitted

The Air Waybill extract shown on this page may contain errors and/or omissions.

Correct all errors and/or add missing information.

Do not enter information which is not relevant to the Dangerous Goods Regulations (i.e. rates, currency)

Handling Information	
DG as per attached Shipper's Declaration	
	Nature and Quantity of Goods (Include Dimensions of Volume)
	Gold-195 (Metal solid).

Question1, Part B (14 marks)

The completed Shipper's Declaration for Dangerous Goods for this shipment is shown on the next page. It contains errors and/ or omissions.

Correct the errors and add the missing information

SHIPPERS' DECLARATION FOR DANGEROUS GOODS

Shipper: ABC electronics Calle 5 de mayo Mexico City 1104, Mexico.		Air Waybill No. 160-43658701 Page of Pages Shipper's Reference Number: (Optional)				
Consignee: XYC batteries One Kowloon, 1 Wang Yuen Street Kowloon Bay, Hong Kong China		For optional use for Company logo Name and address.				
Two completed and signed copies of this declaration must be handed to the operator.		WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.				
TRANSPORT DETAILS						
This shipment is within the limitations for: (delete non-applicable)		Airport of departure:				
PASSENGER & CARGO AIRCRAFT	CARGO AIRCRAFT ONLY	MEX				
Airport of Destination Hong Kong		Shipment type (delete non-applicable)				
		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">NON-RADIOACTIVE</td> <td style="padding: 5px;">RADIOACTIVE</td> </tr> </table>			NON-RADIOACTIVE	RADIOACTIVE
NON-RADIOACTIVE	RADIOACTIVE					
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification				Quantity and Type of Packing	Packing Instruction	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 2917	Radioactive Material, Type B(M)	7		Au -195, One Type (BM)Package x1800 TBq	I-White TI 0.9 Dims (L)30 x (W)30 x (H)40	
Additional Handling Information Emergency 24-hour number 011-911911911						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable International and national governmental regulations. I declare that all of the applicable air transport requirements have been met.				Name/Title of Signatory Roberto Ortez/Warehouse Supervisor		
				Place and Date Mexico City/6 th June 2020		
				Signature <i>Roberto Ortez</i> (see warning above)		

Question 1, Part C (08 marks)

The marks and labels shown below contain errors and/omissions.

Correct all errors and add missing marks and /or labels

The diagram shows a silver metal transport case with a black textured interior. A yellow diamond-shaped hazard label is affixed to the top. The label features a black radiation symbol, the text "RADIOACTIVE II", and a "7" in a box. A label on the side of the case reads "UN 2912 Radioactive Material, Type A Package". A label on the bottom front of the case reads "TYPE A/AU/WESTRACK". A "This Side Up" symbol (two upward-pointing arrows) is located at the bottom left. A label on the top of the case reads "Content Lu 172". A label on the side of the case reads "Activity". A label on the side of the case reads "TI".

Question 2, Part A (2 marks)

Shipment Information:

Requested Routing: Chicago USA, to Warsaw, Poland on Lot Polish Airlines, AWB 080 - 20100003
Radionuclide: Strontium-85, Other form (Liquid Nitrate). Activity: 2.0 TBq, Transport Index 0.8, Surface Radiation Level 1.1 mSv/h
Packaging: One Type A package, gross weight 18kgs, dimensions (L)30 x (W)30 x(H)45 cm
This shipment is being offered for transport on a Passenger Aircraft
Two (2) copies of the DGD of the DGD below are submitted

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Correct all errors and/or add missing information.

Do not enter information that is not relevant to the Dangerous Goods Regulations (i.e. rates, currency)

Handling Information DG as per associated Shipper's Declaration	
	Nature and Quantity of Goods (Include Dimensions of Volume)
	Strontium-85, Other form for medical diagnosis and treatment.

Question 2, Part B (13 marks)

The completed Shipper's Declaration for Dangerous Goods for this shipment is shown on the next page. It contains errors and/ or omissions.

Correct the errors and add the missing information

SHIPPERS' DECLARATION FOR DANGEROUS GOODS

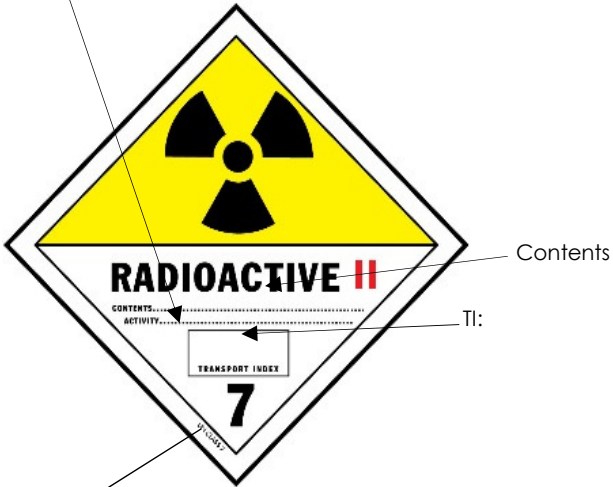
Shipper: ABC research labs 5041, West Chicago ES 7 Illinois 10001		Air Waybill No. 080 - 20100003 Page 1 of 1 Pages Shipper's Reference Number: (Optional)				
Consignee: XYZ Hospital Laboratory 4081 EAST Polkas 101 Warsaw, Poland		For optional use for Company logo Name and address.				
Two completed and signed copies of this declaration must be handed to the operator.		WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.				
TRANSPORT DETAILS						
This shipment is within the limitations for: (delete non-applicable)		Airport of departure: Chicago				
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">PASSENGER & CARGO AIRCRAFT</td> <td style="padding: 2px;">CARGO AIRCRAFT ONLY</td> </tr> </table>	PASSENGER & CARGO AIRCRAFT	CARGO AIRCRAFT ONLY				
PASSENGER & CARGO AIRCRAFT	CARGO AIRCRAFT ONLY					
Airport of Destination Poland		Shipment type (delete non-applicable) <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;">NON-RADIOACTIVE</td> <td style="text-align: center; padding: 5px;">RADIOACTIVE</td> </tr> </table>			NON-RADIOACTIVE	RADIOACTIVE
NON-RADIOACTIVE	RADIOACTIVE					
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification				Quantity and Type of Packing	Packing Instruction	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 2917	Radioactive Material, Type A package	7		Sr - 85 One Type A Package X 2.0 TBq	III-Yellow TI 0.8 Dims (L)30 x (W)30 x (H)45 cm	
Additional Handling Information Emergency 24-hour contact number 011- 575-555-0009						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable International and national governmental regulations. I declare that all of the applicable air transport requirements have been met.					Name of Signatory Bob Hull Date 6 th June 2020 Signature <i>Bob Hull</i> (see warning above)	

Question 2, Part C (10 marks)

The marks and labels shown below contain errors and/omissions.

Correct all errors and add missing marks and /or labels

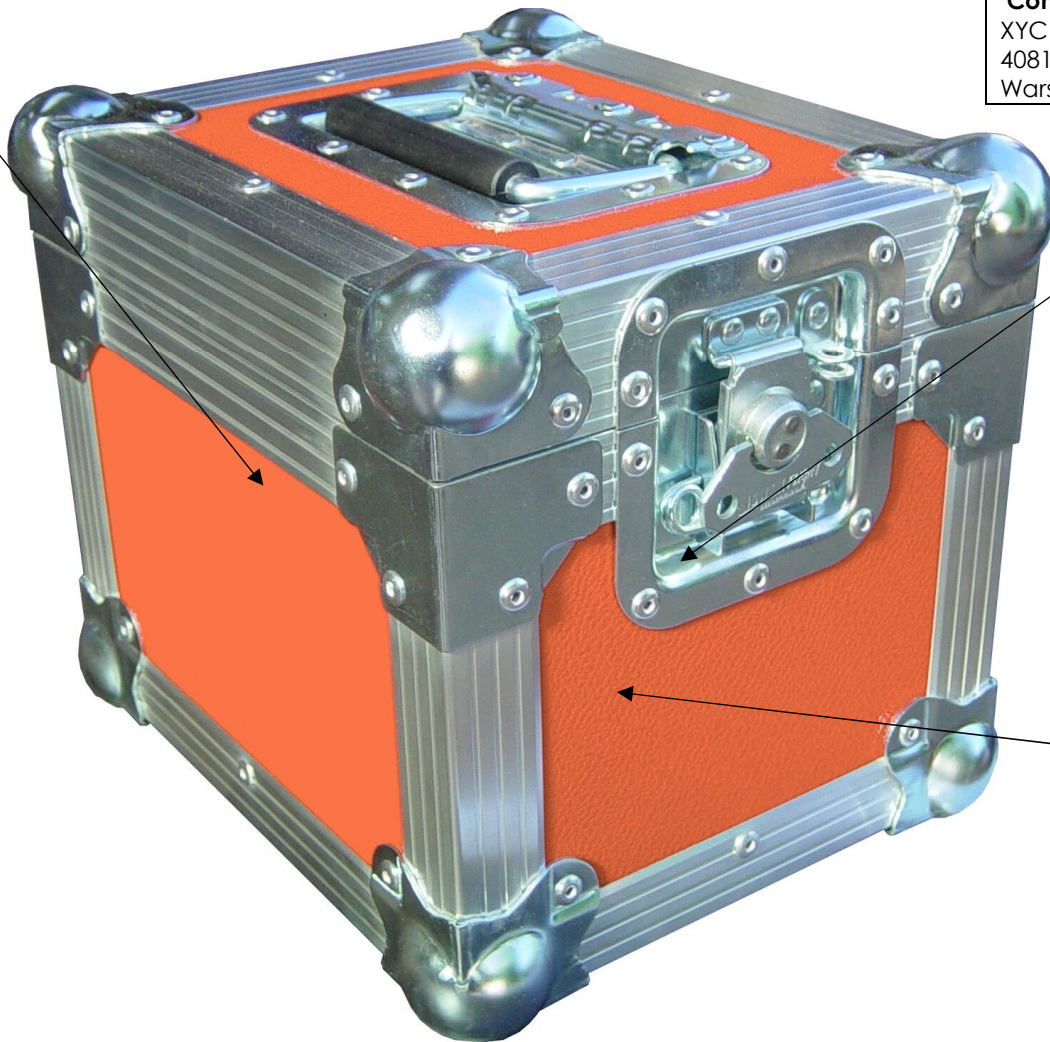
Activity:



**UN 2915 Radioactive
Material, Type A Package**

Shipper:
ABC research labs
5041, West Chicago ES 7
Illinos10001

Consignee:
XYC Hospital Laboratory
4081 EAST Polkas 101
Warsaw, Poland



**TYPE A//
ACM BOX CO.**

Question 3, Part A (3 marks)

Shipment Information:

Requested Routing: Mexico City, Mexico to Hong Kong, China on Cathay Pacific, AWB 160-43658701 A

Radionuclide: Au-195 (Metal solid). Activity: 1,500 TBq, Transport Index 0.7, Surface Radiation Level 0.9 mSv/h

Packaging: One Type B(M) Package, gross weight 62kgs, dimensions (L)30 x (W)30 x(H)40 cm

This shipment is being offered for transport on a Cargo Aircraft Only

Two (2) copies of the DGD of the DGD below are submitted

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Correct all errors and/or add missing information.

Do not enter information which is not relevant to the Dangerous Goods Regulations (i.e. rates, currency)

Handling Information	
DG as per associated Shipper's Declaration	
	Nature and Quantity of Goods (Include Dimensions of Volume)
	Gold-195(metal solid)

Question 3, Part B (14 marks)

The completed Shipper's Declaration for Dangerous Goods for this shipment is shown on the next page. It contains errors and/ or omissions.

Correct the errors and add the missing information

SHIPPERS' DECLARATION FOR DANGEROUS GOODS

Shipper: ABC electronics Calle 5 de mayo Mexico City 1104, Mexico.		Air Waybill No. 160-43658701 Page of Pages Shipper's Reference Number: (Optional)				
Consignee: XYZ batteries One Kowloon, 1 Wang Yuen Street Kowloon Bay, Hong Kong China		For optional use for Company logo Name and address.				
Two completed and signed copies of this declaration must be handed to the operator.		WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.				
TRANSPORT DETAILS						
This shipment is within the limitations for: (delete non-applicable)		Airport of departure:				
PASSENGER & CARGO AIRCRAFT	CARGO AIRCRAFT ONLY	MEX				
Airport of Destination Hong Kong		Shipment type (delete non-applicable) <div style="border: 1px solid black; display: flex; justify-content: space-around; padding: 5px;"> NON-RADIOACTIVE RADIOACTIVE </div>				
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification				Quantity and Type of Packing	Packing Instruction	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 2917	Radioactive Material, Type B(M)	7		Au -195 One Type B Package x1800TBq	II-Yellow TI 0.9 Dims (L)30 x (W)30 x (H)40	
Additional Handling Information Emergency 24-hour number 011-911911911						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable International and national governmental regulations. I declare that all of the applicable air transport requirements have been met.				Name of Signatory Roberto Ortiz Date 6 th June 2020 Signature <i>Roberto Ortiz</i> (see warning above)		

Question 3, Part C (08 marks)

The marks and labels shown below contain errors and/omissions.

Correct all errors and add missing marks and /or labels

Activity:



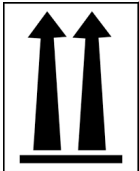
Contents: Au-195

Tl:

UN 2911
Radioactive Material,
Type A Package



TYPE B(M)/ /WESTRACK



If you agree with the following statements, write the answer "True" or "Yes". If you disagree, write "False" or "No." Remember you must also (in either above case) give the correct DGR Reference!

- 4) An example of a material classified as LSA-II is: Water with tritium concentration up to 0.8 TBq/L.
_____ DGR _____
- 5) ACTIVITY is a measure of the quantity of radioactivity emitted by the radioisotope and is used to determine the amount of radioactive material that may be transported in various types of packagings.
_____ DGR _____.
- 6) .900GBq converts into 900000TBq. _____ DGR _____ .
- 7) .Other form radioactive material is classified as that not meeting the definition of Special form.
_____ DGR _____
- 8) .Fissile Material are defined as extremely old naturally occurring Radioactive material. _____
DGR_____.
- 9) .Shipper must ensure his responsibilities for marking are completely fulfilled when package or over pack is presented to the operator for shipment. _____ True_____.
- 10) Requirements for a type A Package demand "The outside of every package must incorporate features such as a seal which is not readily breakable and which, while intact, will be evidence that the package has not been opened.
- 11) The dimensions of a package must always be shown in the following order: L x W x H. _____
DGR_____
9. One of the conditions for classification as Excepted packages" is "It contains articles manufactured of natural uranium, depleted uranium or natural thorium"
10. A Maximum Transport Index (TI) of 1 is permitted for Category I-White Labelled Package.

End of Paper November 2021