

PGDM (IBM) 2013-2015

Engineering Insurance

INS 404

Trimester – IV, End-Term Examination: September 2014

Time allowed: 2 hrs 30 min

Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. In case of rough work please use answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	3*5 = 15
B	2 out of 3 (Long Questions)	10 Marks each	2*10 = 20
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

SECTION- A

Q1.

A contractor dismantles his crane (which is insured under a CPM policy) after completing his work in a particular location in Noida. He has to carry the same to Delhi in a truck and reinstall the same at a site in Delhi where it will be in operation during the remaining period of the policy. Please suggest whether he is already covered for the additional risks and if not how and what additional risks can he cover as per CPM policy (or any additional coverage considering the exposures)

Q2.

A contractor is involved in the erection of a power plant which involves installation of the turbines . During the installation of the turbine, some components of the rotor assembly were not tightened properly . However the same passed through the testing phase with no losses. **The project was handed over to the Principal** and after 6 months of operation the rotor suffered a breakdown and the cause was attributed to the "loose fittings " during installation . So severe was the breakdown that the rotor tore away and damaged the assets of adjacent premises of another company , also

Is there any provision which can provide adequate cover(s) to the contractor under EAR policy ? Explain the provisions / covers (if available)

Q3.

A client takes storage cum erection policy for the construction of a pharmaceutical I factory for a period of 20 months including **two months testing**. **The total project cost is 90 crores** During the testing the client would involve catalyst valued at 5 crores and he requires the cover for catalyst also (both during storage & erection as well as testing)

Calculate the premium (after considering all the aspects) he has to pay considering the fact that rate for first two months is 2.00%o , subsequent 10 months 0.05%o per month and period beyond 12 months 0.025%o per month .

Additional testing period attracts rate of 0.3%o per month . Catalyst rate for testing would be 20%o

Q4.

Machinery breakdown policy of an insured covering a DG set gives the sum insured as follows : **Engine 1,500,000 ; Alternator 1,200,000; Control panel 300,000** . There is a breakdown loss affecting certain parts of the engine which is payable under the policy. The loss involves the following items and cost of replacement is as under:

Crankshaft:	Rs 80,000
Cylinder head:	Rs 15,000
Other parts (unlimited life) :	Rs 25,000
Labor charge	Rs 10,000

Surveyor while assessing the loss found out that the **new replacement cost** of the complete DG set as on date of loss is Rs 40,00,000. Salvage value of parts amount to Rs 8,000.

Calculate the final loss payable after taking into account the various terms and conditions, deductibles of the Machinery breakdown policy

Q5.

Give precise and brief reasons for the statements mentioned below (not more than two-three lines for each) :

- (i) Presence of reserve facilities and spare parts is a positive feature for a MLOP risk .
- (ii) Only a single time excess is applicable under ALOP policy
- (iii) It is not proper to accept a Machinery breakdown risk where only 3 DG sets out of five installed in a plant have been opted for cover
- (iv) Only physical explosion is covered under Boiler explosion policy
- (v) It is important to include crane hiring charges as a part of claim for losses involving windmills

SECTION- B

Q6.

(8+ 2)

(a) Arrive at the final rate to be charged for a Machinery breakdown Loss of profit policy with the help of the following risk information . The risk involved is a Brewery : The client has opted for Time excess of 5 days and Indemnity period of 9 months

Factors applicable for indemnity period and time excess are as under :

- In relation to basic rate for time excess of 7 days : 0.94
- In relation to basic rate for time excess below 7 days : 0.38

Machinery	Base rate for Time excess 7 days %o	Base rate for time excess < 7 days %o	Maximum age for basic rate
Washing machine	1.50	0.54	20
Malt kiln	0.80	0.33	20
Filter press	2.00	0.70	20

Risk information are as under :

Machinery	Relative importance factor	No spare parts	Specific risk factor
Washing machine	0.4	1.0	1.15
Malt kiln	0.5	1.0	0.75
Filter press	0.5	1.0	1.25

Other information are as under :

- All the machines are **25 years of age**
- Filter press is a foreign machine for which repairs can be carried out locally but spare parts are available in US onlyfactor 1.20
- **Ignore any quantity discount**
- High premium discount would be 6%

(b) In case in the above example , you decide to offer Quantity discount , how would you approach the matter (explain the concept also) ? Is there any information missing in the data provided for calculating the quantity discount ?

Note : Each and every step has to be explained briefly

Q7. (5+ 5)

- (a) What are the conditions for getting a refund due to standstill period under machinery breakdown policy? Why can't 100% refund be given in case the machines are standstill for the full year ?
- (b) Calculate the premium under Boiler explosion policy for a 30 year old recovery boiler (minimum age without loading =20) insured for Rs 35, 00,000. There is no certificate from Boiler inspector and the pipes are insured for Rs 200,000. The basic rate for the recovery boiler is 1.80%o. The client also wants Third party liability cover for 1,500,000 and owners surrounding property cover for Rs 5,000,000.
What is the difference between the explosion covered under fire policy and that under boiler explosion policy?

Q8. (7+ 3)

A client has insured his stocks of potatoes kept in a cold storage. Total capacity of the cold storage chamber which he has hired for keeping stocks of potatoes is 10,00,000 kg The rate of potatoes at the time of loading is Rs 8 /kg . The sum insured has been fixed under the DOS policy for Rs 80, 00,000. The policy has been taken for 12 months. At the end of the third month the client reported a claim arising out of breakdown of a compressor of the

refrigeration unit. Deterioration of 25,000 kgs of potatoes had taken place. The following data has been collected by the loss assessor:

- The rate of potato on the date of loss was Rs 10/ kg
- As per the contract with the cold storage owner acceptable % of rottage and shrinkage was 3% and 7% respectively
- Out of the stocks of potatoes damaged , the client was able to sell of 15,000 kg at a lower rate of Rs 2/ kg (after taking surveyor's permission)
- The compressor could be repaired only after 3 days from its breakdown and there were no spares of this compressor available with the cold storage owner. However spares for other critical machines was available

Determine the loss amount payable after considering all the factors.

Considering the nature of loss, what suggestion would you give to the client to avoid similar losses in future?

SECTION- C

Q9.

A reputed contractor has been awarded a contract for constructing a residential building of RCC construction. The building would have **two basements, ground floor and eight storeys** above it. The building would be constructed in Delhi which falls under earthquake zone -2. The total project cost for the construction is **450 crores** and the duration of the project would be 18 months starting in December. There will be three towers of same height and the towers would be separated from each other. The site is also at an elevated area There will be some temporary civil constructions having **additional cost of 5 crores** .

The contractor has approached you for a CAR policy. He also requires the following Add on covers:

- Third party liability with cross liability for 20 crores (falls under category B)
- Removal of debris cover for 2 crores (Falls under category A)
- Extended maintenance cover for 12 months (Falls under category A)
- Escalation of 10% (Falls under category A)
- Earthquake

The relevant extract from rate computation table is given below:

Risk Code	Sl. No	Risk	Premium Rates (%o)		Excess - 5 % of claim amount subject to Minimum of Rs.	
			Minimum Rate up to first 3 months	Addl. Rate per month beyond 3 months	Normal	AOG/Major Perils/ Collapse
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Residential and commercial buildings, Office buildings, Schools, Universities, Hotels, Motels, Restaurants, Hospitals, Airport buildings of –						

01302 2	c)	RCC framed structure not more than 5 storey	1.50	0.025	25,000/-	100,000
01404 3	d)	RCC Framed structure above 5 storey and up to 10 storey	2.00	0.03	25,000/-	100,000
--	e)	RCC Framed structure above 10 storey and up to 15 storey	2.25	0.035	50,000/-	200,000

- (a) Compute the **rate and the premium** and prepare a **quotation to be submitted to the broker**. You are free to decide on the discount % based on information provided...Broker cannot provide any further information. To make it competitive the quote must contain the free covers allowed as per erstwhile tariff.
- (b) The project value **in addition** to 450 crores of civil construction also includes **15 crores** of installation of DG sets, lifts , sub station. These installations would also involve testing The installation work will start within 5 months of commencement of civil work You need to give logical suggestion to the client to cover all perils associated with this
- (c) The risk involves two basement constructionsfrom an underwriter's point of view how would you satisfy yourself and what documents you may require ?