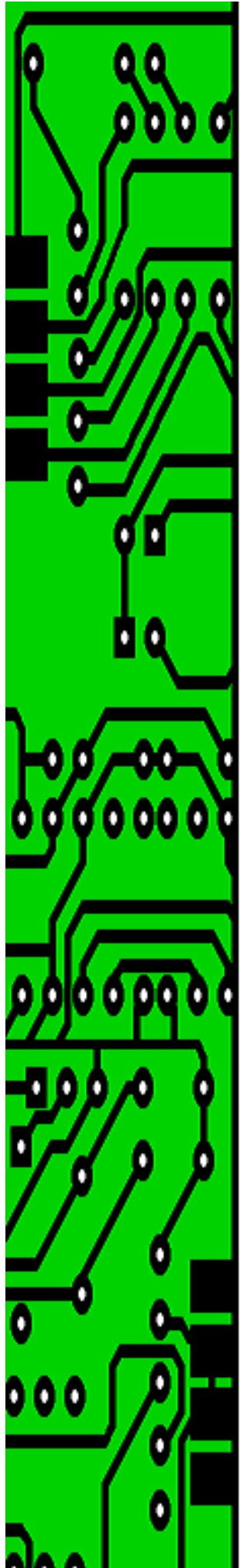


# Digital Actuarial Resources



## Society of Actuaries FAP Modules 1-5

### Review Questions



# Review Questions

## FAP Modules 1 through 5 Society of Actuaries

Created By: Digital Actuarial Resources

### **Introduction:**

This guide from Digital Actuarial Resources (DAR) contains review problems for the first five FAP modules offered through the Society of Actuaries. The book has 385 practice questions to test your knowledge of common issues that actuaries encounter today. The set of questions is very comprehensive, covering topics from risk management, to group insurance, to finance. While most of the problems are word-based, the guide also has a mix of math-related problems that cover the modeling, premium-setting, and reserve-setting topics.

You should expect to spend several days working through the questions. There is no time limit. You can use your notes, textbooks, other actuaries, and whatever will help you answer the questions. These problems test your actuary skills and also attempt to teach you something. If you can correctly answer 75% of the questions (289 problems), you are prepared for the first FAP assessment or project.

The first half of this guide contains the practice test questions. You should use your own scratch paper when taking the test so that you can retake it several times. The solutions start on page 103. If you find any errors in the solutions or would like to debate an answer, please contact the Digital Actuaries.

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- 1) Which of the following is not a criterion for an insurable risk?
  - A) Definite Loss
  - B) Independence of loss events
  - C) Homogeneous members in each class
  - D) Within the insured's control
  - E) Economically feasible
  
- 2) Which of the following is/are example(s) of perils?
  - A) Hurricane
  - B) Motor vehicle accident
  - C) Plague
  - D) Forest fire
  - E) All of the above
  
- 3) Under this rating method, the insured's historical losses are given a level of credibility and affect the premium...
  - A) Individual/Judgment Rating
  - B) Experience Rating
  - C) Retrospective Rating
  - D) Schedule Rating
  - E) Class Rating
  
- 4) Sledge built his house directly on an earthquake fault line. This is an example of a/an...
  - A) Risk
  - B) Peril
  - C) Hazard
  - D) Moral hazard
  - E) Anti-selection

- 5) A spring flood in North Dakota threatens a small farming town. Sledge, one of the residents, has his house 10 feet from the normal riverbank. His house is currently under water. Sledge has fire insurance but no flood insurance. He deliberately lights his house on fire and then files a claim with his fire insurance company. Sledge's behavior is an example of a/an
- A) Moral hazard
  - B) Anti-selection
  - C) Fraud
  - D) Subrogation
  - E) Hazard
- 6) Shed purchased auto insurance for his van. Another driver, Ezekiel, intentionally rams Shed's van. Shed's insurer pays Shed for damage to his van and then sues Ezekiel for the insurance benefits. The process of Shed's insurer attempting to recover its losses from Ezekiel is called
- A) No-fault insurance
  - B) The right of salvage value
  - C) Liability recovery
  - D) Explicit loading
  - E) Subrogation
- 7) Celestial, a compulsive chain-smoker, applies for life insurance. Cost of insurance rates differ between smokers and nonsmokers. Celestial tells the underwriters that she is a nonsmoker and thus receives lower premiums. This is an example of...
- A) Fraud
  - B) Non-disclosure
  - C) Anti-selection
  - D) Moral hazard
  - E) Direct distribution

- 8) In what reinsurance deal will part of each individual contract be reinsured?
- A) indemnity
  - B) assumption
  - C) proportional
  - D) non-proportional
  - E) facultative
  - F) automatic
- 9) What risk element measures the tendency for risk events to occur together?
- A) exposure
  - B) volatility
  - C) probability
  - D) severity
  - E) time horizon
  - F) correlation
- 10) Shed purchased no-fault auto insurance. One night, a drunk driver crosses the median on a highway and strikes Shed's car. The drunken driver is clearly responsible for the crash. Which will happen after the accident?
- A) The two drivers, with the legal help of their insurance companies, will attempt to settle the dispute in court
  - B) The drunken driver's insurer will pay benefits to Shed
  - C) Shed's insurer will pay benefits to Shed for damage to his car and other losses that Shed suffers
  - D) The police at the accident will determine who is responsible and require that party to pay all the damages
- 11) Which type of homeowner's insurance coverage provides coverage on a shed or garage that is detached from the house?
- A) Coverage A
  - B) Coverage B
  - C) Coverage C
  - D) Coverage D
  - E) Coverage E

**12) Which of the following cost/expense components are included in the gross premium calculation?**

- I. Expected value of claims**
- II. Underwriting costs**
- III. Claim reviewers' salaries**
- IV. Premium taxes**

- A) I. and II. only**
- B) II. and III. only**
- C) III. and IV. only**
- D) I. and IV. only**
- E) I., II., III., and IV.**

**13) In the U.S., regulators do NOT require which of the following traits for premiums?**

- A) Nondiscriminatory**
- B) Adequate**
- C) Not excessive**
- D) Responsive to changes in the external environment**
- E) Cannot be subjective; must be based on sound actuarial methods**

**14) In what law system are the legislative and executive tasks carried out by the same people?**

- A) Common law**
- B) Civil code**
- C) Westminster system**
- D) U.S. system**
- E) Civil law**

**15) Which time basis for accounting is used in the following example?:  
When preparing an annual statement, the valuation actuary records all accounting action on a policy to the year of policy issue.**

- A) Accident year**
- B) Policy year**
- C) Facultative year**
- D) Back-loaded year**
- E) Calendar year**

- 16) Which class of professional rules details the accepted practices for actuaries?
- A) Professional standards
  - B) Mandatory guidance notes
  - C) Prudential regulation standards
  - D) Guidance notes
- 17) Which statement best describes Part B of Medicare?
- A) Part B is voluntary and requires a premium. It covers only inpatient and outpatient hospital expenses. It has limited cost-sharing with the insured.
  - B) Part B is voluntary and requires a premium. It covers outpatient hospital costs, medical equipment, and ambulance service. It has limited cost-sharing with the insured.
  - C) Part B is mandatory and does not require a premium. It covers outpatient hospital costs, medical equipment, and homecare.
  - D) Part B is mandatory and does require a premium. It reimburses the insured for inpatient hospital costs and homecare expenses.
  - E) Part B is mandatory and does not require a premium. It covers inpatient and outpatient hospital costs, along with limited homecare.
- 18) When calculating premium rates, actuaries usually use calendar year information. (true/false)
- A) True
  - B) False
- 19) Eyal, a construction worker, falls into a pit at a construction site and is struck with a metal beam. This accident fits within which category of risk for Eyal's company?
- A) Market risk
  - B) Technology risk
  - C) Credit risk
  - D) Reputation risk
  - E) Operational risk

- 20) A salesperson who sells insurance from several companies is a/an...
- A) Tied agent
  - B) Multi-agent
  - C) Broker
  - D) Direct distributor
  - E) Third-party administrator
- 21) Which claim reserving method for group insurance is illustrated below?: In this method, an annuity factor is created to determine the PV for future claims and is multiplied by the monthly/regular claim. This method works well with disability insurance.
- A) Tabular Method
  - B) Model Office Method
  - C) Factor Method
  - D) Asset Share Method
  - E) Development Method
- 22) Federal laws, tax laws, and court rulings fit within what context of actuarial work?
- A) Social environment
  - B) Professional context
  - C) Industry environment
  - D) Physical environment
  - E) Regulatory environment
- 23) Use the next example for the succeeding two questions. Suppose that the expected loss ratio for a product is 0.62, the earned premium to date is \$580,000, and the losses paid to date are \$300,000.
- What are the estimated ultimate losses?
- A) \$210,000
  - B) \$340,000
  - C) \$360,000
  - D) \$420,000
  - E) \$570,000

- 24) What is the estimated loss reserve?
- A) \$20,000
  - B) \$60,000
  - C) \$80,000
  - D) \$130,000
  - E) \$190,000
- 25) Company X bought several corporate bonds in which to store its capital. Half of the bonds were in Internet start-up companies, and all these bonds defaulted during a recent recession. This incident fits within which risk type?
- A) Market risk
  - B) Operational risk
  - C) Liability risk
  - D) Credit risk
  - E) Macroeconomic risk

# Solutions

1	D	33	A	65	D	97	B
2	E	34	B	66	A	98	D
3	B	35	E	67	A	99	C
4	C	36	D	68	D	100	D
5	C	37	A	69	C	101	A
6	E	38	B	70	A	102	C
7	B	39	C	71	B	103	A
8	C	40	B	72	B	104	B
9	F	41	A	73	C	105	C
10	C	42	D	74	D	106	C
11	B	43	B	75	E	107	A
12	E	44	B	76	E	108	A
13	D	45	A	77	B	109	E
14	C	46	E	78	B	110	B
15	B	47	C	79	A	111	D
16	A	48	E	80	D	112	C
17	B	49	B	81	C	113	C
18	B	50	D	82	A	114	B
19	E	51	B	83	B	115	B
20	B	52	C	84	C	116	C
21	A	53	E	85	E	117	E
22	E	54	B	86	B	118	C
23	C	55	C	87	C	119	D
24	B	56	D	88	G	120	B
25	D	57	E	89	E	121	C
26	G	58	B	90	E	122	C
27	B	59	C	91	C	123	B
28	D	60	B	92	B	124	B
29	C	61	B	93	A	125	B
30	E	62	E	94	E	126	D
31	B	63	C	95	F	127	A
32	D	64	C	96	B	128	B

129	D	161	A	193	A	225	D
130	C	162	D	194	D	226	C
131	D	163	E	195	C	227	C
132	B	164	C	196	D	228	A
133	C	165	D	197	B	229	C
134	A	166	B	198	C	230	C
135	A	167	A	199	C	231	B
136	F	168	A	200	B	232	A
137	E	169	A	201	C	233	E
138	B	170	B	202	D	234	A
139	A	171	D	203	A	235	D
140	B	172	B	204	C	236	E
141	C	173	A	205	C	237	B
142	A	174	D	206	A	238	F
143	D	175	D	207	A	239	B
144	C	176	D	208	E	240	B
145	C	177	B	209	D	241	B
146	A	178	A	210	B	242	A
147	D	179	D	211	A	243	B
148	D	180	A	212	E	244	E
149	A	181	E	213	D	245	E
150	E	182	B	214	D	246	D
151	D	183	B	215	B	247	E
152	A	184	A	216	D	248	C
153	C	185	B	217	B	249	D
154	E	186	B	218	C	250	A
155	B	187	A	219	B	251	C
156	E	188	C	220	A	252	A
157	A	189	B	221	B	253	B
158	D	190	D	222	A	254	D
159	B	191	B	223	E	255	A
160	F	192	C	224	A	256	A

257	C	289	A	321	E	353	B
258	C	290	C	322	A	354	C
259	B	291	B	323	C	355	B
260	B	292	A	324	D	356	A
261	C	293	D	325	A	357	A
262	A	294	D	326	B	358	E
263	C	295	A	327	C	359	D
264	E	296	B	328	C	360	C
265	A	297	B	329	E	361	E
266	D	298	E	330	D	362	B
267	E	299	B	331	A	363	B
268	D	300	D	332	A	364	C
269	D	301	E	333	B	365	B
270	A	302	E	334	D	366	D
271	D	303	B	335	E	367	D
272	B	304	E	336	C	368	D
273	D	305	D	337	B	369	A
274	B	306	A	338	A	370	A
275	B	307	E	339	A	371	E
276	B	308	A	340	D	372	C
277	D	309	B	341	A	373	A
278	D	310	C	342	D	374	C
279	C	311	B	343	A	375	B
280	A	312	D	344	D	376	D
281	C	313	C	345	B	377	A
282	A	314	C	346	E	378	D
283	D	315	D	347	F	379	A
284	A	316	D	348	A	380	A
285	B	317	D	349	C	381	C
286	B	318	D	350	D	382	E
287	B	319	B	351	D	383	A
288	D	320	A	352	E	384	C
						385	C

## **Detailed Solutions**

(23.)

$$\text{Estimated ultimate losses} = (\text{loss ratio}) * (\text{earned premium}) = 0.62 * \$580,000 = \$359,600$$

(24.)

$$\begin{aligned} \text{Estimated loss reserve} &= (\text{estimated ultimate losses}) - (\text{losses paid to date}) \\ &= \$359,600 - \$300,000 = \$59,600 \end{aligned}$$